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CONFERENCE ON ENTREPRENEURSHIP
(CU-ICE) 2019**

**Theme:
DISRUPTIVE
INNOVATION AND
SUSTAINABLE
ENTREPRENEURSHIP**



**March 20 – 22, 2019
Covenant University, Ota, Nigeria**

CONFERENCE PROCEEDINGS

— Editors —

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PREFACE

Covenant University International Conference on Entrepreneurship (CU-ICE) as an interdisciplinary conference aims at addressing key economic and development issues in Africa and beyond. The conference is focused on vectors conducive to economic growth and alleviation of poverty, famine and low growth rates.

Since 2017 when the first edition of the conference was held, Covenant University, through this initiative has progressively made incremental contributions to the domestication of entrepreneurship theory and practice in Nigeria. As a visionary Higher Institution of Education, we are committed not only to creating knowledge for entrepreneurial advancements, but also to solving germane challenges and proffering solutions to the business economy of Nigeria, and indeed Africa. Eventually, our focused efforts invested into the annual CU-ICE will result in creating strategic alliances between entrepreneurship stakeholders that will yield sustainable organizations and create wealth for the African continent.

Indeed, sustainability has become a global issue of concern across all fields of human and institutional endeavour. For this reason, researchers and experts in the field of entrepreneurship and management continually engage in a search for new strategies and best practices that can sustain the existence of viable businesses and initiate many more start-ups across the world. In Africa, the challenge of unsustainability of entrepreneurial firms has been very prominent, thus attracting much research output, especially from academia and research-based institutions across the continent. Many have attributed the situation to insufficient entrepreneurial skills, lack of government support (in terms of capacity building programmes, infrastructural deficiencies and financial aids). Be that as it may, the large volume of research output, so far, has generated only very minuet practical advancements to business sustainability and initiation of a large number of highly competitive start-ups. Consequently, there is the need to identify more action oriented strategies for driving the goal of having sustainable enterprises in Africa.

Therefore, debating disruptive innovation and seeking to link it with sustainable entrepreneurship practices in Africa, at this time, is a strategic area of focus. The theory of disruptive innovation was popularized by Professor Clayton Christenson in 1995 to describe a strategic pattern for achieving new entrants' sustainability in a highly competitive industry. According to the theory, new entrants can take root and scale operations by focusing on the low-end market segments and strive to move up the market, until incumbents are displaced. Going by this description, it holds that consciously cultivating the theory of disruptive innovation by firms in Africa, could enhance the possibilities of having sustainable enterprises. This is because, the African market with its vast population, yet having few highly competitive firms, mostly multinational from foreign countries, can begin to initiate domestic firms which focus on the tailor made products and services that create value for the large informal segment of its market. Disruption will occur as

the market embraces the values provided by these firms and sustainability will be assured by continuous enhancement of such values.

Certain credible example, of disruptive innovation, especially in Nigeria include Globacom Limited, Jumai, Konga and indeed, Covenant University. This conference makes this significant call to discourse disruptive innovation and sustainable entrepreneurship, at this time, because with the efforts so far seen, we believe that Africa is on the right path of cultivating business value. However, we would like to appreciate the fact that more can be done and at a faster pace to achieve the dream of repositioning Africa for global sustainable competitiveness.

Over 100 papers and abstracts were submitted to CU-ICE 2019 out of which the Conference Programme Committee finally selected 52 papers. The selected papers have high quality and cover a wide spectrum of topics revolving disruptive innovations and entrepreneurship theories & practices in social sciences, engineering, management sciences, physical and environmental sciences, and leadership and governance.

The CU-ICE 2019 submission was premised on the objective of ensuring quality papers through a peer review process. Therefore, the Conference Organising Committee would like to thank all reviewers for their valuable support of the CU-ICE 2019 review process. We also appreciate all participants for their valuable contributions. The proceedings of the International Conference on Entrepreneurship 2019 is therefore a collection of highly resourceful academic papers that would aid research and development endeavours.

Ibidunni, Ayodotun Stephen

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CONTENTS

Track 1: Disruptive Innovation in Social Sciences and Sustainable Entrepreneurship 9

- Poverty, Disruptive Innovation and Sustainable Entrepreneurship: The Missing Link of Community Radio
- Community Radio as Social Entrepreneurship and enabler of Sustainable Development
- The New Media Quest and Disruptive Innovative Solutions to Current Sexual and Reproductive Health Challenges among Nigeria's Future Generation
- Disruptive Innovation, Fourth Industrial Revolution and Sustainable Entrepreneurship Policy: Are We Ready?
- Innovation in Industrial Policy-From Cement Policy to Gold Policy
- Influence of Locus of Control on Entrepreneurial intention among Final Year Undergraduates
- Disruptive Innovative approaches of the Mass Media towards shaping the Knowledge Debate on Family Planning and Contraceptive use in Nigeria

Track 2: Disruptive Innovation in Physical & Environmental Sciences and Sustainable Entrepreneurship 92

- The Health and Economic Impacts of Waste Recycling for Sustainability in Nigeria
- Crucial Tripod of Entrepreneurship: The Three Pillars that Catalyse Sustainable Disruptive Solutions, SDS for Developing Multidimensional Environment
- Prospects and Challenges of Green Transition for Entrepreneurs in Nigeria
- Disruptive Innovation and Opportunities in Green Entrepreneurship for Sustainable Economic Growth in Nigeria

Track 3: Disruptive Innovation in Engineering and Sustainable Entrepreneurship 148

- Creativity and Innovation in Governance: An appraisal of Public Perception and Adoption of (TSA)
- The Future of Education: A Disruptive Framework that Bridges Policies and Quality Education
- Bolstering Political Stability, Nation Building and Youths Empowerment through Sustainable Entrepreneurship Development in 21st Century, Nigeria
- Assessment of Government Policies on the Foundry Industry in Nigeria

Track 4: Disruptive Innovation in Leadership & Governance and Sustainable Entrepreneurship**248**

- Industry 4.0 as a Disruptive Agent to Technology Education Body of Knowledge
- Effect of Computer-Assisted Instruction on Teaching of Self –Reliance Skills for Sustainable Entrepreneurship Development among Undergraduate Social Studies Students in Kaduna State
- Disruptive Innovations and Challenges of Construction Industry in Nigeria

Track 5: Disruptive Innovation in Management Sciences and Sustainable Entrepreneurship**286**

- Sustainable Entrepreneurship Development of Rural Farmers involved in Telfaria Cultivation in Relation to Gender Related Constraints in Lagos, Nigeria
- An Evaluation of the Relationship between Student interest and their Performance in Vocational Education Subjects. (A Case Study of Michael Otedola College of Primary Education)
- Repositioning Industry R&D units into Tertiary Education Research Laboratories
- Determinant of Service Quality in Nigeria Banking Industry
- Rethinking Innovation and Creativity in a Changing Business Environment; An Empirical Review



TRACK ONE:
DISRUPTIVE INNOVATION IN
SOCIAL SCIENCES AND
SUSTAINABLE ENTREPRENEURSHIP

POVERTY, DISRUPTIVE INNOVATION AND SUSTAINABLE ENTREPRENEURSHIP: THE MISSING LINK OF COMMUNITY RADIO

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Abstract

The situation of poverty in Nigeria is discomfoting. Before now, there have been several attempts by the Federal Government of Nigeria to improve the economy by investing in entrepreneurs at different levels, with programmes like Operation Feed the Nation, Family Economic Advancement Programme, National Poverty Eradication Programme and so on. Despite the various poverty alleviation and eradication programmes of the Federal Government to tackle poverty, the number of Nigerians living in extreme poverty, has crossed the 83 million mark in 2018. Though On their own, Nigerians generally strive to get out of poverty by engaging in various entrepreneurial endeavours, either in form of small and medium enterprises or service provision. However, many business enterprises are unable to get their proprietors out of the poverty line, as many entrepreneurs struggle to remain in business. Disruptive innovation has proved to be one way entrepreneurs can break through some of the challenges militating against their business expansion and growth, because it affords entrepreneurs in startups and SMEs the opportunity to scale up, survive competition and possibly dominate the market. One effective yet unpopular way of achieving this is through community radio. Using a quantitative research approach with questionnaire administered to radio listeners, this study examines the unique ways in which community radio provides entrepreneurs the platform to access information that help to grow their businesses; publicize the unique features and innovations in their products and services; and increase their chances of getting visibility in new markets. Moreso, community radio offers these services in form of radio jingles at very affordable cost. The paper therefore recommends among others, that the Nigerian government creates more enabling environment for community radio broadcasting to thrive, as this will impact positively on the nation's economy and help lift more Nigerians above the poverty line.

Key words: poverty, community radio, economic development, sustainable entrepreneurship

INTRODUCTION

Poverty, by all standards is a most undesirable situation and experience. Unfortunately however, it constitutes a major problem that Nigeria and other developing countries of the world have always had to grapple with. With no specific or universally agreed definition for it, there are several attempts to describe poverty. Ajakaiye and Adeyeye (2000) try to explain poverty as a function of education, health, child mortality and other demographic variables. That is, is the non availability of or inability of individuals or group to provide for themselves the barest basic necessities of life because of economic, social, political and information inadequacy. Hussaini (2014) refers to poverty as the inability of an

individual to attain the minimum standard of living; Or a social condition characterized by inadequate access to basic human needs (food and non – food) to the sustenance of socially acceptable minimum standard of living in a given society. Some of these basic determinants of well being, according to Akintola and Yusuff (2001) include adequate food, shelter, portable water, healthcare, education and employment opportunities.

Statistically, (Aliju, 2001) notes that between 1960 and 1980, the poverty level in Nigeria covered about 28 percent of the population; by 1996 it rose alarmingly to about 66 percent of the population. The United Nation Development Program, Human Development Report (2008-2009), using parameters such as: level of inequality, life expectancy at birth, standard of living, access to knowledge, and education, states that between 2004 and 2009, poverty in Nigeria has worsened from 0.43 to 0.49. That put Nigeria among the 25 poorest countries of the world. By 2018, the World Poverty Clock reports that Nigeria has an estimate of 87 million people living in extreme poverty, followed by India with 73 million. This makes Nigeria the poorest country in the world.

Given the perturbing situation of poverty in Nigeria, every administration both at the federal and state levels have designed various programmes and policies to eradicate or alleviate poverty, but with results far below expectation. Some of these programmes are: [National Accelerated Food Production Programme](#) and the [Nigerian Agricultural and Co-operative Bank](#) in 1972; Operation [Feed the Nation](#) in 1976; [Directorate of Food, Roads and Rural Infrastructure](#) (DFRRI) in 1986; [Family Support Programme](#) in 1993; and the [Family Economic Advancement Programme](#); [National Poverty Eradication Programme](#) (NAPEP) in 2001. Others include Rural Electrification Scheme (RES) and Rural Banking Program (RBP) (Omotola, 2008 and Chukwuemeka, 2009); National Economic Empowerment and Development Strategy (NEEDS), a national framework of action, which was designed with equivalent at the state and local government levels as State Economic Empowerment and Development Strategies (SEEDS) and Local Economic Empowerment and Development Strategies (McDonald, Iloanya and Okoye-Nebo, 2014).

The characteristic failure of the various poverty alleviating programmes of the government necessitates a re-evaluation of the past approaches to tackling poverty. As poverty is most palpable in the rural segments of the country's geographical space, a deliberate bottom-up approach is required in order to begin to decisively deal with the issue of poverty in Nigeria. It is time government begins to engage communication more efficiently in order to effectively tackle poverty in the country. This is because, as Usaini, Kayode-Adedeji, Omole and Oyedepo (2017) state, the mass media play important roles in our lives as they perform their functions of information sourcing, education and entertainment. Especially for

the purpose of alleviating poverty, community radio broadcasting has a major role to play. With regards to poverty alleviation, Onabajo (2000) puts media function in more direct perspective by stating that the electronic media, by broadcasting economic programmes can help educate the masses and also contribute directly to national development through accelerating and easing the long slow social transformation required for socio-economic development. Furthermore, Al-hassan, Andani and Abdul-Malik (2011) identify three significant functions of community radio at the grass root level for rural development: First, community radio promotes issues of agriculture, gender equality, education, trade and commerce, disaster, weather, natural calamities, poverty and social problems. Second, it enhances the capacities of local people to work together to tackle a range of social problems, including poverty and exclusion through radio. Third, it contributes to nurturing of the creative talents of the community and providing a forum for a diversity of opinions and information.

Al-hassan, Andani and Abdul-Malik (2011) further reiterate some important features of community radio as: A type of radio service that offers a model of radio broadcasting whose content is largely popular and relevant to a local or specific audience but which may often be overlooked by commercial or mass-media broadcasters; A radio service which is operated, owned, and driven by the communities they serve. Community radio is not-for profit and provides a means for individuals, groups, and communities to tell their own diverse stories, to share experiences and become active creators and contributors to their own development. It is also noteworthy that Nigeria is yet to begin to enjoy the benefits of this brand of broadcasting due to the lethargic attitude of the federal government to embrace and enforce it. However, state governments like Oyo and Osun have radio stations established in rural communities which function very much like community radio. The major difference is ownership – unlike a typical community radio which is owned by the community, these radio stations are owned by the states government. It is against this backdrop that this study examines a local radio station, Orisun FM in Ile-Ife, Osun State, with a view to ascertaining whether indeed community radio has the capacity to help facilitate sustainable entrepreneurship and economic advancement.

Theoretical Perspective

This study is anchored on Progressive social theory. The theory views economic, political and social distortions as well as discrimination, which limit opportunities and resources to create wealth and overcome poverty as the source of poverty, rather than individuals. The proponents sought to explore how social and economic systems overrode and created individual poverty situations. The proponents reveal how the economic system of capitalism created a reserve army of the unemployed as a deliberate strategy to keep wages low (Bradshaw, 2005). One of their key arguments is that it is possible that people work

hard and have acceptable attitudes but still be trapped in poverty because of dysfunctional social and economic systems.

The progressive social theory blame poverty on economic, social and political structures that make the poor fall behind regardless of how committed they may be. The theory also identifies another type of systemic dysfunction associated with poverty. This, according to Bradshaw (2005) has to do with groups of people being discriminated against based on personal attributes such as race, gender, disability and religion, which limit their opportunities in spite of their personal abilities. Government policies and actions tend to worsen poverty, as established earlier with the failure of most of the poverty eradication or alleviation programmes. There is no doubt that the programmes were borne out of good intentions, but poor execution, as the case with Nigeria could further impoverish the citizens.

There clearly appears to be a strong correlation between the character of governance and the degree of poverty in Nigeria, because the political economy of Nigeria has contributed immensely to the level of poverty in the country (Omoyibo, 2013 and Danaan, 2018). Onyishi and Ezeibe (2014) explain further that the structure of Nigeria's economy has also worsened the poverty situation, where its productive base is narrow and undiversified with the economy which is largely dependent on oil revenue while other critical sectors are neglected. This situation has hampered economic growth and capacity utilization leading to macroeconomic instability and poverty (Danaan, 2018).

Method

Orisun FM station was established in 2007 by the Osun State Government. Located in Ile Ife community, it broadcasts only in the unique Ife dialect of Yoruba language. Ile Ife can be described as a small semi-rural community in Osun state. An ancient Yoruba town believed to be where the Yoruba race originated from. Ile-Ife is home to the Obafemi Awolowo University, a Polytechnic institution, primary and secondary schools. Apart from the University staff and students who live within and around the campus, the larger part of the town is occupied by indigenes and non indigenes, who are mainly farmers, petty traders and civil servants. The mortality rate in Ile Ife is low.

Taking cues from the basic determinants of well being which are also used as some of the parameters for measuring poverty such as food, shelter, portable water, healthcare, education and employment opportunities (Akintola and Adeyeye, 2001), the objectives of this study are set to measure the impacts of Orisun FM on the community through its various programmes. First, to find out the impacts of agricultural programmes on the people of Ile -Ife. Second, to ascertain the impacts of educational

programmes on the community. Third, to investigate the impacts of health programmes on the community. And fourth, to establish the impacts of economic programmes on the community.

The survey research method was adopted for the study, using questionnaire as the instrument of data collection. The questionnaire was administered to purposively selected respondents who comprise male and female adults aged 20 years and above. The rationale for the age bracket is based on the belief that that persons age bracket are would be able to assess the impacts of Orisun FM on the entrepreneurs and general entrepreneurial activities in the community.

Findings

Table 1: Impacts of agricultural programmes on the people

Orisun FM	Valid Percent
Teach small scale farming	42.2
Encourage youth participation in agriculture	24.1
Encourage gardening	9.5
Teach preservation of farm produce	24.2
Total	100.0

The above table shows the impacts the agricultural programmes of the station have on the people. Being a farming community, Orisun FM contributes to agricultural development in the community by teaching community members small scale farming. The station through its programmes also encourage young people in the community to participate in agriculture; teach existing farmers better ways of preserving their farm produce; and also encourage gardening.

Table 2: Impacts educational programmes on the people

Orisun FM	Valid Percent
Teach to read and write	13.1
Preserve Yoruba cultural heritage	52.3
Inform of current affairs	8.4

Encourage adult education	26.2
Total	100.0

Table 2 above presents the impacts educational programmes have on the people. Community members learn how to read and write through the station's programmes; the station also produces programmes that teach community members about their culture, thereby helping to preserve their culture. The people get informed of current happenings in their immediate environment and the wider society. In addition, the radio station encourages adult education among the non literate adults in the community.

Table 3: Impacts of health programmes on the people

Oke Ogun FM	Valid Percent
Awareness on government health policies	25.3
Sensitization on children immunization	21.1
Teaching good nutrition	10.5
Educate on hygiene	15.8
Educate on how to care for children and the aged	9.5
Educate on prevention of HIV/AIDS	17.9
Total	100.0

Table 3 reveals the impacts the health programmes of the station the people. The radio station positively impacts the community in ensuring good health among community members: creating awareness on health policies and programmes of the state government; sensitizing community members on children immunization; teaching on good nutrition and the need to maintain personal and environmental hygiene; educating community members on best ways to cater for children and the aged, especially under various weather conditions; and teach the people on ways of protecting themselves against HIV/AIDS.

Table 4: Impacts of economic programmes on the people

Oke Ogun FM	Valid Percent
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Teach entrepreneurial skills	42.2
Inform about market days	28.9
Teach on investment	23.4
Inform of prices of goods in markets	2.2
Monitoring inflation	3.3
Total	100.0

The table above provides data on the impacts the economic programmes of the station on the community members. Specifically, the radio station teaches majority of the population on entrepreneurial skills. The station also inform the people about market days when they have opportunity to market their goods and services. Community members also get educated on the need for investment and various ways in which they can invest their financial resources. Through dedicated economic programmes, the station informs community members of prices of various goods in the markets, and when the prices change. The radio station furthermore helps to monitor inflation by informing community members of anticipated inflation, provides information on the possible causes, guide the people on how to cope with it and suggest ways of getting out of inflation.

CONCLUSION

Disruptive innovation as earlier situated has proved to be one way entrepreneurs can break through some of the challenges militating against their business expansion and growth. This is because it affords entrepreneurs in startups and SMEs the opportunity to scale up, survive competition and possibly dominate the market. Community radio, as shown with this study, has also proved to be an effective means of sustaining disruptive innovation and achieving sustainable entrepreneurship.

All the aforementioned roles of the radio station are useful to general members of the community. However, more particularly they are useful for the sustenance of entrepreneurial activities and entrepreneurs in the community, many of whose business endeavours can be described as disruptive innovation. Hence, community radio, if allowed to thrive can play a significant role in tackling issues of poverty, agriculture, gender inequality, education, social problems among others. The community media can make these issues the focus of their programming. The programmes can incorporate skills training

and access to a number of capacity building activities, targeted towards the economic advancement and sustenance skills for entrepreneurial activities in the communities.

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COMMUNITY RADIO AS SOCIAL ENTREPRENEURSHIP AND ENABLER OF SUSTAINABLE DEVELOPMENT

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Abstract

Social entrepreneurship is described as a means to alleviate or curb social problems as well as speed up social transformation. Considering the current realities Nigeria is faced with in various sectors such as the economy, security, agriculture, education, health, infrastructure and so on, social entrepreneurship becomes a plausible solution to the persistent national concerns. As every entrepreneurial undertaking requires capital to begin and keep running, social entrepreneurship also thrives on social capital. Explained as the resources embedded in social networks which are accessed and used by actors for action, social capital has therefore become one of the basic variables for explaining development needs and quality of life across communities. As long as development, and in fact, sustainable development is most desired especially in Nigeria, considering the potency of the mass media to facilitate development in the aforementioned sectors becomes imperative. The aspect of mass media capable of performing this function most effectively is community radio – a not-for-profit radio broadcasting. Given its unique feature of functional presence in every community across the world and the fact that electricity and illiteracy pose no barrier to its use, radio has proven to hold greater potentialities for achieving sustainable development in Nigeria. Using questionnaire to gather required data for this survey research, outcomes of this study reveal that community radio through development oriented programmes, has encompassing positive impacts on the education, agriculture, health and economic sectors of the society. In addition, community radio mobilizes community members to take responsibility and participate actively in their own development. This paper suggests that stakeholders in the various sectors of national life join in the crusade for the creation and smooth functioning of community radio across Nigeria. This will facilitate the utilization of community radio as a tool for mobilizing the generality of Nigerians towards sustainable development.

Key words: sustainable development, social entrepreneurship, social capital, community radio

INTRODUCTION

The persistent labeling of Nigeria as a developing country places development top on the priority list of our national concerns. Also, because development is multifaceted, it requires a comprehensive approach to achieve and sustain it. Despite the efforts of past and current administrations to tackle development issues in Nigeria, there still exist the palpable realities of poor economy, security threats and invasions, dysfunctional educational system, poor health delivery, lack of and poorly managed social infrastructure, and so on. Given the failure of most of the programmes, there is a need for reappraisal and change of approach to tackling development issues. Hence, social entrepreneurship becomes an important factor to consider in tackling development issues. Social entrepreneurs are individuals or institutions that make use of the economic power and technological functionality available at their disposal to accomplish societal goals. Noya (2009) describes social entrepreneurs as those who use entrepreneurial skills to create organizations that, instead of seeking profit, pursue a more just and humane society. And in cases where profit is made, Social entrepreneurship rather aims to benefit the community by redirecting all such profit back towards a social mission (Brajević, Babić and Jukić, 2016). This paper therefore draws attention to the mass media, particularly community radio as a potent social entrepreneurial force capable of engendering sustainable development in Nigeria.

Mass Media and Sustainable Development

Mass media function as intermediaries between the people and the state as well as their development needs. The media mirror the society by painting the picture of the society to itself. In so doing, they influence public opinion in response to the picture they paint of the society. Thus they have the ability to foster positive change in society. Akinfeleye (2008) states that the mass media can contribute to socio-economic development and help to motivate as well as instruct peasant population in the process of development. Akinfeleye further posits that if nothing at all, the mass media have the ability contribute to people's awareness of their potentials and sometimes the mass media can be responsible for adding fuel to dissatisfaction and desire to change.

In the message of Pope John Paul II to Nigerian journalists, during his 1998 trip to Nigeria and Africa, he stressed that the initial stages of development in which Nigeria was had increased the responsibility of the journalists, by giving them a unique opportunity through the mass media systems, to contribute decisively to the service of man and total development of Africa (Akinfeleye, 2008, p. 58).

From the foregoing, it is evident that the mass media can facilitate development in a less developed country like Nigeria. As Usaini, Kayode-Adedeji, Omole and Oyedepo (2017) put it, the mass media play important roles in our lives as they perform their functions: sourcing of information, education and

entertainment. However, the media are not being maximally employed to aid development in Nigeria. That is why Moemeka (2000) complains about the situation in which educational and broadcasting authorities direct their activities towards the urbanized and educated population, leaving out a large percentage of the population who are illiterate and live in the semi-urban and rural areas. The way out of this “misplaced priority”, according to Moemeka (2000), especially when this uneducated population live in far-flung and widely scattered communities, is to reach them with a medium that is capable of reaching every community. And the medium capable of achieving this is radio.

In the same vein, Akinfeleye (2008) says with the majority of Nigerians in the rural areas, almost completely isolated from the national government and their urban counterparts, the only way Nigeria can achieve meaningful national development is through the national integration of its peoples by the establishment of mass media at the grassroots. He calls for private and government sponsorship of community or rural press in their native languages, as that is the only way developmental information will be carried and understood by the masses of Nigeria. Also, Ekwueme and Akpan (2011) state that rural broadcasting provides the long-neglected and marginalised rural dwellers an opportunity to express themselves, highlight issues concerning them and their communities, especially in areas of development needs of the rural communities, their culture, religion, environment and other sundry needs.

Incidentally, there is a growing awareness across the world on the ability of radio channel of mass communication, to help achieve development, especially in less developed societies. Moemeka (2000, p. 133) reports UNESCO’s declaration in 1967, that: “there was a convincing evidence from projects in many parts of the world that the mass media can be effectively applied to the development of resources to meet the basic economic, social, political, education and cultural needs of nations.” These efforts according to him, were centred around the use of radio which, was then the only known medium of mass communication in the rural areas of these developing societies. Moemeka (1981) reiterates that radio is the only medium of mass communication which makes news of events and activities available to the widest possible audience in developing societies. In the performance of this task, he says: “radio feeds the people with information about what was, what is and what is likely to be, thus making it possible for individuals and communities to re-adjust themselves in ways best suited for their situations.” If people in the rural areas are fed with such information, on their socio-economic and political lives, they will be able to make informed decisions about issues that affect their present and future conditions. It will also help bridge the knowledge gap between them and urban dwellers.

Anaeto (2011) identifies some of the characteristics that make radio suitable for community development, by saying that its signals can reach remote areas, it transcends language barrier and radio receiving sets

can be operated with batteries. Hence in the face of rural “non-electrification”, radio is cheaper, portable and can be carried anywhere.

Community Radio as Social Entrepreneurship

As stated earlier, Social entrepreneurs are individuals or institutions that make use of the economic power and technological functionality available at their disposal to accomplish societal goals. Noya (2009) describes social entrepreneurs as those who use entrepreneurial skills to create organizations that, instead of seeking profit, pursue a more just and humane society. And in cases where profit is made, Social entrepreneurship rather aims to benefit the community by redirecting all such profit back towards a social mission (Brajević, Babić and Jukić, 2016). From these two definitions, it is clear that social entrepreneurship is not-for-profit; concerned with facilitating positive change in the society; and committed to engendering and sustaining societal development, among others.

Community radio shares certain similarities with social entrepreneurship in terms of its principles and roles in the society. Steve Buckley (2008), President, World Association for Community Radio Broadcasters highlights some distinctive characteristics of community radio. They include: Community radio station is not-for-profit radio service designed to operate on a small scale and to deliver community benefits; It is run for social gain and community benefit: It is owned by and accountable to the community that it seeks to serve; It provides for participation by the community in programming and management.

In addition, Vigil (1997) provides a poetic definition of community radio which also reiterates some of its characteristics. He says:

When radio fosters the participation of citizens and defends their interests; when it reflects the tastes of the majority and makes good humour and hope its main purpose; when it truly informs; when it helps resolve the thousand and one problems of daily life; when all ideas are debated in its programs and all opinions are respected; when cultural diversity is stimulated over commercial homogeneity; when women are main players in communication and not simply a pretty voice or publicity gimmick, when no type of dictatorship tolerated, not even the music dictatorship of the big recording studios, when everyone’s world fly without discrimination or censorship, that is community radio.

UNESCO (2008) however points out that though community radio is not-for-profit, it does not mean that community radio can not engage in revenue generating activities, which tends to be vital for survival and sustainability. That is, the main objective of community radio is not revenue generation like commercial radio, but it possesses the ability to generate revenue alongside its main objectives. The programming of community radio is all about the community and of direct relevance to them. In essence, community radio is an interactive media, which according to (Oyero, Oyesomi, Usaini and Omole, 2017) provides greater access to information and greater

opportunity to express thoughts and opinion. As such, community radio encourages and facilitates community participation.

The marked difference between community radio and state- owned radio is the concept of community ownership. Nonetheless, there are some local state owned radio stations which function like typical community radio. Examples are radio stations like Orisun FM and Oke-Ogun FM owned by Osun and Oyo State governments respectively. The focus of this study is on community radio as social entrepreneurship, looking at how community radio broadcasting can help to achieve sustainable development.

Method

The study used Oke-Ogun FM as case study. Oke-Ogun FM radio station was established on August 7, 2009 by the Oyo State government. The station is located in Alaga, a small rural community in the state, whose main occupation is farming. The station broadcasts only in Yoruba, the local language of the people. Using survey research method, the study gathered required data by administering questionnaire to respondents who were purposively selected from Alaga community. Male and female adults aged 20 years and above were intentionally selected for the study. The researchers believe that persons who fall within this age bracket are old would be sufficiently matured to be able to assess the impacts of Oke-Ogun FM on them. The specific objectives of the study are: Being a typical farming community, to find out the impact of the station's agricultural programmes on the people; As a trading community too, to investigate the impacts of economic programmes of the station on the people; To ascertain if the radio station is actually bridging communication gap between the state and community members, by way of bringing their common needs to the attention of the government; And to see if the government responds to the needs of the people as conveyed through the radio station.

Results

The following tables are generated from the data gathered in response to the set objectives of the study.

Table 1: The impacts of agricultural programmes on the people

Oke Ogun FM	Valid Percent
Announce planting seasons	39.2
Lessen invasion of farms by fulani herdsman	45.1
Teach animal husbandry	5.9
Teach pest control	7.8

Teach how to increase farm output	2.0
Total	100.0

The above table shows the impacts the agricultural programmes of the stations have on the people. Many people in Alaga get information on planting seasons for various crops on Oke-Ogun FM. Majority of the attest that, the radio station being an interactive media platform encourages dialogue between the farmers and Fulani herdsman, which lessens the invasion of farms by the herdsman. Other direct contributions of the radio to agricultural development in the community are: Teaching animal husbandry; teaching farmers on pest control; and enlightening them on other ways of increasing their farm output.

Table 2: Impacts of economic programmes on the people

Oke Ogun FM	Valid Percent
Announce market days and venues	80.4
Inform of prices of food items	19.6
Total	100.0

The above table shows the impacts the economic programmes of the stations have on the people. Most people in the community get information on market days from the radio station. These information are usually given as reminders and guidance to community members, both men and women who trade in farm produce and other wares. They are reminded of the days the markets within and around the community holds. The people also get to know of newly established markets in the wider Local Government Area, as well as the things available in each market. Some community members also listen to the radio for prices of various food items.

Table 3: Impacts of health programmes on the people

Oke ogun fm	Valid percent
Encourage patronage of government hospitals	34.5
Sensitize on immunization	20.0
Sensitize on Prevention of HIV/AIDS	5.5
Teach on hygiene	16.4
Teach on food and nutrition	1.8
Total	100.0

Table 3 above presents the various ways the radio station impacts on the health of the community members. Many of the people have been encouraged to stop self medicating and patronize government hospitals. A number of them are sensitized on the importance of immunization for children. Other health related benefits of the station, as indicated by the people are sensitization on HIV/AIDS; education on hygiene; as well as information on food and nutrition.

Table 4: The station drawing government's attention to the needs of the community

oke ogun fm	valid percent
YES	89.7
NO	10.3
Total	100.0

The above table shows that the radio stations have been drawing the governments' attention to the needs of the communities. Oke-Ogun FM proves to be a strong voice of the community people by calling the attention of the government to community needs and expectations from the government. From interaction with the community members, some of the needs include fixing access road to the community, fixing electricity challenges and providing portable water.

Table 5: The extent to which government has attended to such needs

oke ogun fm	Valid percent
YES	67.3
NO	32.7
Total	100.0

The above table proves that the state government responds to the needs of the community as conveyed through Oke-Ogun FM. Majority of the community members confirm that the station serves as a medium through which many of their expectations from the government are met.

CONCLUSION

From the foregoing, it is established that the mass media, especially radio is an effective agent of development actualization and sustenance. More importantly, community radio, with its characteristics and roles in the society, actually functions as a social entrepreneurship venture. From the operations of Oke-Ogun FM, it is clear that though the radio station is government owned, it serves the community like a typical community radio would do. The radio through development oriented programmes, has proven to have positive impacts on social infrastructure, agriculture, health and economic sectors of the society. These, of course are some of the benchmarks for measuring development. In addition, community radio mobilizes community members to take responsibility and participate actively in their own development by providing a platform for dialogue and agenda setting. It is therefore suggested that that stakeholders in the various sectors of national life join in the crusade for the creation and smooth functioning of community radio across Nigeria. This will facilitate the utilization of community radio as a tool for mobilizing the generality of Nigerians towards sustainable development.

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THE NEW MEDIA QUEST AND DISRUPTIVE INNOVATIVE SOLUTIONS TO CURRENT SEXUAL AND REPRODUCTIVE HEALTH CHALLENGES AMONG NIGERIA'S FUTURE GENERATION

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ABSTRACT

Young adults, are a group who's sexual and reproductive health needs and challenges are continuously changing but usually overlooked in health policy and programming. This creates major challenges like early sexual debut, teenage unwanted pregnancy, sexually transmitted infection, and early marriage among others. Even more worrisome are the resultant ripple effects of these challenges on growing poverty, poor education, unemployment, and overall disempowerment of this future dominant sub-group of a rapidly growing Nigeria population. Many debates have arisen, and valid arguments presented on disruptive, innovative approaches that may enable or catalyse sustainable solutions to the sexual and reproductive health challenges of the youth in the country. The major question is whether to ignore societal, cultural, and religious belief systems and openly promote contraceptive use as a viable option or, to stay on the moral high ground and preach sexual abstinence, after all, this is the only absolute guarantee of safety from sexual health challenges. The implication of the former is that denying young adults access to sexual and reproductive service is a violation of the Sustainable Development Goals guiding principles on human rights. Over time, a number of interventions have emanated from both sides of the divide which did not help to forge the debate forward by providing consensus or plan of action beneficial to the youth. This position paper, weighs in by critically examining both sides of the argument based on detailed review of relevant literature, and by examining the empirical evidence of major players in the debate. The statistical content are mainly descriptive, presenting pictures of current state of affairs especially in Nigeria, using charts and graphs. The authors, present new media as a tool which can create innovative

solutions to young adults' sexual and reproductive health challenges when effectively harnessed. That way, both sides are given a voice and young adults are left to make informed choices.

Keywords: Young adults, sexual and reproductive health, new media, disruptive innovative solutions, future generation

Introduction

Adolescent sexual and reproductive health is an issue that has gained the priority that it deserved in most countries of sub-Saharan Africa especially Nigeria. A myriad of factors, inhibit the access, flow and availability of beneficial information and effective sexual and reproductive services to young people (Chandra-Mouli, et al., 2017). Most of these factors, are backed by cultural and religious grounds that preach abstinence from sexual activity (Morris & Rushwan, 2015), and trivialize young adults, sexual and reproductive needs. Unfortunately ignoring these issues does not reduce the burden of negative outcomes including unwanted pregnancy, sexually transmitted diseases, HIV and unsafe abortion. Even more worrisome are the resultant long term effects that thrive because of the reluctance to broach the subject; poor education, teenage pregnancy, poverty, early and forced marriage to name a few. In many developed countries, in the event that a young person's health or well being is in danger, they are mandated by law to seek and receive help without any form of parental or legal consent (Cook, Erdman, & Dickens, 2007). However, this freedom does not extend to their sexual and reproductive health, and by placing restrictions on their freedom of expression and choice, young people's rights continue to be denied especially in under developed countries (Godswill, 2012). The use of social media to address sexual and reproductive health issues among youth is largely an uncharted territory (Pfeiffer, et al., 2014), making it expedient to proffer innovative solutions to address these challenges using new media.

As with many other global issues, sexual and reproductive health outcomes are affected by, gender differences (Favara, 2013; Pamba, 2017; Shepherd, Sly, & Girard, 2017; Siu, et al., 2018; Warienus, 2008), and masculinity, especially in Sub Saharan Africa. Surveys reveal that male adolescents are generally more open to discuss sexual activity and the society is more accepting if they are sexually active (Amoo, et al., 2017), whereas female adolescents shy away from such discussions and typically feel ashamed, and are stigmatized for not remaining 'morally upright' (Bankole & Malarcher, 2010; Pamba, 2017). Proper and early sex education has been recommended as a major contributor to safe sex practices and informed decisions regarding sexual and reproductive health among young adults. (Adenye, et al., 2017; Godswill, 2012; HC3, 2015; Schalet, 2011). Unfortunately parents, continue to struggle with the topic and end up providing obsolete details to their children, causing them to rely on information from school and friends (Frost, et al., 2012; Tsoaledi , 2015) and in more recent times, internet searches and social media. Unfortunately, these sources do not always provide the most reasonable information causing young adults to be misinformed about their sexual choices, increasing their chances of suffering bitter consequences.

The International Conference on Population and Development in 1994, provided an innovative approach in the outlook of sexual and reproductive health, by emphasizing on human rights as the backbone for progress in sexual and reproductive health issues. The conference emphasized that every individual had the right to a safe, and satisfying sexual and reproductive life and the right to make decisions free of coercion. The World Health Organization (WHO, 2008) noted that whatever behavioral patterns are acquired during adolescence, are usually sustained throughout adult life, citing that approximately 70% of premature deaths among adults are due to behaviours that began during adolescence. Among all of these behaviours, is the way in which they handle their sexual and reproductive health. In more recent times, the 2017 Family Planning Summit, surmised that, not enough attention has been given to certain aspects of adolescent sexual health and developed the FP2020 global agenda to improve contraceptive access to women and girls, based on the premise that if 120 million girls can access contraception by 2020 there would be 110 million fewer intended pregnancies and 200 000 deaths due to maternal causes.

Studies reveal that decisions regarding sexual and reproductive health among youth are not easily understood (Masters, et al., 2008; Ott & Santelli, 2007) but rather a lot have to do with attitude, intention, desire and coercion. Scholars have also called for the need to scale up health care services to make them more adolescent friendly, globally, with emphasis on less developed countries (Hainsworth, et al., 2014). While some have suggested that a one size fits all approach should be eliminated and research and innovations should be focused to specific groups, such as adolescents younger than 15 and those with disabilities. (Burke, et al., 2018; Chandra-Mouli, et al., 2017). Others have suggested that health workers need to be trained on professionalism and skill in catering to young adults sexual and reproductive health needs (Reproductive Health Service Coalliton, 2017; Warienus, 2008), and many have recommended that involving adolescents in designing policies that would suit them, is the way forward (Hainsworth, et al., 2014; Mayzel, 2008). While all of these suggestions are valid, one major factor that makes their implementation challenging, is the high level political involvement required for their implementation. Chandra-Mouli, and colleagues in their 2017 paper, reiterated that now more than ever, health care interventions and ideas should focus on the sustainability of the solutions and not just creating awareness for a few years. Giving attention to the matter might seem like a step towards providing solutions, unfortunately this is hardly the case. Over the past few decades, a lot has been said about adolescents and their sexual health challenges, but few sustainable solutions have come about and even less in sub-Saharan Africa.

As already discussed, the challenges in adolescent sexual and reproductive health have very deep societal, cultural and religious roots, and an overhaul of thinking and perception is required to make valid progress and sustainable change. It is important to remain optimistic that the growing interest on the topic and the FP2020 goals would positively effect the situation. Nonetheless, it is necessary to create innovative techniques to reach adolescent with right information. Interventions should promote positive attitudes towards abstinence messages and contraceptive promotion alike (Schalet, 2011; Shepherd, Sly, & Girard, 2017). It is by actively involving new

media that reasonable progress, would be made in preaching the message of abstinence and that the right information on contraceptives would be made available. In essence with creative solutions, young adults would be presented with valid information from both sides of the argument, essentially they would be left to choose, as it is their right to do. Whatever choice young adults make would be sound and informed, in that case both parties win. This study makes an attempt to fill the observed gap in literature, being that little progress has made in addressing sexual and reproductive health issues among young adults in sub-Saharan Africa. The study also rides on recommendations from other studies. It paints a picture of the problem by literature review and discusses how new media could be used effectively to drive solutions to these challenges.

No Sex; Abstinence Only Approach

Abstinence only messages, encourage young adults to abstain from sexual activity until marriage, this is because abstinence is regarded as the most effective method to prevent early sexual activity and unwanted pregnancy, while offering absolute guarantee, against transmission of STI's (KFF, 2018; Masters, et al., 2008; Tsoaledi, 2015). Within Sub-Saharan Africa abstinence from sexual activity, until marriage, is in line with most religious, and cultural belief systems, therefore, it is regarded to be politically correct and as such the recommended solution to sexual and reproductive health challenges among young adults. This is fueled by the belief that providing access to other alternatives such as increased access to contraceptives and detailed sex education, would encourage promiscuity and endorse high risk sexual behaviour among young adults (Eze, Obiebi, & Akpofure, 2018). Apart from its apparent role in addressing sexual and reproductive health challenges, scholars have depicted how sexual activity outside of marriage, is positively linked to mental health challenges including depression and possible suicide among heart broken teenagers who have engaged in sexual relations with male partners (Institute of Research and Evaluation, 2018; Sabia & Rees, 2008). Physical harm and date rape are also consistent in sexual relationships among unmarried young adults.

The major strategy behind the abstinence before marriage message, is to emphasize, the negative consequence of sexual activity. Over time, this has been the sole feature in sex education for youth, both at home and in school (Godswill, 2012), it has also been the back bone of many sexual and reproductive health campaigns and interventions, some of which, have yielded positive results in reducing teenage pregnancy among secondary school students (Cabezón, et al., 2005). Of particular importance is the possibility that having children out of wedlock, could cause young mothers to drop out of school, resulting in poor education, economic frustration, and poor social outcomes for the children involved (Tsoaledi, 2015).

Proponents of the abstinence-only message argue that condom promotion campaigns are not necessarily effective in promoting safe sex practices (Shepherd, Sly, & Girard, 2017). The growing body of research into sexual activity among young adults corroborate these findings, in that they conclude that while young adults are aware of contraceptive methods, especially the male condom, they do not use it at all or rarely use it when they have sex (Boamah, et al., 2014;

Duru, et al., 2015; Eko, et al., 2013; Eze, et al., 2018; Makhaza & Ige, 2014). In addition condoms only offer 95% protection (The Sexual Health Charity, 2017) .

In sum, the abstinence arguemnet posit apart from reducing the global burden of unwanted pregnancy and STI's, when young people abstain from sexual activity until marriage, they are protected from the ripple effect of these burdens. It also encourages young adults to resist from behaviours that put them at high risk such as drug use, excessive alcohol use, and in doing so promotes the benefits of self sufficiency before sexual activity, empowers young people to make reasonable decisions and leads to better outcomes in older stages of their adulthood. (Cabezón, et al., 2005; Santelli, et al., 2006).

If Sex is Unavoidable, then Comprehensive Sex Education

A large body of research has gone into exploring the knowledge, attitudes and practices of youth regarding their sexual and reproductive health. The findings only serve to undermine the abstinence only message, since they provide empirical evidence, to show that consensual sexual activity starts from as early as 10 years (Envuladu, et al., 2017; Alabi & Oni, 2017; Fatusi & Blum, 2012) and the majority of first sexual encounters for young people, within and outside of sub- Saharan Africa occur between the emerging adulthood period (Abdool Karim, et al., 2017;Barrense-Dias, et al., 2018; Gibbs, 2014; Godswill, 2012; Kusunoki & Barber, 2017; Stenhammar et al., 2015; Teal & Romer, 2013; United Nations, 2012). Scholars have astutely declared that the abstinence only message is unrealistic, grounded in hypocrisy and denial, and caters only to a small, homogenous group (McGrath, 2008; Santelli, Lyon, Rogers, & Summers, 2006).

Primary secondary and tetiary levels have been established as the three levels of healthcare prevention. Any activity that prevents a new case from occuring is at the primary level, while dtetection and treatment are placed at the secondary level, whearas rehabilitation and management are at the tetiary level (Boyce, et al., 2010). Proponents of the comprehensive sex education message, go further, to opine that it can only be implemented at the primary level of health action, because it does not provide solutions to sexual and reproductive health problem. One could argue that abstinence messages can not help victims of rape, and child abuse, since there is hardly any provision, for counselling and rehabilitation. This creates a massive gap especially in sub- Saharan Africa where there are 220 000 new HIV infections daily, and where young adults are age group, most at risk (Francis et al., 2018).

In addition, abstinence only messages concentrate on vaginal sex, therefore they do not clearly define other sexual acts including sexting, oral sex and homosexuality (Ott & Santelli, 2007). In a social media age this can not be ignored as many sexual acts are enouraged via new media. Döring, 2014 discussed how sexting among adolescents is positively associated with the tendency for high risk sexual behaviour, promiscuity and unsafe sex. Young adults exposed to abstinence only messages are more likely to engage in these acts and are most likely to have unprotected sex (Masters, et al., 2008; Shepherd, Sly, & Girard, 2017; Santelli, et al., 2017), this shows that exposing young adults to abstinence only messages could put them at risk of infection, and the problems in definining abstinence could make them liable to the risks that come from engaging in sexualized actions.

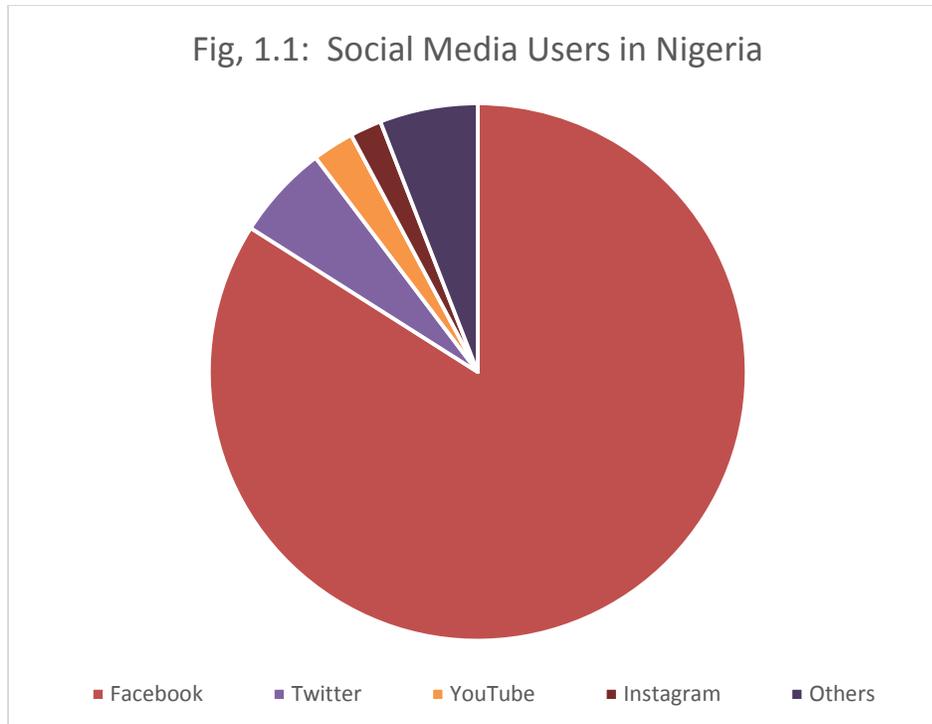
Exponents of comprehensive sex education coupled with the use of contraception will attenuate the burden posed by sexual and reproductive health challenges. This is because apart from the obvious role that contraceptives play in preventing unwanted pregnancy, certain contraceptives also provide dual protection from sexually transmitted infections including HIV/AIDS (Festin, et al., 2016). Young people aged 13-24, accounted for an estimated 22% of all new HIV diagnoses in the United States in 2014 (Centre for Disease Control [CDC], 2015). Evaluating contraceptive interventions have proved that they are effective in behavioural change in the long run (Siu, et al., 2018). In a bid to guide interventions, comprehensive sex education and provision of Long Acting and Reversible Contraceptives (LARC's) in the form of vaccination has been cited as the way out (Chandra-Mouli, et al., 2017; Nalwadda, et al., 2010; Thannel, et al., 2018; Ukegbu, et al., 2018). However this option should be available and easily accessible in a neutral or homogeneous society, but should not be made mandatory for all girls and young women.

Table 1.1 Internet Users in Nigeria from 2013-2018

Year	Number of users (millions)	Difference (millions)	Increase (%)
2013	51.8	-----	-----
2014	57.7	5.9	11.3
2015	63.2	5.5	9.5
2016	69.1	5.9	9.3
2017	76.2	7.1	10.3
2018	84.3	8.1	10.6

Data Source: Statistica 2019 ; Table: Author's compilation

Table 1.1 shows that between 2013 and 2018 there has been a steady annual increase in the number of internet users. The highest difference of 8.1 million users was observed from 2017 to 2018, indicating a 10.6% increase in that year. Overall, there was approximately a 63% increase in internet users within 5 years. It is interesting to note that much of these users are young people. And spend a lot of time on social media, as seen in Fig 1.1



Data Source: StatsCounter; 2017

Fig 1.1 presents the percentage of social media users by specific application. From all indications, Facebook has the largest population of users by far with approximately 85% of social media users subscribed to Facebook. This could be because unlike other social media applications, Facebook users, cut across all age groups from adolescents, young adults, older adults, middle aged and even the elderly. For example LinkedIn is listed under Others and is more likely to have adult users, because is designed with the aim of creating professional networks. Twitter and Pinterests are both account for approximately 10% of total users. While Instagram is the least applicable to the whole population perhaps because of the high concentration of young Instagram users.

Where does new media come in?

Nigerian youth are forever influenced by the Internet, the advent of social media and its increasing use (Fig 1.2) Now, youths around the world are beginning to have conversations online that affect their sexual health. According to Bryant & Chavious (2014), youth that use social media such as Facebook, Instagram, Tumbler, Twitter are more likely to engage in frequent sexual activities than those with access to social media (NISM) such as books, newspaper, magazines, radio, TV and email. Risky sexual behaviour is any sexual activity that increases the risk of unwanted pregnancy and contracting STI's including HIV/AIDS, examples of high-risk sexual behaviour include: Unprotected intercourse without male or female condom use, unprotected mouth-to-genital contact, early sexual activity, especially before age 18, having multiple sex partners, having a high-risk partner (has other sex partner/s), having anal sex, having sex with a partner who injects or has ever injected drugs and transactional sex (Olusoji, et

al 2015). The key point is that the youth have more access to the social media where information about these risky sexual activities are easily available and largely unregulated. Emerging statistics and surveys also show that the youth are engaging in premarital sex at younger age than any time in recent history (FMH, 2013). Early involvement in sexual activities and high-risk sexual behaviour, have both been linked with addiction to sexual contents on social media. To improve sexual and reproductive health outcomes for young adults, it is important to consider where they spend most of their time, and how to reach a large number of them, at the same time. This is where social media would prove useful, since a single post on Instagram, Facebook or Twitter, related to sexual health choices can reach youth all over the world simultaneously. Also, providing factual information on the social media will help to balance the unrestricted negative information that they receive thus, providing a balanced platform for informed decisions. In Nigeria alone the number of internet users increased from 63.2 million to 84.3 million in 2018, 85.37% of these users are on Facebook alone, and young people form the bulk of these statistics (Fig 1.1; Statista, 2018; StatsCounter, 2017). More developed countries are already harnessing the benefits of social media for health information. For example a study in China, revealed, that many people use social media as the primary and perhaps the mainstream of health information due to ease of access, specificity, and user-friendliness (Zhou et al 2015). Another reason why social media is very well accessed and used by the confidentiality that the platform provides, and this is of particular importance because of the sensitive nature of sexual and reproductive health challenges, youth have reported anonymity as the key factor they consider in seeking sexual and reproductive health advice (Ahanonu, 2014; Burke, et al., 2018). Social media allows youth to create pseudo accounts, with which they can seek counsel for their sexual health concerns. Social media would also enable the right sexual and reproductive health information to reach a heterogeneous group of youth whose needs are rarely considered such as the disabled, child prostitutes, homosexuals, HIV positive and explicitly dynamic youth. (Bull, Levine, Black, Schmiede, & Santelli, 2012; Carpenter, Stoner, Mikko, Dhanak, and Parsons, 2010; Mak, Bastian, Grace, Aquilina, & Sweeting, 2012; McCarthy, Carswell, Murray, Free, Stevenson, & Bailey, 2012).

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DISRUPTIVE INNOVATION, FOURTH INDUSTRIAL REVOLUTION AND SUSTAINABLE ENTREPRENEURSHIP POLICY: ARE WE READY?

Sub Theme: Disruptive Innovation in Leadership and Governance

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Abstract

Disruptive innovation has been adopted to transform business as globally, with much research recently conducted in the area of disruptive innovation and sustainable entrepreneurship, the focus have been on the function and capacity of these in enhancing firm competitiveness. However, much is still required where skills development in disruptive innovation and sustainable entrepreneurship is concerned, especially in Nigeria.

While new organisations use disruptive innovation as a vehicle to penetrate markets and harness new opportunities, existing organisations adopt it to remain competitive. The notion that disruptive innovation is only applicable to big corporations may not be absolutely true, as recent discussions iterate the important role played by Small and Medium-size Enterprises (SMEs) in enhancing sustainability.

Europe, Australia, America and a few Asian countries are among those countries where legislation and policies have been developed and implemented or "enforced" on a full-blown scale, in order that firms

may embrace disruptive innovation to improve sustainability. The resulting experiences have, however, not been probed in either a comparative manner or by revealing sustainable approaches to disruptive innovation and sustainable entrepreneurship.

This article examines how Europe and Australia have encouraged sustainable entrepreneurship and the manner in which this can be adopted in Nigeria, through disruptive innovation and a fourth industrial revolution (4IR) policy.

Positive and negative effects of a sustainable entrepreneurship implementation approach are explored, as well as the prerequisites for successful implementation of policy on disruptive innovation and 4IR. It is debated whether, in the light of international experience, the policy on disruptive innovation and 4IR could be considered in Nigeria and plausibly be applied under the present infrastructure dispensation.

Keywords: Entrepreneurship, Sustainability, Policy, Disruptive innovation, Nigeria

Introduction

Disruptive innovation, sustainable entrepreneurship and 4IR policy have been widely researched, most especially in relation to how firms are categorised on what informs their disruptive capabilities (Chen, Zhu and Zhang, 2017) and how it has enabled them to remain competitive. However, this concept has not received appreciable research interest in Africa and in particular Nigeria, thus leading to a poor track record in policy and infrastructure development, which could act as a catalyst to encourage disruptive innovation (Naude, 2017).

It is evident, that countries and entrepreneurs who are not able to innovate, would likely face the risk of being left behind in the adoption of the 4IR to transform their economy and remain competitive (Tenzer & Pudelko, 2015). Subsequently, job losses will result for most employees unable to develop skills relevant to securing employment.

This paper examines how industrial policies on disruptive innovation and the 4IR were crafted and implemented in other countries, as well as the prerequisites for successful implementation. The major focus is on experiences from Europe and Australia. The intention is to identify lessons evolving and best practices from which Nigeria could learn and therefore formulate its own disruptive innovation and 4IR policy. Also, useful insights could be provided concerning how decisions may be informed as to whether the IP would be appropriate in Nigeria and decide how to implement it better.

Theoretical framework: Disruptive Innovation and Resource Based View (Dynamics)

The disruptive innovation theory and its relationship to sustainable entrepreneurship is based on the work of Joseph Schumpeter (2003; first published in 1942) and other scholars, including McKinsey and Foster (1986), Henderson and Clark (1990), Moore (1991), Foster and Kaplan (2001), Christensen (1992, 1997), and Christensen and Raynor (2003). The disruptive innovation theory owes much to Christensen, an economist, who carried out research on the hard disc industry and came up with the term 'disruptive

technology'. He stressed that managers need to do away with some organisational norms, when it is evident that disruptive technology may be introduced into the business to enhance competitiveness. Although, Christensen's concept was based on business and management perspectives in order to provide advice to managers when faced with the decision-making process pertaining to disruptive technologies, it was further argued that organisations are subjected to basic rules they must follow, either conventionally or in alternative ways, based on market dynamics at a point in time.

A number of factors were identified by Christensen that can be reviewed and applied when faced with disruptive innovation, and these include: Dependence of an organisation on investors and their customers for resources; growth needs of big organisations not being solved by smaller organisations; non-existing markets cannot be analysed; and the disabilities of an organisation are defined by its capabilities; while taking into account that technology supply is not usually the same as its demand. The main point of Christensen's argument was that most stable organisations have the capabilities and other resources to remain competitive through the adoption of innovation, by following these basic principles. However, it was stressed that, whereas the adoption of these principles may seem to work for some organisations, it may not work for others when faced with the same type of disruptive technology.

In addition to the disruptive innovation theory, another theory of importance to how organisations can use their resources to enhance disruptive innovation, is the dynamic resource based view (RBV) theory. These two theories are similar in nature, because of their dynamic characteristics and their applicability to how organisations react to changes in the market (Christensen and Raynor, 2003; Teece, Pisano and Shuen, 1997).

The RBV theory is founded on the work of an economist, Penrose (1959) and other scholars, including Selzink (1957) and Ricardo (1817). The theory owes much to Penrose, who proposed a fundamental basis on which the RBV depends. Although Penrose's concept was based on the theory of the growth of a firm, which viewed organisations as a collection of dynamic resources arranged within an administrative framework, she went further to argue that individual behaviour is very important to a firm's growth, and managers' limitations are a barrier to firms' growth. Penrose believed firm performance and financial capability to be dependent on: entrepreneurship, training/ capacity development, dynamic ability, as well as acceptance of change, and organisational growth is dependent on the interrelationship between the manner in which resources are applied to enhance revenue generation, without only focusing on revenue ownership.

A more recent theory that emanated from the RBV theory and developed by Teece *et al.* (1997), is the Dynamic capabilities theory. The main argument of this theory is that, for an organisation to be competitive, it must not be rigid or static, must have the capability to embrace change, be innovative, and able to modify or change available resources to achieve their goals and objectives in a changing or dynamic business environment. Teece *et al.* (1997:510) defined dynamic capability as "the firm's ability

to integrate, build and reconfigure internal and external competencies to address rapidly changing environments”.

The main motive of dynamic capability theory is that the growth of any organisation is dependent on available resources, while this theory is essentially focused on the fact that for any organisation to grow, it needs certain resources. Other more recent theories and their application were used to assist in understanding the various ways organisations could be enabled to adapt to change.

While both the dynamic resource based view and disruptive innovation theory were initially conceived to be applicable to how organisations, through the adoption of innovation, can use their own resources to gain a competitive advantage over rival companies. This paper attempts to extend and apply the basic principles of these two theories to analyse how the application of these dynamic capabilities can be used by entrepreneurs (existing and start-up) to enable organisational growth, improve the bottom line and also gain competitive advantage over other entrepreneurs, in a changing business environment.

Context and Background

The idea of developing an IP on entrepreneurship in Nigeria was first proposed in 1946 (Raimi, Patel, Yekini and Fadipe, 2014) with the main motive of this policy being to project the economic potential of the country in terms of welfare, as well as instituting developmental projects to promote economic advancement (Ogunjimi, 1997, Olowookere, 2012). The weakness of this policy is its inability to support entrepreneurship and promotion of Small, Micro and Medium enterprises (SMMEs). Moreover, importation of raw materials was preferred to local sourcing because of a favourable exchange rate which, as found by Nigeria’s National Bureau of Statistics (NBS, 2012), created an adverse effect on entrepreneurship and support for SMMEs.

Subsequently, in order to address the shortcomings of the first IP, the Nigerian government introduced the National Development Plan (NDP) in 1962 which, similar to the previous policy (Olayiwola and Adeleye, 2005), targeted the production of both food and economic crops, to earn foreign exchange for the purchase of machines that can be used for industrial development (Olowookere, 2012). The second national development plan (SNDP) was intended to offer indigenous firms a higher percentage of equity, above foreign firms (Ogunkola and Jerome, 2006), thus providing opportunities for SMMEs (Oladejo, 2013), which unfortunately had a diverse effect on foreign investors and affected economic activities.

Over the years (1946 to 2013), different industrial policies have been developed and implemented (Raimi, et al. 2014), with most, if not all of these policies and development plans negatively impacting Nigeria’s economy (Olowookere, 2012). This has, subsequently, culminated in a high rate of unemployment, leaving the question as to whether all these policies targeted at industrial and entrepreneurship initiatives were met (Raimi, et al. 2014). The conclusion drawn is that policy failure was largely due to inappropriate implementation and corrupt practices.

In 2005, the Information Communication and Technology (ICT) policy was developed, tagged as the “National Information Technology Policy”, in anticipation of the move by Nigeria to implement a strategy in response to emerging technologies, therefore aligning to the benefits of the digital divide and enabling participation in the needs of the information age ((Olayiwola and Adeleye, 2005).

Some of the policy objectives are to:

- Ensure ready availability of Information Technology (IT) resources to enable national development;
- empower Nigerians to participate in software development and IT skills;
- encourage local production of IT components;
- establish infrastructure and maximise its use nationally;
- empowering the labour force with IT skills; and
- Improving SME productive capabilities.

Regrettably, most of the opportunities that should have been harnessed during the first to third industrial revolution were missed, due to improper definition and implementation of policies that could have placed the nation at the forefront of technological advancement (Adeyemi, 2019). Recently, there have been calls for collaboration between the various stakeholders in private and public institutions, to generate policies that will provide opportunities enabling investment in infrastructure and facilities upgrade, which will assist the country to tap into the opportunities of the 4IR (Adeyemi, 2019).

Arising from the above, it is noted that the debate on IP is widely acknowledged and is not new. This paper is limited to the surveying of experiences in the European Union (EU) and Australia and based purely on how long this has been developed and implemented and the manner in which this has assisted them to develop economically over the years. According to Naude (2017), there is a need for Africa to develop its industrial sector to enable development and to facilitate this, policies should be developed and implemented that will allow participation in the 4IR.

Naude (2017) argued that, in the past, entrepreneurs in Africa have not, in general, been included in industrial policies, with consideration instead given to state-owned enterprises, foreign investors and trade policies, when compared to those of China, South Korea and Malaysia. African entrepreneurs have thus been limited to only self-employed and small indigenous-owned companies (Naude, 2017). Since Nigeria is part of Africa and based on this argument, the country is faced with the same challenges in the area of policy formulation and implementation.

Research Methodology

Qualitative research methodology was adopted in this paper, through content analysis. Thus, with desktop research was used to explore the manner in which legislation and policies were developed and implemented in some countries and how firms have been able to embrace disruptive innovation to empower entrepreneurial sustainability. A review of books, journal articles, newspaper articles and internet sources was done, while the relevant texts were analysed qualitatively and interpreted.

Disruptive Innovation and 4IR: Towards a definition

The 4IR refers to the advancement in technology and science, which involves the internet of things (IoT), smart machines and other enabling technologies. According to Schwab and Sala-i-Martin (2018), we are on the verge of a revolution that will fundamentally transform the way we live, work and interact with each other. Participation in the 4IR should be integrated, competitive, and multilateral, while involving the public and private sectors, academia and civil society.

A content analysis of the literature confirmed that the first Industrial Revolution (1IR) used steam to set mechanised mass production in motion, the Second Industrial Revolution (2IR) used electricity for mass production, and the Third Industrial Revolution (3IR) used electronics and IT to automate production while the 4IR is characterised by merging technologies that blur the boundaries between the physical, digital and biological world (Schwab and Sala-i-Martin, 2018). It was further iterated that the 4IR is not just the extension of the 3IR, but rather the emergence of a fourth revolution with distinct characteristics such as; speed, scale and systematic impact. It has caused disruption in industry, as well as countries and is resulting in transformation throughout the entire systems (Apostol, 2016).

According to the Cambridge Dictionary (2019), industrial revolution is defined as: “The period of time during which work began to be done by machines in factory [rather] than by hand at home”. The 4IR will disrupt many sectors in a positive manner, these include the education, business, manufacturing and health sectors (Min, Jeanne, & Suk, 2018). Technology advancement may contribute to attaining these goals, however, it is difficult to prioritise these technologies for meeting goals and one needs to draft policies and create economic incentives to encourage the right type of technology advances.

Disruption is a process where new entrants or smaller organisations use innovation to capture a large market neglected by big corporations, while focusing on satisfying their already established markets (Christensen, Raynor and McDonald, 2015). Disruptive innovation occurs when new entrants or smaller corporations start to move upmarket to deliver products to a segment already neglected by the big corporations. When targeted customers begin to adopt the product made available by the new entrant, to a point that leads to the new entry gaining competitive advantage, it could be assumed that disruption has occurred (Christensen *et al.* 2015). This may be assumed to occur in two different types of markets, according to (Christensen *et al.*, 2015), classified as, firstly, low end footholds, where already established big corporations tend to focus more on their most profitable customers, whilst paying less

attention to less profitable ones, often giving opportunities to a disruptor to provide services to the neglected group of customers.

The second manner in which disruption could occur, is at new-market footholds, where new entrants or smaller organisations (referred to as 'Disruptors') develop a market where there is none; this process entails wooing people not cared for by the well-established corporations, to become their customers. Although, at the onset customers of well-established corporations tend to view products from the new entrant as being inferior, and are not willing to patronise and purchase such products until such time where it will compete with products from the incumbent but at a reduced price (Christensen *et al.*, 2015).

These views seem to corroborate the assertion of OECD on what an innovation is, according to the OECD's Oslo manual (2005:46): "An innovation is the implementation of a new or significantly improved product (good or service) or process, a new marketing, or new organisation method in business practices, workplace organisation or external relations", it went further to define disruptive innovation as: "Innovation that has significant impact on a market and on the economic activity of firms in that market".

Industrial Policy: International Experience

European Union (EU)

By 1951, IPs in the EU were initiated through the drafting of 'Experimental policy' in six nations where coal and steel were produced (Pelkmans, 2006). This involved the following countries, Belgium, France, Italy, Luxemburg, The Netherlands and the then Western Germany, and was geared towards the development of an oversight body to raise the living standard and employment. Nevertheless, as different countries developed policies to cater for their own citizens, it was agreed that it is important to have a common IP for the EU for effectiveness, which led to the creation of one market in 1992 (Farla, Guadagno and Verspagen, 2015), with a focus on implementing IP. In broad terms, the IP in many countries in the EU was intended to institute structural change and improve competitiveness, thereby allowing the establishment of new technology oriented companies. This first phase was the provision of incentives to protect firms threatened by competition in order that they may remain in business. Furthermore, the provision of a level playing field for all firms, which would lead to non-discrimination, was instituted to encourage competition (Farla *et al.*, 2015).

Subsequently, a need to move away from only vertical and horizontal policies led to the move towards the development of policies that would enable the development of new knowledge, innovation, education and technology. Consideration for the bridging of living standards and employment further led to the development of a social cohesion policy, as some countries are poorer than others (Fagerberg & Verspagen, 1996). To help these poor countries, funds were set aside by the EU to aid in building

infrastructure and other activities that will assist in accelerating market access and enhance competitiveness.

In 1993, the EU developed a white paper, 'Growth, competitiveness, employment, the challenges and way forward into the 21st century' (European commission, 1993). This could be assumed to be a neutral policy targeted at technology advancement and subsequently, those policies of the 1990s and 2000s were also developed to focus on innovation and sustainability. Following this was the Lisbon strategy of March 2000, with the main goal of lowering the unemployment rate and increasing competitiveness through the exploitation of globalisation and a knowledge-based economy. Therefore, to achieve this, there is a need to intensify research and development (R&D) by encouraging research in the higher education institutions and private organisations, while also creating an enabling environment for new entrepreneurs who are innovative.

Unfortunately, when it became evident that the Lisbon strategy may not be achieved, it was promptly replaced in 2010 by the 'Europe 2020', a strategy for 'smart sustainable and inclusive growth' (European Commission 2010a). The objectives of the Europe 2020 focused mainly on science, innovation and technologies. This policy is not sector- or activities-specific, but rather compliments horizontal mediation with vertical initiatives (European commission, 2010b). This policy is to support the knowledge base, targeted by 'key enabling technologies'. Nonetheless, it is assumed that all sectors are important, considering that different sections would require different support initiatives.

The objectives of Europe 2020 policies (European Commission 2010a and 2010b) are:

- Improving framework conditions for industry by 'Smart regulation' and better access to finance.
- Strengthening the single market through improved infrastructure, better management of intellectual property rights and as active competition policy.
- Promoting excellence in education and research.
- Encouraging industrial modernisation through research-efficient production, sustainable pricing and environmental technologies.
- Restructuring companies hit by the economic crisis.

A key prominent policy in the Europe 2020, is the 'Smart Specialisation', which entails organisations in a locality working together in groups to increase competitiveness through collaboration of resources and expertise between firms, public corporations and academic institutions. The advantage of this is to enable policy makers to know industry requirements and how to provide the necessary level of support. Furthermore, smart specialisation is defined as a process of 'self-discovery'; where organisations, entrepreneurs and academic institutions identify areas of strength in research and innovation, based on

their current resources. This process will not only benefit the local level but the EU as a whole and reduce exposure to global markets (Foray, David and Hall, 2011).

Overall, the EU policy can be classified into two categories, namely horizontal and vertical. Horizontal policies are aimed at fostering an enabling environment for growth, in education, research, and infrastructure investment, while vertical policies (most especially at national level) that remain at the EU level, through the promotion and provision of funds for public-private partnership and R&D in some fields of technology, encourages growth in a manner that industrial competitiveness can be sustained and addresses socio-economic challenges.

Australian Industrial Policy

According to Mitchell (2015), IP has enabled Australia to attain a higher per capital income due to the country's wealth of experience in removal and development of unnecessary charges and skills development which assisted in promoting varied economic institutions and leading to increased international competitiveness. The role of the state is important to Australia's industrial success and has been made possible through the development and implementation of economic regulations that will support sustainability (Mitchell, 2015). IP has been focused on promoting competitiveness through the provision of incentives that will encourage firms to develop strategies aimed at meeting both domestic and global challenges, rather than merely promoting productivity (Mitchell, 2015).

Beginning from 1945 to the 1970s, Australia's national policy was focused mainly on providing full employment with substantial investment made at that time, towards the development of infrastructure to support industrial development. IP in Australia started before the implementation of macroeconomic framework. It is iterated by Downes and Stoeckel (2006), that IP is "constantly evolving in response to domestic and international forces which themselves are continually changing". Over the years, the concentration of safeguarding Australia's manufacturing sector has reduced due to competition from Asia, thus leading to a focus on more "Knowledge Intensive" goods that emphasize design and other value-added components" (Downes & Stoeckel, 2006:1).

IP can thus be defined as an intervention contrary to the belief that markets should be allowed to allocate resources to be used optimally. This notion has, subsequently, changed to include the role of government in providing a conducive business environment, for example, tax review, incentives and the involvement of public ownership. According to Mitchell (2015), this must ensure that it is stable, unique and allows for equal economic development.

After World War 11, the aim of the Australian IP was to advance a labour-intensive manufacturing sector, with the focus on productivity and an increase in wages, through the support of important manufacturing sectors. To be effective, the government set up a monitoring and evaluation body to carry out these activities, with this policy having gone through some changes since its inception in the 20th century. Charged with conducting research, it also acts as an advisory body to the government on

socio-economic and environmental issues affecting the country, to assist in developing long-term policies and report back to the relevant stakeholders on services such as education, health, housing, justice and community service.

Another wave of policy development occurred in 2007, when the government invested in national broadband network infrastructure development aimed at provisioning Australia as one of the leading digital economies by 2010, while also providing a platform for the support of higher institutions and knowledge-based industrial development (Mitchell, 2015), in addition to also connecting homes to a high speed network. This originated from the assumption that private telecommunications organisations may want to concentrate on providing services to cities, to the detriment of rural areas, which thus avoids the provision inferior services to the local people. Moreover, this will allow private service providers to leverage on the infrastructure to provide various services to the public. Part of this is the 'manage your own business (MYOB)' in collaboration with Google, to assist SMMEs and start-up business in creating an online presence (Mitchell, 2015). It is important to note that an extensive rollout of infrastructure of this nature will promote national development and, subsequently, encourage private organisations to make use of this to implement profitable ventures.

Lessons for Nigeria

In the final analysis, it is evident there is no hard and fast rule on how IP can be developed and implemented to support disruptive innovation, sustainable entrepreneurship and the 4IR. International experience shows that the success of IP in general and implementation of disruptive innovation and the 4IR in particular would require the leadership of stakeholders, including the state, public and private organisations and academic institutions to foster R&D. This depends on the following criteria; in broad terms, the IP in many countries in the EU was specifically intended to institute structural change and improve competitiveness, thereby allowing new companies that are technology oriented, to be established.

Another important lesson is that organisations operating in a locality were encouraged, through policy, to collaborate and work in groups, thereby sharing knowledge and expertise to increase their competitiveness by means of the use of available resources. A situation is thus avoided where organisations and institutions work in silos and continue to struggle, unable to achieve the developmental goals, and instead, assist in job creation and reduction of poverty in the region. This involves various institutions coming together to conduct R&D and generating innovative ideas that can be shared and used by all. Another advantage of this initiative is that it enables policy makers to know industry requirements and how to provide the required level of support.

Generally, it seems from careful examination of the situation in the EU and Australia, that the development and implementation of an IP is complex and requires some basic resources to be successful. The IP in Nigeria, depending on how it will be developed, may possibly not receive full acceptance by some local organisations that consider themselves as self-sustainable and some

international organisations and intending foreign investors that are of the view that they could not operate effectively because of unfavourable policy.

The problem of policy development and implementation in Nigeria appears to be the manner it is phrased and not being sustainable, due to the mode of implementation and corrupt practices. As such, this means that the levels of preparedness to implement this type of policy are not sometimes explicitly stated. Therefore, most of these policies, when not properly phrased and implemented, may face serious opposition during implementation.

At national level, what emerged from the analysis is that, for these policies to be fully implemented and effective, the state has a critical role to play as they are charged with the provision of overall leadership, through promulgation or legislation that will support sustainability of the policy. Furthermore, monitoring and evaluation should not be handled by the state. Instead, this duty should be dealt with by a different body appointed by the state, to carry out periodic evaluation and monitoring of these policies. With feedback; this will keep the state abreast of the effectiveness of the policy and where there is non-performance, adequate review and adjustments can appropriately be made.

A common theme that emerged during the analysis of both the EU and Australia, is that there are basic prerequisite facilities that have to be in place for the successful implementation of IP. For example, massive investment in infrastructure, such as the provision of a backbone network is needed in both the urban and rural areas. This is key to technology advancement and development, and subsequently, promoting participation in the 4IR by all stakeholders. Additionally, there has to be policy on how higher institutions would become innovative to help develop the requisite skills through research and innovation to support the 4IR implementation.

It is important to know that policies cannot be developed in isolation. Therefore, for policy to be adequate and effective to support the proposed innovation, it would require collaboration between many stakeholders for them to add their input in a manner that will make the policy robust and acceptable by everyone. The aim is to avoid a situation whereby, after development, the policy may not be sustainable in a way that it will support the intended development initiatives.

Conclusion

In the case of Nigeria, there are some basic requirements that must be met before a robust and working IP on the 4IR can be developed and implemented. This includes provision of basic infrastructure, such as a network backbone in the urban and rural areas. Over the years, the lack of network connectivity has been a major issue in the country, preventing a substantial number of the population from participating in the digital economy. This issue is vital for the implementation of a 4IR policy geared towards the eradication of poverty and enhanced competitiveness. Everyone in the private and public institutions

would be required to work together to achieve the set objectives. In addition, Nigeria's government must create an enabling environment for growth, where there is no discrimination, through the provision of a level playing ground for all stakeholders.

Capacity building is vital to the advancement of technology and innovation. A policy that will allow collaboration between academic institutions and the industry should be developed to encourage advancement of R&D collaboratively, with the provision of relevant training for skills acquisition in those areas that will support policy implementation towards the uptake of the 4IR by both new and existing entrepreneurs in the public and private institutions.

A critical review of all the existing industrial and ICT policies should be carried out to identify areas of overlap and those areas lacking vital statements that could support the implementation of the policies in a manner that will enable entrepreneurs to become innovative. The IP should be a living document updated continuously to align with technology and market changes globally. The case study of the EU and Australia shows how their policy development have evolved over the years, through amendments and improvement by means of constant review, for them to respond to global economic changes and technology advancement. Should Nigeria wish to participate fully in the 4IR and be competitive in the global space, the various industrial policies that serve as a prerequisite to economic development would require a critical review to be implemented successfully.

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INNOVATION IN INDUSTRIAL POLICY-*FROM CEMENT POLICY TO GOLD POLICY*

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Abstract

Public sector innovation in Sub-Saharan African countries has been under-researched largely because of the perception of real or apparent manpower skill gaps that inhibit creativity. However, in recent years, a few African countries like Nigeria are beginning to use design-based thinking and similar inverse techniques to accelerate policy design, policy review and policy implementation using new innovations different from the top-down policy approach of the early 2000s. Recently, the Federal Government of Nigeria used an open collaboration Lab approach in 2018 to resolve industrial challenges using a 360° stakeholder circuit. The Lab is a creative environment where novel practical solutions are developed to economic and entrepreneurial problems with the objective of harvesting new policies, new frameworks and new service delivery mechanisms in a compressed timeframe. Based on the outcomes of the first Lab, a few government policies have been accelerated and the government policy cycle shortened from 2-3 years to approximately 9-12 months. This research study focuses on the techniques and successes of the Lab innovation with emphasis on the gold policy that was accelerated for entrepreneurs, and contrasts it with the cement policy developed a decade earlier. The benefits of the innovation and how this innovation may be scaled to improve entrepreneurship and economic development in Nigeria are also highlighted. From the study, the findings reveal the efficacy of the Lab approach and the collateral benefits it impacts on various stakeholders.

1.0 INTRODUCTION

Public sector expenditures account for as high as 30% or more Gross Domestic Product in many countries (OECD 2011). Beyond the spending, the public sector also holds significant powers as policy makers, regulators and enablers of business and entrepreneurial spending. Hence the pressure to deliver better outcomes to business entrepreneurs and citizens has warranted the drive

for newer and better service delivery models through continuous process improvement that is incremental or disruptive innovation, which is game-changing. In developing countries, the changing demographics and income inequality in an era of fiscal constraints are equally placing additional pressures on governments to respond quicker and faster to citizen needs using new or innovative constructs (Carstensen and Bason, 2012; Ojo, 2014). In essence, the objective is that new platforms are being developed to increase accessibility between government and citizens, new pipelines are being opened to enhance service delivery, and new processes are being implemented to improve organizational flexibility; as represented in Fig. 1.

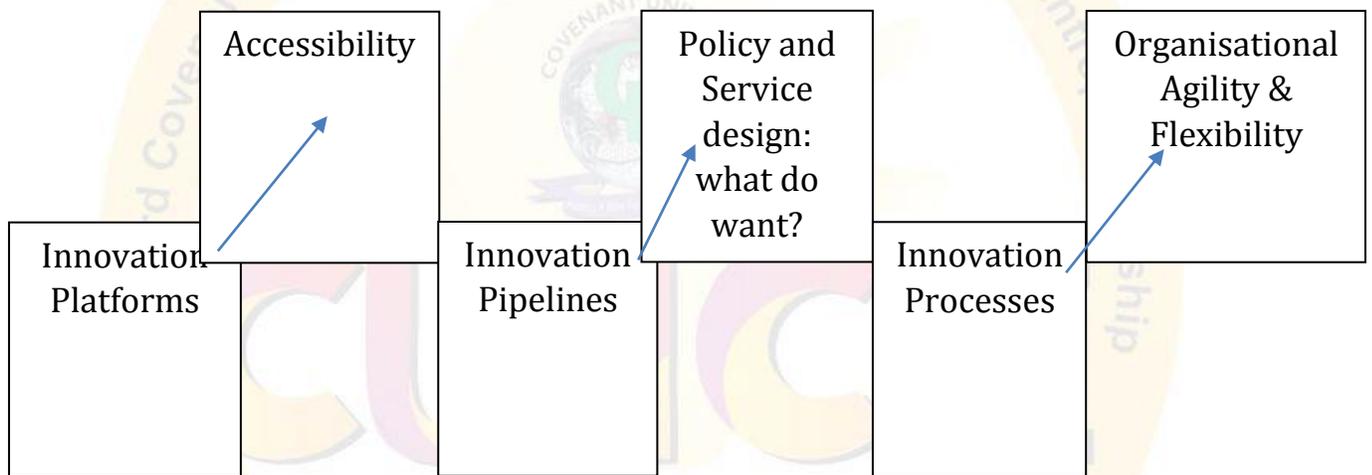


Fig. 1: Schematic representation of innovation modes and channels

However, delivering on innovation in the public service has proved challenging. Borins (2002) highlighted initial reasons why public sector innovation was treated as an oxymoron for two main reasons; first, most public sector agencies are pseudo-monopolies with little competitive pressure to disrupt themselves except perhaps occasionally by a new government seeking re-election or a new politician seeking to leave a legacy. Second, public sector organisations are typically large administrative bureaucracies structured to perform core, repetitive tasking with consistency, and to act as custodians of such public practices.

In summary, the imperative for innovation in the public service and by implication in industrial policy formation is due to a progressive inflexibility based on complex hierarchical rule-based

system and top-down decision making processes, which causes it to be increasingly distant from citizen's expectations (Yamamoto, 2003).

Industrial policy is simply government's strategy or official policy to increase industrial or manufacturing output, and develop the industrial sector through incentives, subsidies or deliberate provision of an enabling environment (UNCTAD/ UNIDO, 2011). Rodrik (2004) redefines the scope of industrial policy as strategic collaboration between the private sector and the government to elicit information on significant externalities, and to co-create interventions to remove critical obstacles to industry and enterprise development. Innovation in industrial policy would therefore be viewed as the application of novel techniques and approaches for government to collaborate with the private sector and industrialists to achieve this objective of accelerated industrial or manufacturing development.

Earliest records of innovation in modern industrial policy was the ingenious use of reflationary deficit financing in Japan's post-war industrial policy formulation to achieve a record growth of 81.5% in industrial output within three years from 1931-1934. This remarkable use of policy to drive industrial output and almost double it without any apparent mainstream theoretical underpinnings was innovative and breakthrough enough to have earned the phrase "Japanese industrial miracle" (Chalmers Johnson, 1982). More recently, authors such as UNECA (2017) have attempted to document new approaches to spurring industrial development in several African countries, while Tyce (2019) investigates the nuanced success of Kenya's industrial policy with respect to the textiles and garments sector.

RESEARCH METHOD

This research adopts a qualitative or descriptive research method, using two focus industries as case studies. The primary approach was to conduct a desk research and literature review of recent practices in public sector innovation and industrial policy innovation and then funnelling through to innovation in industrial policy in Nigeria.

This research focuses on innovation in Nigeria's industrial policy. A schematic representation of how a singular industrial policy is developed is presented below in Figure 1.

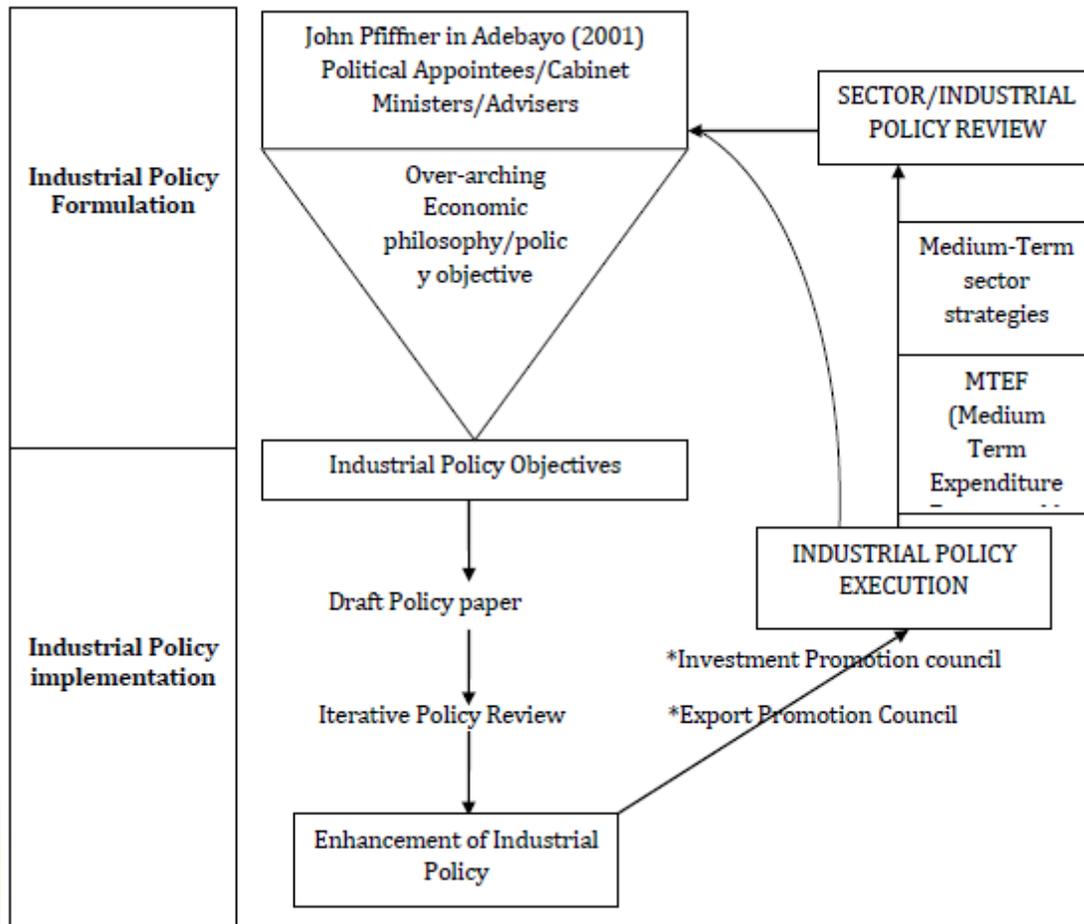


Figure 2: Schematic Representation of Industrial Policy Development in Nigeria

2.0 LITERATURE REVIEW.

2.1 Public service innovation

Public sector innovation is a very broad concept. Conceptually, four common references to innovation and by implication, public sector innovation, have been used loosely in the literature.

- 1) Types of innovation
- 2) Modes of innovation
- 3) Methods of innovation and
- 4) Sources of innovation.

However, DeVries, Bekkers and Tummers (2014) and De Vries, H.A. (2018) detail a more systematic approach to the classification of innovation in the public service. Based on their classification, the four innovation types used are process innovation (focused on either the technological or administrative core of the organisation), product or service innovation, governance innovation and conceptual innovation. The broader literature consider modes of innovation are based on the extent of involvement of other non-governmental actors, e.g. public-private etc. Methods of innovation could be design-based thinking, human-centred design, user-centered design etc, though some of these could be argued to be synonyms or not mutually exclusive. Sources of innovation typically refer to the channels etc (Qianget *al.* 2015). Evans (2018) for instance identifies 5 initiatives, borrowing from proven techniques in industry and finance, to accelerate innovation in the public sector.

First is open-source or “outside-in” innovation from outside the organisation’s boundaries to access crowd-sourced or citizen-sourced ideas from outside the core public service. Second is a public-private idea hub to leverage industry partnerships and enrich insights through inside-out solution flows whereby prototype solutions are validated by external parties or the public before mass roll-out. Third are tech-combinations or parallelism, whereby public sector agencies simply replicate systems or technologies successful elsewhere, after a simple cultural validation. Fourth is agile ideation sessions whereby public sector leaders can utilize to help energize their innovation pipelines and accelerate the influx of ideas is to conduct rapid, event-based innovation sessions, possibly enabled by somewhere to have digital innovation sessions. Fifth, and probably more complex and time-consuming, is institutionalising innovation one agency at a time within government through a programmatic approach by establishing a formal innovation office and by systematically building the capabilities of the innovation office across strategy, people, process and technology with playbooks and toolkits. Elements of the fourth and fifth types of initiatives, that is agile innovation sessions conducted in a manner such as to institutionalise the innovation in a programmatic manner form the bedrock of what has been popularly known as “Labs” in industrial policy implementation.

In the public service, innovation may also be classified based on outcomes. Innovation outcomes have been typified to include various types of outcomes such as concept or conceptual innovations, product innovations, service innovations, process innovations and policy innovation

(De Vries et al. 2014). Most of the literature has however centred on policy innovation, as this is viewed as the initial driver of other types of innovation in the public service. Policy innovation can be defined as the formulation, realization and diffusion of new policy understandings.... and strategies for solving problems” (Sorensen and Waldorf, 2014). Industrial policy innovation or innovation in industrial policy can therefore be interpreted as the application of new strategies, approaches, new perspectives, new understanding, and new methods in the development of industrial policy formulation or implementation.

More recently, authors such as Carstensen and Bason (2012) and Stevens and Verhoest (2016) have expanded on the concept of “collaborative policy innovation” as an approach that could enhance policy innovation in three dimensions. First, by mobilizing wider and relevant audience base of stakeholders, secondly by creating newer and more nuanced understanding of the policy problem, and third by extending the problem-solving beyond the immediate problem to broader scopes than the specific problem presented (Sorensen and Waldorf, 2014). Collaborative policy innovation can therefore be defined as “..... multitude of actors intentionally working together to develop, realise and propagate enriched policy solutions that are radically different from their predecessors in terms of policy understanding, program theory, objectives, and strategies in order to tame unmet societal challenges” (Steven and Verhoest, 2016).

However, empirical evidence suggests that most innovations in the public sector fail for several reasons due to agency-problems between politicians who are lead policy makers and career civil servants entrenched in bureaucracies with an anti-innovation DNA, among others. Even when these are mitigated, the greatest issue appears to be scaling and the difficulty to spread, replicate or diffuse new successful practices in one aspect or agency or policy area of government to other. Dyce (2018) for instance has critically detailed different forms of innovative thinking, design thinking and its alternatives, and how they can be utilized in different contexts. The application of the most contextually suitable form of innovative thinking and framing the issue as appropriate is therefore critical when deploying innovation techniques in the public service. However, a challenge still exists in applying these concepts and frameworks in a sustainable manner to transforming public service in some countries.

One growing phenomenon is the institutionalization of innovation in public organisations so as to ingrain new thinking and new approaches into policy development. Examples for instance

abound in the United Kingdom and the Scandinavian countries and the Malaysian countries, among others, with Bason (2010) documenting the pervasiveness of these isolated innovation facilities, called “innovation labs” as part of modern public organisations in many countries.

2.2 Industrial Policy

As indicated earlier, “industrial policy”, is “a government policy for targeted industries that deliberately favors sectors or industries (or even firms) over others which is usually (not necessarily) against market signals to enhance efficiency and promote productivity growth for the whole economy as well as for the targeted industries, which is referred to as selective, sectoral or vertical industrial policy” (Chang, Andreoni, Kuan, 2013). Besides vertical industrial policy, industrial policy may also be defined horizontally or functionally, with respect to social goods such as education. Authors such as Chang, Andreoni and Kuan (2013), have analysed the different approaches and frameworks for industrial policy formulation and implementation in a wide range of countries, including Japan, United States, Germany, Korea, Singapore, Finland, Italy, Brazil and China. For instance, while many countries adopt a deliberate approach to industrial policy development as a requisite for structural transformation, other countries only adopt a formal approach to correct “sectoral imbalances accumulation”.

This was the case in Europe in the early 2000’s when in response to the recession that had led to the formation of sectoral bubbles and the shrinking of the productive sectors such as manufacturing (European Commission, 2011, p35-39), the EU industrial policy was designed. In the case of Europe, the aim of the industrial policy was to stimulate growth and competitiveness in the manufacturing sector towards a European industrial renaissance or re-industrialisation. Notwithstanding, the rationale or mode of industrial policy adopted, the ultimate objective is often to either increase manufacturing value added or to sustain a modern and innovative economy. More recently, prominence is also being given to increasing international competitiveness (World Economic Forum, 2018)

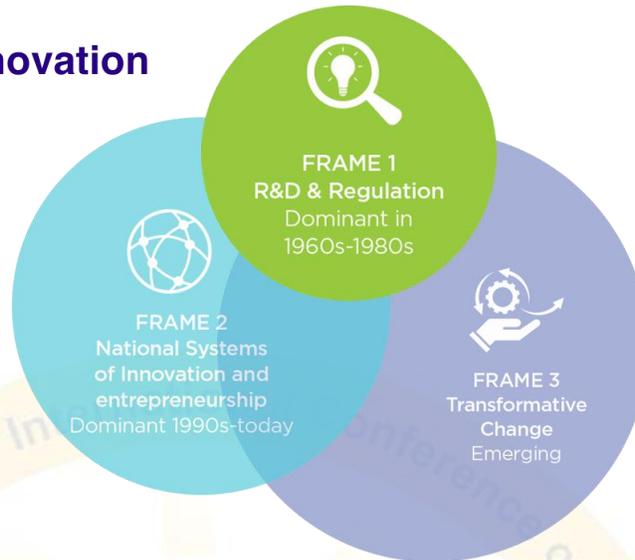
2.3 Innovation in Industrial Policy in Emerging Markets

Most of the earlier literature on innovation in industrial policy in emerging markets have been focused on Asia until more recently when the United Nations Economic Commission for Africa commenced documenting smart trends on industrial policy in Africa (UNECA, 2017). A number of the available case studies on industrial policy innovation are therefore on Asian countries, including Singapore. Based on the available literature, Chee-Yuen and Kam (2001) and Appold (2016) have documented, the weakness of state intervention and industrial policy in East Asia following the Asian financial crisis. With the earlier 'East Asian miracle' rechristened as the 'East Asian mirage', the imperative for revamping the institutional framework and approaches to industrial policy have gradually led to the emergence of some innovation. In the five advanced East Asian countries surveyed (Japan and the four Newly Industrialised Economies of Taiwan, Korea, Singapore and Hong Kong), the lessons learnt from the policy inertia and institutional dysfunction appear to be leading to some subtle policy shifts in other emerging markets. While the evidence is qualitative, the implications of the unsustainability of the industrial policy experiences of some of these five countries may have contributed to the impetus for revisiting the direction of industrial policy in other countries such as Malaysia (Yusuf and Nabeshima , 2009).

A diagrammatic representation by Tip Consortium (2019) of the gradual shift in innovation policy over the last six decades may also be applied to innovations in industrial policy.

Figure 3: Shifts in Innovation and Industrial Policy Innovation

The 3 Frames of Innovation



Source: *Tip Consortium.net* (Transformative, Innovative Policy Consortium).
<http://tipconsortium.net/about/>

In Africa and Asia, one of the well documented case studies of innovation in industrial policy implementation is the Malaysian Lab approach utilized by the Prime Minister's office in 2010. Indeed, the "transformative change" framing of the issues around innovative industrial policy was the thematic underpinning of the change in Malaysia's industrial policy direction. Please refer to Figure 3 above. The Malaysian long-term economic plan, called the National Transformation Program with a mission to transform Malaysia into a high-income nation by 2020, comprised a Government Transformation Program and an industrial policy called the Economic Transformation Program, ETP (World Bank, 2017). According to the World Bank (2017), the ETP reflected the government's industrial policy of picking priority industries, choosing projects to accelerate development of the strategic or prioritized industries. The special purpose vehicle of government called the Performance Management and Delivery Unit (PEMANDU) was then mandated to support implementation and monitor the delivery of the Economic Transformation Program. For the ETP, the industrial focus was on twelve national key economic areas (NKEAs) namely: oil gas and energy, palm oil and rubber, financial services, tourism, business services; and wholesale and retail. Other NKEAs included communications content and infrastructure, electronics and electricals; and agriculture. In addition, there were 3

NKEAs that were not enablers for the industrial sectors: education, healthcare, and Greater Kuala Lumpur/ Kiang Valley.

Implementing the new industrial policy in Malaysia after heightened public discontent with the government necessitated the introduction of a new approach that consisted primarily of a new ‘delivery unit’ in the Prime Minister’s office to drive implementation of the industrial policy. Second, delivering the industrial policy required a newer approach to setting outcomes in conjunction with the private sector industrialists, granularising the targets, and translating the overarching industrial policy into concrete projects with clear deliverables to achieve the industrial policy priorities. The innovative tool used to translate the industrial policy objectives into programs and granular projects was the “Lab”, a series of intensive stakeholder workshops to detail and sequence industrial priorities into mini-projects, and establish accountabilities to deliver on each key result area.

Despite the positive case studies and results attributed to the Malaysian innovation of using innovation or policy-style Labs for industrial policy formulation and implementation, Sahel and Jordan (2015) present alternative if not parallel innovations in industrial policy in other countries. While they admit the credible benefits of PEMANDU’s dynamic “growth diagnostics” to identify cross-cutting problems inhibiting industrial development and then translate the resolutions to granular goals and action plans, a few limitations such as group-think and the assumption of steep learning cycles remain. Nonetheless, most reviewers of the Malaysian success acknowledge the success of the institutional innovation engendered by PEMANDU (World Bank, 2017).

Based on the outcomes of the Malaysian experiment classified by the World Bank as a success, several other countries have attempted the use of the Malaysian Lab approach to aspects of their respective economic policy implementation, and more specifically to industrial policy implementation. These countries include Tanzania from 2013 to 2017, South Africa in 2014, India in 2016, Sultanate of Oman in 2016, Federation of Russian in 2017 and Nigeria in 2018.

The focus of this research is on the Nigerian Focus Labs to accelerate industrial policy implementation immediately after the economic recession of 2016 to 2017.

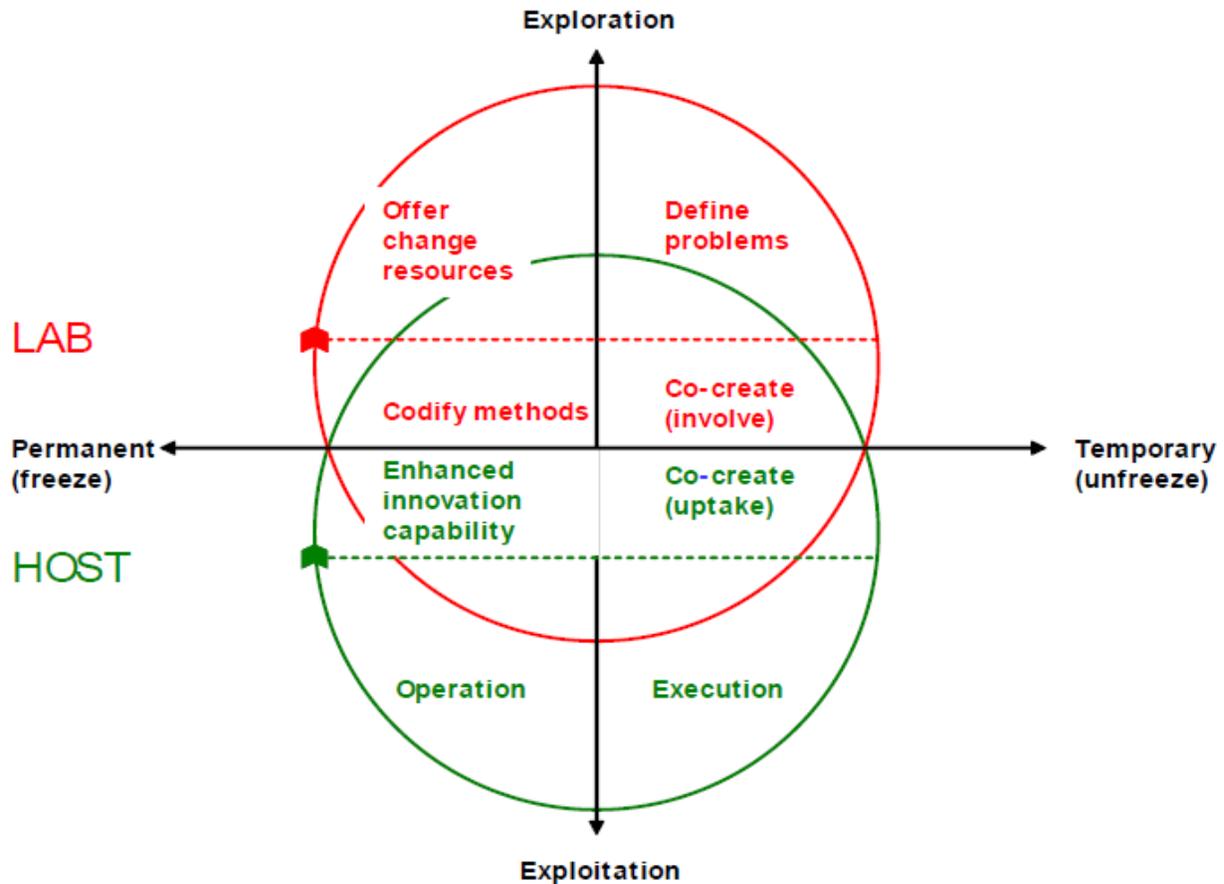
3.0 OVERVIEW OF THE LABS: CONCEPTS OF THE FOCUS LABS

3.1 What is a Lab?

Labs were run as in-depth, multi-interest stakeholder workshop in Malaysia from 2010 (World Bank, 2017) with participants from both the private and public sector. The labs were designed to break down government strategic priorities, including industrial priorities, into granular interventions, and then scale ownership among stakeholders. Based on the World Bank study “Labs are one of the highest value added innovative tools” and a multi-stakeholder problem solving tool introduced by PEMANDU, the delivery unit in Malaysia, for a minimum duration of 6 weeks (World Bank, 2017, p. 36) . An alternative definition is “The Lab is a consultative process where people work together iteratively to design solutions to identify policy challenges within a strict time span (World Bank, 2017, p. 38). Generally, the Labs were made up of a full-time team to resolve complex problems in an iterative process , and within a dedicated physical workspace , to deliver big fast results (PEMANDU, 2017).The approach was described as “radical, practical, and innovative” by the PEMANDU staff. (Zehan, 2017).

Christiansen and Bason (2011) have captured the innovative and co-creation aspects of the lab as well as the overall logic of the lab as represented below in Figure 4:

Figure 4: The logic of labs



Source: Christiansen and Bason (2011), the authors' translation

3.2 Labs in Industrial Policy Development and Review

Since independence in Nigeria, the Federal Government of Nigeria has adopted the disciplined process of national development plans. Hence, since the First National Development Plan of 1962-1967 through the Fourth National Development Plan of 1981-1985. Most of these national development plans were detailed with strict cadence from national objective to programs, projects, and estimated project costs. Some elements of project owners, implementation action steps, and timelines were also included in the National Development Plans or their annexures. These plans encapsulated the industrial policy thrusts of the Federal Government and by the 1980s the Federal Government had proceeded to develop a document called the Industrial Policy of Nigeria. (Federal Ministry of Industries, 1988).

However, with the advent of military rule in 1983 and the weakening of the civil service structures responsible for disciplined planning, the rigors of the national development plans and their successor rolling plans or perspective plans weakened. With the return to civilian rule in 1999, some attempts at structured economic policy planning and industrial policy formulation was reactivated with the development of the National Economic Empowerment and Development Strategy (NEEDS) of 2004 and the Nigeria Vision 20:2020. (National Planning Commission, 2004; National Planning Commission, 2009). While the NEEDS document contained mainly over-arching elements of industrial policy, the Nigeria Vision 20:2020 contained supporting documents such as the First Implementation Plan that contained project costing.

Other key industrial policy documents developed in the period from 2000 to 2015 include the Backward Integration Program to incentivize industrial value-added and local value chains in selected industries, and the Nigeria Industrial Revolution Plan (FMITI, 2014)

By 2017, when the Federal Government developed the last 4-year medium-term development plan in the 2009-2020 long-range plans, to span from 2017-2020, it was evident that with the biting economic recession, a new approach to development plan implementation needed to be adopted. First the Federal Government established an Economic Plan “Delivery Unit”, called the Economic Recovery and Growth Plan (ERGP) Implementation Unit, with some mild conceptual similarities to the Malaysian PEMANDU. Secondly, the Federal Government leveraged the experience of the Malaysian PEMANDU to run the Nigerian version of the “Labs”. In Nigeria, the Labs were called “Focus Labs” to reflect the razor-sharp and sector-specific focus on the priority sectors of the Economic Recovery and Growth Plan.

The next sections examine the typology for Labs before reviewing the innovative use of Labs in Nigeria.

3.3 Types of Labs

Due to the rapid evolution of ‘labs’ in the public sector since the year 2000, and the practice-driven approach to public sector labs, a strict typology and conceptual classification of these labs is yet to emerge. However, Schuurman and Tonurist (2017) and Fuller, M. & Lochard, A.

(2016), amongst other authors, have provided insights into the taxonomy of labs. A simple description of different types of Labs available in the literature are summarized below:

Table 1a: Different Types of Labs

Living Labs	Innovation Labs
<p>A bottom-up approach to testing digital technologies with their real-life actual users in their natural settings or settings that reflect the whole holistic environment of the user OR User-centered, open innovation ecosystem based in systematic user co-creation approach (Ballon & Schuman 2015)</p>	<p>A hybrid of a think-tank, digital R&D, and a social enterprise where the public sector can test and scale out public services.</p>

Source: Adapted from (Schuurman and Tonurist, 2017)

Table 1a: Different Types of Labs

Policy Labs	Social Labs
<p>Policy labs are setting that construct public policies in an innovative, design-oriented environment by engaging citizens and companies aiming to tackle complex challenges in the formulation and implementation of policy. Based on assumption that policy oriented research is done by multi-disciplinary teams rather than individuals, the policy lab attempts to simulate this collaboration.</p>	<p>Social labs are platforms for addressing complex social challenges that have 3 core characteristics:</p> <ul style="list-style-type: none"> • Social (versus Technocrats or Experts): Diverse participants from different sectors of society and business community. • Experimental: Adopt a creative, iterative, ongoing approach to resolving an issue rather than a one off experiment. • System: Ideas and initiatives harvested

from the social labs are expected to be released first as prototypes and or systematic in the society.

Source: Fuller, M. & Lochard, A. (2016) Public policy Labs in European Union Member States

3.4 What is a Focus Lab?

In Nigeria, similar to the intensive stakeholder workshops using iterative problem-solving approaches deployed in Malaysia, the Nigerian government adopted what was termed a “focus lab”. The objective was to have a forum for private-sector investors to confront senior government officials, including Cabinet ministers and regulators, with their most complex and intractable business problems, and expect solutions within a time frame of six weeks (Osinbajo, 2018). This open approach implied a 360 degree consultative approach where the all providers of inputs into the policy, regulators and ultimate approvers of the policy in the Executive arm of the Federal Government were consulted simultaneously. From the ERGP Focus Lab (2018) brochure, a focus lab, in the context of development plan implementation, is somewhat different from the conventional physical laboratory experiment or even the innovation lab often used in product development. Conversely, it is a problem-solving platform that focuses on tackling issues faced by an entity through an iterative trouble-shooting process (ERGP Focus Lab, 2018; Ministry of Budget and National Planning, 2017). In essence, these sector-focused or focus labs were designed to tackle complex sectoral challenges by generating ideas and resources to solve them. The expected outputs from the labs are:

- Detailed implementation programmes, with the total funding required from both the public and private sectors; and
- Identifying the person responsible/accountable for each line item, with timelines attached to stages of the implementation plan.

Focus Labs, although being utilized in Nigeria for the first time to facilitate implementation of the ERPG, have been successfully used elsewhere (e.g Malaysia, Oman, South Africa) to transform the policy implementation process en route to accelerating growth in the national economy.

3.5 ERGP Focus Labs: Objectives and Approach

According to the Ministry of Budget and National Planning (2018), the novel idea of adopting Focus Labs to accelerate the attainment of the strategic objectives of Nigeria's Economic Recovery and Growth Plan (ERGP) was a key outcome of a Cabinet Retreat on ERGP Implementation held in Abuja on August 10, 2017 with the theme: "Getting Implementation Right". The over-riding objective of the ERGP Focus Labs was to speed up the implementation and delivery of the strategic objectives of the ERGP by unlocking private sector capital in some key sector of the economy. The initial focus areas of the Labs are:

- Agricultural and Transportation
- Manufacturing and Processing; and
- Power and Gas.

Similar to the Malaysian Labs, the approach is to bring all relevant stakeholders in the public and private sectors into periods of intensive interactive working sessions, to brainstorm on practical steps to overcome any identified challenges in the selected areas, through collaboration. Other goals of the Lab were to identify projects that will drive catalytic growth in the economy, mobilise or unlock private investments and creating jobs for the citizenry. In addition, there was a clear intent to unlock stranded capital or private-sector investments stalled due to red-tape and bureaucracy, and harness public-private partnerships (Ministry of Budget and National Planning, 2018). Initial target was to unlock at least US\$25 billion, or its equivalent in Naira in private sector investment, by 2020.

The Focus Labs were conducted in three phases: the pre-labs, main ilabs and the post-labs. The initial pre-labs phase was conducted for 7 weeks before the main lab that ran from March 12 to April 20, 2018. The post labs phase commenced on April 23, 2018 and ended on May 11, 2018,

3.6 Scope of the ERGP "Industrialisation" Focus Lab

The key objective of the industrialization lab (manufacturing and processing) was to resolve bottlenecks to investing and other policy issues presented by private-sector project owners, with the ultimate objective of increase private sector investment in:

- Selected manufacturing sub-sectors and products

- The processing of selected solid minerals in Nigeria.

Table 2: Project Clusters in the ERGP “Manufacturing and Processing” Lab

Manufacturing & Processing

EPP#1 Food Manufacturing

EPP#2 Textile, Garments & leather industry

EPP#3 Mining & Downstream Activities

EPP#4 Petrochemical Industry

EPP#5 General Manufacturing

EPP#6 Industrial Parks

Enablers

Source: ERGP Focus Labs (2018); Nigeria Economic Recovery & Growth Plan (ERGP) 2017-2020; National Bureau of Statistics (NBS) Nigeria Investment & Promotion Commission (NIPC)

The industrialisation labs was conducted by two sector ministries within the selected areas Ministry of Industry, Trade and Investment and Ministry of Mines and Steel, while the process was facilitated by the ERGP Implement Unit (ERGP-IU) which was created under The Presidency but domiciled in the Ministry of Budget and National Planning.

The Labs were therefore run along three work streams: Agriculture and Transportation, Manufacturing and Processing, Power and Gas. The Manufacturing and Processing Lab was essentially the Industrialisation Policy Lab.

During the Nigerian Labs, several industrial policy issues were raised in the “Industrialization” lab, formally called the “Manufacturing and processing” lab work stream. These policy issues include those for dairy processing, cotton and textiles processing, cassava processing and gold processing (olud minerals). While several policy reviews were done and new policies were developed for cassava dairy and cotton, this study would focus on the commodity that revealed greater attention and participant acclaim in the media: the ‘Gold processing’ or ‘Gold development policy’ (ERGP Focus Lab Newsletters, 2019).

4.0 THE GOLD POLICY

Mining has been recognized by several plan documents as an under tapped source of revenue for the government and an avenue to diversify the country’s economy to be less dependent on crude oil for foreign exchange. Government statistics from the Budget Office of the Federation and the National Bureau of Statistics suggest that despite the vast solid mineral resources in Nigeria, the mining sector contributed approximately 5-6 per cent of GDP on the average per annum in the ten years from 2007-2016. Only 12.3% of mining exports are processed, with 87.7% exported as raw minerals, and the Ministry of Mines and Steel Development has set a target of 10% of GDP by 2025 in its new “Roadmap for the Growth and Development of the Nigerian Mining Industry”. (Ministry of Mines and Steel Development, 2016). The new roadmap, that served as the strategy or industrial policy for the mining sector recognised over 40 minerals, seven of them listed as priority minerals, namely limestone, coal, bitumen, gold, iron ore, lead/zinc, baryte.

As at 2018 when the ERGP Focus Lab was conducted, growth of the sector continued to be hindered by the perennial issues of poor infrastructure, unstable power, and low availability of capital for small-scale miners to access leading-edge mining equipment. Despite the development of the Roadmap that detailed a clear mining framework that was comparable to some other countries, the over-riding problem remained the low perception of the policy and the enabling environment by mining sector investors (Fraser, 2014). From the last available Fraser

Institute survey of mining companies before the Focus Labs, the worldwide survey rankings administered by questionnaires to mining executives had suggested some deterioration in perception of Nigeria's mining sector with a drop from 75th of 112 in 2013 to 116th of 122 countries in 2014. Key determinants of the decline was increased "uncertainty concerning environmental regulations" (-25 points), trade barriers (-9 points), and regulatory duplication and the legal system (each -8 points).

Gold is typically found in northwest, central and southwest regions of Nigeria with an estimated holding reserve of over 600,000 ounces of high quality gold. Like some other metals, the gold value chain started from exploration to extraction, beneficiation, and refining. However, several of the gold mining concessions were still at the exploration and extraction stages, and there was no single gold refinery in Nigeria. Mining sector project owners who had registered at the ERGP Focus Lab had presented this challenge at the Labs that ran from March to May 2018. (ERGP Focus Lab Newsletter, December 2018).

The challenge for the Focus Lab was to accelerate the development of a holistic National Gold Policy that provided a clear framework for gold processing and refining in Nigeria and support the development of a gold purchase scheme for locally refined gold (Udoma, 2018). Using the 360 degree stakeholder, with the leadership of the Ministry of Mines and Steel Development (MMSD) including two Cabinet ministers responsible for oversight of the Ministry and their directors, the prioritisation of the National Gold Policy amidst other investor issues presented was achieved. Iterative brainstorming sessions were conducted followed up with bilateral solutioning sessions with the responsible directors in charge at the MMSD, and within four months, the first gold refinery licence had been issued in Nigeria.

In addition, the framework for the gold purchase scheme was being discussed with the Central Bank, and the Central Bank's readiness to purchase locally refined gold subject to some international quality standards was announced publicly by the Minister of Budget and National Planning in October 2018. By January 2019, the company that presented the gold policy issue to the ERGP Focus Lab and was awarded the first gold refinery was included in the London Stock Exchange Group "Companies to Inspire Africa 2019" List. Further publishes reports indicated that the draft gold policy was subject to finalisation as at February 2019 (ERGP Focus Lab, 2019), with background checks suggesting finalisation during the first half of 2019. With the

pace of development of the gold policy, the policy development cycle would have been completed within an estimated nine to twelve months, using an open, transparent method.

The development cycle for the National Gold Policy is compared in the next section with one of the more popular industrial policies developed in Nigeria this 21st century: the Backward Integration Policy for cement.

4.1 The Cement Policy: Backward Integration Policy for Cement

In 2002, the Federal Government introduced the backward integration policy (BIP) and the import substitution policy in the cement manufacturing sector (Alayande, 2018). The strategic intent of the backward integration policy for the cement industry was to create an enabling environment to expand the cement sector to meet the national demand, and transform Nigeria into a continental hub for cement manufacturing, supply 15% of regional demand, and generate 200,000 direct jobs and over one million indirect jobs (Ohimain, 2014). In terms of production capacity, the estimate was that domestic cement production would at the minimum be septuplet within twelve years from the inception of the policy from less than 4 million metric tonnes to closer to 30 million metric tonnes. (FGN, 2009).

In the face of limited published official documents on the exact dates for the commencement of the policy design for backward integration of cement in manufacturing, this research would rely on published literature. Akinyoade and Uche (2018) and Pilling (2018)'s publications both suggest that the policy design commenced either in 1999 or early 2000. According to Pilling (2018) who interviewed the beneficial owner of the largest cement manufacturer in Nigeria, as indicated in a Financial Times article published in London,

“It happened one day not long after the election in 1999 of Olusegun Obasanjo, the former military leader who had embraced the country’s lurch to democracy by running for the presidency. Dangote contributed both to that campaign and to his subsequent re-election in 2003. “Obasanjo called me very early in the morning and said, ‘Can we meet today?’” says Dangote, recalling the presidential summons. He wanted to know why Nigeria couldn’t produce cement, instead importing it by the boatload. Dangote told him it was more profitable to trade than to produce. Only if imports were restricted would it be worthwhile. Obasanjo agreed. Obasanjo agreed. Dangote has never looked back.”

The reconstruction of the circumstances of the cement policy from the uncontroverted accounts of both Akinyoade and Uche (2018) and Pilling (2018), and from several other similar media reports suggest three facts. First, policy design was top-down with minimal consultation, and instructed by the President and Commander-in-Chief. Secondly, the reports according to Akinyoade and Uche (2018) tend to suggest a deliberate act of “picking a winner” who was favoured, or what others have described as indefensible “crony capitalism”, suggesting competitive clientelism. Third, the time elapsed for the actual policy development period could be estimated to have been from about eighteen months to thirty months.

Table 3: A summary comparison between both approaches

	CEMENT POLICY	GOLD POLICY
<i>Estimated Duration</i>	24 months	12 months
<i>Stakeholder Consultation</i>	Top-down	Extensive. Open 360 degree approach
<i>First Beneficiary</i>	Business Oligarch	Emerging entrepreneur
<i>Mode of Industrial Policy Development</i>		Lab approach. Series of stakeholder workshops using open prioritisation

According to the Minister of State for Mines and Steel Development Hon. Abubakar Bawa Bwari, during the foundation ceremony for the refinery being developed by indigenous minerals company Kian Smith Trade & Co Ltd. (“Kian Smith”) in Ogun State, Nigeria in December 2018, “During the focus labs of the Economic Recovery and Growth Plan (ERGP) of this administration, we discovered that a well organised gold value chain can trigger an economic revolution like it did in India, South Africa, Switzerland and others” (BusinessDay, 2018). Based on media reports, the company is expected to commence production of 3 tonnes of 99.9% gold and 1 ton of 99.9% silver before the end of 2019 (Businessday, 2018).

Several media reviews and commentaries suggest several benefits from the innovative ERGP Focus Labs (Mohammed, 2018). First, was the extensive stakeholder involvement that increased

participant satisfaction, as investors, financiers and government leaders were able to have open dialogues. Mohammed (2018) for instance estimated that participants representing 180 organisations were involved six-week long workshops with at least 20 syndication meetings involving senior leadership from both the government and the organised private sector. Second, was the transparent manner in which projects were rating as a basis for prioritisation. The five-star rating methodology ensured a systematic rating approach and avoided arbitrary selection of sectors or projects to prioritise.

Overall, the literature review and media reports on the subject tend to confirm a widespread acknowledgement of the Focus Lab approach's potential to accelerating policy development and industrial production. Nonetheless, given the nascency of the Focus Lab experiment in Nigeria, the sustainability of this approach to industrial policy development and review would only be tested over time. However, preliminary areas that may be worthy of attention before they evolve into concerns include the cost of running the Labs, and the enormous time implications of keeping several senior stakeholders together in one forum for six continuous weeks (Punch, 2017; BusinessDay, 2018). Any attempt to replicate the ERGP Focus Labs conducted in 2018 would definitely benefit by factoring any expressed concerns by the stakeholders in any subsequent effort to replicate the Labs or scale the Labs.

CONCLUSION

The public sector innovation of focus labs has proved to be a successful experiment in Nigeria with the benefit of boosting entrepreneurship and revamping the process of industrial policy formation. Specifically, the 360° approach of co-creating industrial policy in open collaboration and conjunction with all stakeholders including industrialists and private sector operators has proven to be a viable alternative to the closed, top-down approach of the early 2000s. By using two contrasting case studies, the cement industry policy developed between, 2000-2004 and the gold industry policy developed between, 2018-2019, the value benefit of the policy approach of the Focus Lab appears to have obviated any perceived criticisms of opaqueness, crony capitalism and competitive clientelism. In contrast to the top-down approach that engendered intellectual criticisms of picking winners (Akinyoade and Uche, 2018), the open lab approach was viewed as

‘participatory’ and ‘discovered’ a young thirty-six years old lady as the first beneficiary (Adelaja, 2019; London Stock Exchange Group, 2019).

Different routes to industrial policy development continue to be pursued by different countries based on their institutional context and stage of economic development. While the intent of traditional industrial policy was simply to architect or lay guidelines for the development of an industrial economy, and resolve issues as they emerge, the goal of the new or open industrial policy, as experimented by Malaysia and now Nigeria, is to identify bottlenecks *ab initio* and build a faster policy engine (Sabel and Jordan, 2015).

The rigorous prioritisation, comprehensive or ‘global opportunity scanning’, and painstaking implementation planning that accompanies this open approach appear to yield rapid benefits for countries like Nigeria in a hurry to industrialise. Alternative approaches such as the Chinese experimentation or the state-sponsored venture capital route to discovering viable ‘priority’ sectors, or the institutionalised national-level public-private Competitiveness Council, as suggested by Schneider (2013), abound.

Nonetheless, authors such as the World Bank (2017) and Sabel and Jordan (2015) contend that the recursive policy making approach of the “Lab” model, when refined in a continuous improvement mode, may be one of the Lab’s greatest strengths.

This research study however admits that the focus labs approach in Nigeria in 2018 is still in a pilot stage having been concluded only once. Second, the financial cost of conducting the focus lab at approximately half a million dollars for the industrialization work streams in consulting and facilitation fees, alone may pose a fiscal challenge in the running of subsequent labs. Notwithstanding the costs, participant feedback and media review suggest that the benefits outweigh the costs. The measurable benefits in terms of inter-agency issues resolved, new direct investment and jobs created may only be validated several years after the lab. Even if only as an initiative in public sector rejuvenation, the focus labs are a positive innovation that would have a catalytic effect on industrialist and public sector policy makers alike.

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INFLUENCE OF LOCUS OF CONTROL ON ENTREPRENEURIAL INTENTION AMONG FINAL YEAR UNDERGRADUATES

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Abstract:

In recent years, entrepreneurship education has gained more prominence due to its facilitative role in rapid economic development through the creation of new ventures which gives rise to increased job creation. This paper therefore examined the influence of locus of control on entrepreneurial intentions among final year students in two different institutions – Covenant University and The Bells University. A survey design was adopted for this study. Three hundred and forty-six undergraduates were randomly selected for this study. The sample was made up of 132 males (38.2%) and 214 females (61.8%). The mean age was 21.4 years with standard deviations of 2.86. Two hypotheses were raised and tested with Pearson Product Moment Correlation and lineal regression analysis. The findings revealed a significant negative relationship between entrepreneurial intention of individuals with internal and external locus of control and that there is a significant influence of locus of control on Entrepreneurial Intention. It was concluded that Internal Locus of Control actually increases entrepreneurial intention while the Locus of Control has effect on entrepreneurial intention. It was recommended that entrepreneurial education should include programmes that inculcate in students self-worth and belief.

Keywords: Entrepreneurial intentions, Locus of Control, Undergraduates, Entrepreneurship education.

Introduction:

For any society to experience economic development, new entrepreneurs are required to fuel economic growth, for entrepreneurs play a key role in the economy (e.g. van Praag and Versloot, 2007). Entrepreneurship is a very important element when considering the growth and

development of the economy of any nation. Entrepreneurship is not just the act of starting a new business, it occurs when an individual is willing and able to discover an investment opportunity and then goes ahead to establish and run the business successfully. It involves the entire process from the realization of the existence of opportunities for business empowerment, to the development of ideas and strategies, taking personal responsibility and the actual commencement of business activities.

The entrepreneur creates value because of his ability to put together a unique assemblage of resources, both human and material, to take advantage of an opportunity. He is a risk taker who sees opportunity where others do not see and is able to build his business from very humble beginning by creatively, committedly and courageously working on it till it becomes a successful enterprise. He is achievement-oriented, he dislikes repetitive and routine work and is always ready to take responsibility for his decisions and actions. Creative entrepreneurs are characterized by high levels of energy, resourcefulness and perseverance, which in addition to a willingness to take moderate, calculated risk, enable them to transform what began as a very simple idea or hobby into something concrete and profitable.

Being the drivers/promoters of business activities, Entrepreneurs are the engine that propel economic growth, development, and prosperity in any nation. In this regard, in recent years, Administrators and policy makers both within and outside institutions of higher learning have focused more attention in promoting entrepreneurship education and advocacy especially among our youths, as entrepreneurship education is globally regarded and proven to be the driving force towards making the students focus on being self-employed. The creation of a significant mass of these entrepreneurs will help in solving the country's unemployment problem and also accelerate the development of the nation.

Who is qualified to be referred to as an Entrepreneur? The Entrepreneur, therefore includes those who establish and operate their own private business enterprises, whether big or small: from the domestic microenterprise to the global corporation. This is the person who owns and runs a restaurant, ICT centre, fashion outfit, boutique, bakery, fashion house or outfit, beauty parlour, barbing saloon, supermarket, bookshop, African/Intercontinental Cuisine, business centre, shoe manufacturing/repair business, car washing centre, photography, dry cleaning outfit,

video centre, event centre, viewing centre, wholesale/retail trade, coffee and tea shop, hotel, producers of yoghurt, fruit juice, bottled and sachet water, paint, manicure and pedicure centre, cellophane paper manufacturing , etc are all entrepreneurs in the context of this paper. All these small and medium sized businesses as well as the large industrial organizations each plays an important role towards economic development and advancement.

In most Nigerian universities today, students are trained to be able to function effectively in the business or career world according to their areas of study. These institutions have incorporated entrepreneurial education as an effective way for the students to obtain necessary knowledge about entrepreneurship. In some cases, this training facilitates the identification and shaping of entrepreneurial traits. The entrepreneurial future of any country depends, to a large extent, on the country's University graduates because they are the future entrepreneurs (Basu and Virick, 2008). Entrepreneurship education is, therefore, very important in making the students consider self-employment as a viable career option, and ensuring that the students are well equipped with necessary skills and the right attitudes required for effective business ownership (Kent, Sexton and Vesper, 1982). Graduates who were introduced to undergraduate entrepreneurship education/training while undergoing their university education have been known to establish businesses at twice the rate of their counterparts who were not so exposed (Fleming, 1996; Smith-Hunter, 2003; Basu et al., 2008).

After their university education, whether they decide to seek for paid employment or become self-employed would be determined by their intent. The first step in the entrepreneurial process is Entrepreneurial Intention. It is regarded as one of the strongest predictors of entrepreneurial behavior.

An intention may be described as an outcome that had been anticipated. It is guided by planned actions. The theory of planned behaviour is based on attitudes and behaviours (Ajzen, 1991). Intentions is an indicator of deliberate behaviours because behavior can often be planned. In most cases, intention is assumed to control emotional factors which has a major influence on behavior and consequently indicates one's effort and ability to a required behavior.

In entrepreneurial context, intention is regarded as a very essential element in the establishment of an enterprise. Various factors are known to influence Entrepreneurial Intention, some are external while others are internal. External factors include conditions like stable economic growth and development of entrepreneurial activities. The internal factors include parental influence, the parent's occupation, an individual's managerial ability (self-efficacy), his personality, risk taking ability, courage and motivation to achieve objectives.

Other factors are psychological e.g. locus of control, self-efficacy, motivation, attitude and belief, personality traits, need for achievement, environmental carrying capacity, self-esteem, learning, job involvement, concentration, parents and friends with self-employment experience, gender etc. The things that determine the action a person takes and makes him behave in a particular manner are referred to as psychological factors. These include thoughts, feelings and other cognitive characteristics that affect the person's attitude, his behavior and the functionality of his mind. These are the factors that influence how a person thinks and since behavior is affected by one's thought pattern, it also affects his actions, decisions and relations throughout the course of his life.

In personality psychology, Locus of Control is referred to as the extent to which people believe that they have control over the outcome of events in their lives as opposed to external forces which they deem to be beyond their control. Locus of Control theory was created by Julian B. Rotter (1966) as part of his Social Learning Theory and is being viewed as an important aspect of personality studies. According to Rotter, a person's behavioral pattern is better determined by the individual and his or her thought processes in relation to the environment and not solely the environment. It is a belief that has been widely held over the years about how responsive and controllable the environment is. Locus of Control can be regarded as a person's beliefs about what will determine or cause a particular reinforcer or outcome. In this regard, individuals can therefore be divided into two basic groups, it is either they belong to the internal or external Locus of Control.

Individuals with a strong internal locus of control accept personal responsibility for whether or not they get reinforced ultimately. Internals have confidence that their success or failure is a

direct consequence of their actions and the efforts they had made. However, those with a strong external locus of control are of the belief that the consequences and the turn of events in life depends on luck, chance, or powerful others and that the environment and external consequences are seen as things that are out of their control. Therefore, they ascribe a negligible amount of impact to their own efforts as regards the consequences they face in life.

While a lot of research work has been undertaken on entrepreneurship development and entrepreneurial activities in the country, there are comparatively fewer studies focused on the psychological factors that influence the intention to initiate actions that will lead to the commencement of an enterprise among our youth. Over the years, various studies have shown that intentions have proven to be the best predictor of planned behaviour. According to the following theories (the Theory of Planned Behavior (Ajzen, 1991), Shapero and Sokol's (1982) Model of the Entrepreneurial Event, and Bandura's (1977) Model of Social Learning), entrepreneurial intentions proved to be one of the best ways to predict entrepreneurial behaviour.

Statement of Problem:

The unemployment situation in Nigeria is becoming a national problem. So many Nigerian youths roam the streets every day in search of non-existent jobs. Some of them have the financial resources and family support to be able to set up a business but they just lack the intention and courage to start because of some psychological factors. Irrespective of the key role of entrepreneurship in a nation's economy, data obtained from the National Bureau of Statistics (NBS) reveals a reduction in the number of new businesses that were established in 2017 when compared to any other year (National Bureau of Statistics, 2018). National Bureau of Statistics data also shows that job creation by government establishments in the last year also decreased. These findings call for immediate action so as to help stimulate the Nigerian economy in order to justify her being referred to as the 'giant of Africa'. Going by above statistics, the need to educate Nigerian youths and train them in entrepreneurship is obvious. It is also necessary to encourage them to read courses that lead to career in entrepreneurship. By so doing, there will be increase in economy efficiency, it will bring innovation to the market, create new job opportunities, and engender higher employment levels. At this point, it is important to

investigate some psychological factors that may enhance or inhibit youths participation in entrepreneurship. While there has been a lot of research work on entrepreneurship, there is very little focus on the locus of control which has a major effect on the entrepreneurial intention of Nigerian undergraduates. This study therefore, examines the impact of locus of control on entrepreneurial intention of undergraduates.

Research Objectives:

The main objective of this study is to examine the effect of locus of control on entrepreneurial intention among final year undergraduates. Other specific objectives include:

- 1) To determine the relationship between Locus of Control and Entrepreneurial Intention.
- 2) To investigate effect of Locus of Control on Entrepreneurial Intention of undergraduates.

Research Questions:

- 1) To determine the relationship between perceived Locus of Control and Entrepreneurial Intention.
- 2) To investigate the effect of Perceived Locus of Control and Entrepreneurial Intentions.

Research Hypothesis:

Please find below the hypotheses proposed in this research:

H1. There is no significant relationship between Locus of Control and Entrepreneurial Intentions among undergraduates.

H2: There is no significant effect of Locus of Control on Entrepreneurial Intentions of undergraduates.

Research Design:

For this study, a survey research design has been adopted. The justification for the choice of survey design is premised on the types of variables studying “Locus of Control” as independent variable and “Entrepreneurial Intention” as a dependent variable. Another justification is the number of participants involved in this study. When the population is large and diverse, the survey design is considered appropriate.

Population of study:

The population for this study is comprised of final year undergraduates of Bells University and Covenant University both located in Sango Ota, Ogun State. The population size is estimated as 2,025.

Sample size:

Yard's formula was used to select the sample size of 346 participants which comprised 214 from Covenant University and 132 from Bells University of Technology.

Sampling Procedure:

A simple random sampling method was used to select the participants for this study. The lists of final year undergraduates were obtained from the two universities and this formed the sample frame.

Instruments:

Two instruments were adapted for this study i.e. Rotter (1966) Locus of Control Scale and Entrepreneurial Intention Scale developed by Bunnell and Funham (1998). These two instruments were used in earlier studies conducted in Nigeria with identical population that is "University undergraduates". Various psychometric properties for these instruments were reported for Locus of Control. Andrew (1984) reported Convergent validity of 0.76 with a Motivational Scale and divergent validity of -0.02 with a depression scale the internal consistency was reported by Adekunle (1998) for Entrepreneurial Intention Scale of Cronbach 0.78 and Construct Validity of 0.64 (Bally, 1998).

However, a test retest reliability of 0.72 for Locus of Control was found and 0.69 for Entrepreneurial Intention after two weeks interval.

Procedure for Data collection:

Data collection was carried out by means of self-administered questionnaires. The questionnaires were distributed to undergraduate students at Covenant University and The Bells

University. Out of the total of 350 distributed questionnaires, 346 were returned, yielding a response rate of 98.85%. About 38.20% of the sample was male and 61.80% was female.

Method of Data Analysis:

Parametric tests were used to analyse the data obtained for this study. The first hypothesis was tested using Pearson Product Moment Correlation because it sought to test the relationship between Locus of Control and Entrepreneurial Intention. The second hypothesis, which sought to determine the effect of Locus of Control on Entrepreneurial Intention was tested using lineal regression analysis.

Results:

Hypothesis 1:

There is no significant relationship between Locus of Control and Entrepreneurial Intention among undergraduates.

Biodata table 1: Demographic Data

Variations		Frequency	%
Gender	Male	132	38.2
	Female	214	61.8
	Total	346	100
Age	Less Than 20 Years	48	13.9
	20 – 22 Years	216	62.4
	Above 22 Years	82	23.7
	Total	346	100

The table 1 above reveals the demographical data; there are 132 (38.2%) males and 214 females (61.8%). However, the age distribution reveals that 48 (13.9%) participants were less than

20 years of age, 216 (62.4%) participants were 20-22 years and 82 (23.7%) participants were above 22 years.

Hypothesis 1: There is no significant relationship in Entrepreneurial Intention between Internal and External Locus of Control.

Table 2: Correlation between Locus of Control (LOC) and Entrepreneurial Intention (EI).

	N	Mean	SD	r	df	Sig
Internal LOC	144	28.42	2.18	-0,64	344	0.006
External LOC	202	16.06	6.11			
Total	346					

In testing the first hypothesis, correlation coefficient statistical test was used and the result is presented in table 2 above. The Locus of Control was divided into Internal (144) and external (202) and these two variants of LOC were compared on Entrepreneurial Intention. The result revealed a mean difference of 28.42 for internal and 16.06 for external. The correlation index indicated -0.64 which implies a significant negative relationship in entrepreneurial intention between participants with internal and external LOC at $df = 344$, $r = -0.64$ and significant level of 0.006. However, the first hypothesis is rejected.

Hypothesis 2:

There is no significant effect of Locus of Control on the Entrepreneurial Intention of undergraduates.

Table 3a: Model Summary

Model	R	R Square	Adj. R Square	Std Error of Estimate
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0.48 0.2304 0.2116 223.42

Table 3b: ANOVA Table

	Sdv of	Df	Mean Sq	f	Sig
Regression	284.622	1	284.622	5.761	.016
Residual	17043.064	345	49.400		
Total	17327.686	346			

Discussion:

Summary of Findings:

The result of the second hypothesis testing is presented in both tables 3a and b. Table 3a revealed the relationship between LOC and EI at 0.48, while 23.04% of change in entrepreneurial intention is accounted for by locus of control. The other 76.06% could be attributed to other factors not measured. The f-ratio indicates a significant effect of Locus of Control on Entrepreneurial Intention at $F(1,345) = 5.761$ and 0.016 significant level.

Recommendations:

- 1) There is a need to create awareness about locus of control among the undergraduates thereby helping them to realize where they belong in this regard. Knowing where they belong sharpens their decision making ability especially as it relates to starting a business enterprise after their education.
- 2) The findings of this research indicate that further studies focused on entrepreneurial intention should be conducted.

- 3) There is a need for Policy makers and Entrepreneurial Program Administrators to design entrepreneurial training and programmes that will provide the required support base and provide the much needed encouragement for the country's budding entrepreneurs.
- 4) Policy makers, such as government parastatals at the state and federal levels should organize programmes that will boost confidence among youths so as to believe in themselves and have internal locus of control. This will complement their exposure to higher education as such making them better individuals.
- 5) It was recommended that entrepreneurial education should start from secondary school level and should include programmes that inculcate in students self-worth and belief.

Conclusion:

The research confirmed the role of locus of control as a predictor of the entrepreneurial intentions of undergraduate students in Nigeria. Going by the findings of this study, it can be concluded that Locus of Control has enormous effect on the entrepreneurial intentions among undergraduates. Also individuals with internal locus of control have higher entrepreneurial intention. Entrepreneurial skills require personal motivation and internal drive that are characteristics of people with internal locus of control.

In the current social/economic scene, considering its norms and rules of operation, certain personality traits are sacrosanct for Entrepreneurs who wish to reach the apex of their entrepreneurial career viz:

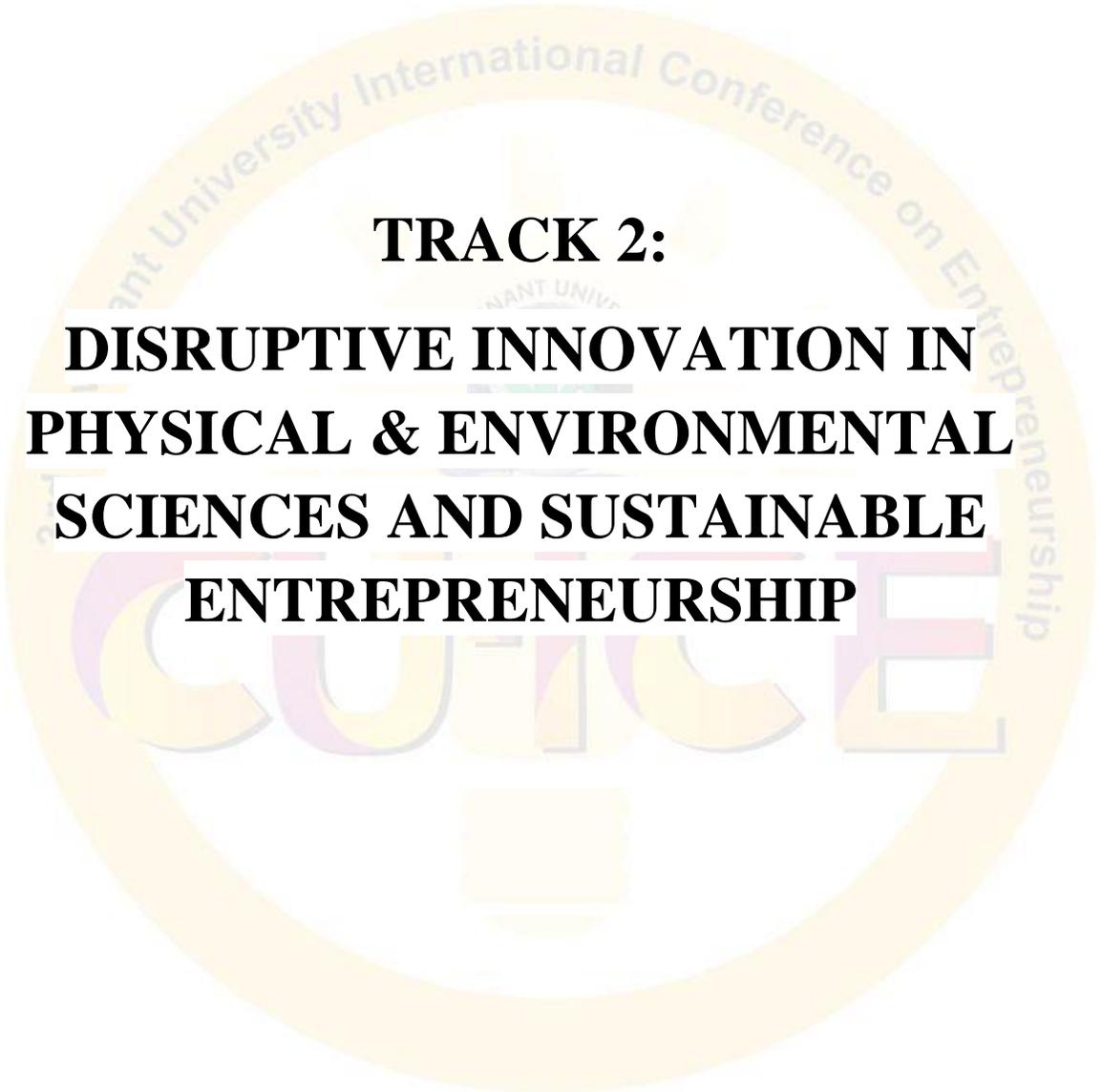
high level of self-confidence, self-assurance, self-belief, mental strain resistance, foresight, superior reasoning/independent thinking ability, willingness and ability to take moderate/calculated risk, flexibility, social/emotional intelligence, communication skill etc.

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TRACK 2:
DISRUPTIVE INNOVATION IN
PHYSICAL & ENVIRONMENTAL
SCIENCES AND SUSTAINABLE
ENTREPRENEURSHIP

THE HEALTH AND ECONOMIC IMPACTS OF WASTE RECYCLING FOR SUSTAINABILITY IN NIGERIA

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ABSTRACT

The health and economic impacts of waste recycling are greatly felt on both local and national scale in Nigeria. Through our literature review and participant observation, We have discovered that there is an urgent need to educate communities about climate change mitigation for sustainable development in Nigeria. Waste recycling is one of those climate change mitigation strategies which involves the reduce, reuse and recycling of waste materials to ensure that our environment is a cleaner, healthier and greener place to live in. There is a great need for communities in Nigeria to come together in unity in order to devise the means of ensuring a cleaner and healthier environment by proper waste management and recycling strategies which will help to guarantee a sustainable future where our economy can thrive and good health is fostered across every border. This paper seeks to draw the attention of policymakers in government, non-governmental organizations and passionate individuals to the need to seek for innovative ways of educating communities about waste recycling for sustainable development in Nigeria. It further explores the effective methods of bridging the communication gaps through efficient information dissemination, intensive awareness outreach and use of educational blogs and poems to help ensure that communities are adequately educated and efficient in their task of waste recycling for sustainability in Nigeria. This paper vividly explores the green entrepreneurial opportunities in waste recycling for sustainable economic growth and development in Nigeria.

KEYWORDS: CLIMATE CHANGE, HEALTH, MITIGATION, RECYCLING

INTRODUCTION

Waste is defined as any unavoidable material resulting from domestic activity or industrial operation for which there is no economic demand and which must be disposed of (Sridhar 1996). **Waste** (or **wastes**) are unwanted or unusable materials. Waste is any substance which is discarded after primary use, or is worthless, defective and of no use. Examples include municipal solid waste (household trash/refuse), hazardous waste, wastewater (such as sewage, which contains bodily wastes (feces and urine) and surface runoff), radioactive waste, and others (Wikipedia). According to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal of 1989, Art. 2(1), "Wastes are substance or objects, which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law".

Recycling is the process of converting waste materials into new materials and objects. It is an alternative to "conventional" waste disposal that can save material and help lower greenhouse gas emissions. Recycling can prevent the waste of potentially useful materials and reduce the consumption of fresh raw materials, thereby reducing: energy usage, air pollution (from incineration), and water pollution (from landfilling). Recycling is a key component of modern waste reduction and is the third component of the "Reduce, Reuse, and Recycle" waste hierarchy (Wikipedia).

Waste Recycling is a process of converting waste materials into new products to prevent waste of potentially useful materials, partly supplement the consumption of fresh raw materials, reduce energy usage (almost 70% less energy is required in recycling), reduce air pollution from incineration and water pollution from landfilling by reducing the need for "conventional" waste disposal, and lower greenhouse gas emissions (Bank of Industry (BOI), 2018). The idea or philosophy of waste recycling is to bring into the fore the idea of re-using the resources or materials that has been used for renewed use again. We may not guarantee the naturality of these resources again as they were in their originality, however; we can re-engage the use of it again for continuity. A great percentage of materials are being recycled and are being used as household products and their number is increasing by the day. The most common recyclable material is plastic. Many plastic products and bags are in use nowadays. Plastic recycling serves as a solution to the earthly pollution. Plastics are polymers and are resinous and they are melted down to make other products. Most importantly plastic containers like water bottles, beverage containers, milk bottles, soap boxes, etc. are recycled (BOI, 2018).

Waste recycling can also be defined as the process of breaking down and re-using waste materials that would otherwise be thrown away as trash. The materials that can be recycled include glass, aluminum, polyethylene (shopping bags, laundry bags, pure water sachets, yoghurt wrappers, soft poly bags, hospital drip bags, popcorn wrapper, bread wrapper, cellophane), plastic water bottles, metal scrap, different kinds of paper, electronics – computers, cellular phones, keyboards, batteries and other small electronic equipment, textile, wood, wire, cables, plastic product, rubber, etc. Apart from this industrial recycling, all the leaves, food leftovers, waste, twigs and other garden waste are decomposed by worms and converted into fertilizers (BOI, 2018). There are numerous benefits to waste recycling and with the introduction of the green technology, even more materials are now recyclable. In this study, we shall

explore the health and economic impacts of waste recycling and the need to educate communities in Nigeria on the benefits of waste recycling for sustainability in Nigeria.

The Health Implication of Waste Recycling For Sustainability in Nigeria

There are a variety of wastes, liquid or solid, emanating from human activities (domestic), agricultural or industrial activities (neither domestic nor hazardous), and hazardous or special. Feces, indeed is also included in solid wastes. Among the liquid wastes, sullage, sewage, livestock and industrial wastes are known among communities. It is very important to understand the wastes, their nature, the problems associated with them, and how to dispose them off hygienically. Waste recycling is a climate change mitigation strategy as well as a waste management measure which can help to reduce the spread of airborne and waterborne diseases in the community.

Waste management presents problems in big cities like Lagos, and other major Nigerian cities which are linked with economic development, population growth and the inability of municipal councils to manage the resulting rise in industrial and domestic waste. Haphazard industrial planning, increased urbanization, poverty and lack of competence of the municipal government are seen as the major reasons for high levels of waste pollution in major Nigerian cities. Some of the 'solutions' have been disastrous to the environment, resulting in untreated waste being dumped in places where it can pollute waterways and groundwater (Ogbonna, Ekweozor & Igwe 2002) In Nigeria, liquid wastes are managed in an indiscriminate manner. There are no sewage treatment plants. Sullage gets into drains and flows into rivers and streams. Human excreta are managed separately through ventilated improved toilets, pit toilets or septic tanks (Hammed 2013).

In some areas like markets and other public places, excreta are mixed up with solid waste, thus creating nuisance in the recycling facilities. Solid waste management is the discipline associated with the control of generation, storage, collection, transfer and transport, processing, and disposal of solid wastes in a manner that is in accord with the best principle of public health, economics, engineering, conservation, aesthetics, and other environmental considerations.

According to the Wikipedia, there are many waste types defined by modern systems of waste management, notably including:

- Municipal waste includes household waste, commercial waste, and demolition waste
- Hazardous waste includes industrial waste
- Biomedical waste includes clinical waste
- Special hazardous waste includes radioactive waste, explosive waste, and electronic waste (e-waste).

Arising from increase in population and urbanization in major cities in Nigeria, the practice of recycling of waste disposed of such as plastics, pure water sachet and many other waste materials, has remained a health challenge and environmental concern both to the general public and the various tiers of government (Izugbara & Umoh, 2004). This development appears to have become a topical issue in the sustainable environment agenda of the Federal Government and Government at other levels like the State and the Local Government Areas (NEP, 2016, Amachree, 2013).

One of the major tasks of this study is to understand how to safeguard the health of Nigerian communities through the practice of recycling of waste materials and the health implications of recycling on the environmental sustainability in our communities. In many developing countries like Nigeria, indiscriminate dumping of waste materials and uncontrollable burning of these materials such as pure water sachet, plastic rubber that has been used and discarded, has been blamed on poor management of the process by the government (Onwughara, Chukwu, Alaekwe & Albert, 2013). The environmental and human right risk of dumping of waste in Nigeria has also been noted (Terada, 2012). There is therefore the need for proper waste management through recycling to help ensure a healthy society.

The health implications of recycling on the environmental sustainability of communities in Nigeria can be grouped into the positive and negative implications. They are as follows:

A) The Positive Implications :

The recycling of waste disposed into renewed products minimizes the risk that comes with incineration option. When plastics are burnt, it releases toxic substances such as greenhouse gas into the atmosphere thereby increasing the force of pollution of the environment. But with recycling, the potential threats to existential realities are minimized and the given community is exonerated for environmental sustainability. Waste recycling reduces the chances of an outbreak of diseases. Thus, it becomes the platform of disease control. Waste recycling exonerates the people in communities from air, water and land pollutions. It reduces the practice of open-air burning and landfill fires.

Recycling is a major source of entrepreneurial revolution not only in Nigeria but around the World. In Nigeria, arising from the continued proliferation of underemployed and unemployed youths in major cities and rural dwellings, these youths have taken the platforms of the waste recycling business to better their income and to reduce the risks of their various survival adventures. Waste recycling is a platform for employment generation, income and engine room for socio-economic development when harnessed more.

B) The Negative Implications :

In the course of recycling a product, if not properly harnessed, becomes a platform for contaminations. Sometimes these materials recycled are not properly carried out and their hygienic integrity is always questioned. It is usually a vehicle for the spread of diseases. The technologies used in recycling are often not cost effective and therefore, becomes a barrier to development especially, in developing countries.

The Economic Implication of Waste Recycling For Sustainability in Nigeria

While health concerns are a major issue with waste management and recycling, the economic implications of waste recycling which is a climate change mitigation strategy cannot be over-emphasized. Financial abundance and ample profits are added advantages for the few audacious and courageous individuals that can see the business opportunity in collecting the wastes which go beyond striving to keep their environments clean.

When collecting recyclable waste, the savvy individuals in the business filter exactly what they want. You can decide to collect only plastic waste, only aluminum can wastes, only rubber wastes, any other type, or all of them. Executing recycling business ideas that focus on the collection of a particular type of waste keeps the recycler's business streamlined, makes waste collection easier, and increases the chances of profitability (Edom 2016).

All over the world, the idea of recycling has been welcome as an engine of socio-economic development because it has been seen as the route for employment generation and its broad public appeal and obvious environmental advantages (Onwughara, Chukwu, Alaekwe & Albert, 2013).

If waste recycling is carefully implemented, environmental pollutions, degradations and other human activities that are detrimental to the nature and environment will be reduced to its barest minimum and this will help to achieve the United Nations Sustainable Development goals of zero poverty. Studies have shown that there are entrepreneurial opportunities in waste recycling for sustainability in Nigeria. There's nothing more exciting than having fun and making money while at it. When it comes to waste recycling, it's about of keeping your environment clean and generating income at the same time.

Recycling is the perfect example to use when stating that people see gold right in front of them, yet they do not know it. Recycling business ideas and opportunities are largely overlooked because of the low awareness surrounding the industry in Nigeria (Edom 2016).

Economic Benefits of Waste Recycling includes:

1. Waste recycling conserves energy as recovered materials use less energy in the recycling plant compared to that needed for products obtained from virgin materials. This conserves energy in terms of electricity or fuel.
2. If materials such as metals, paper, glass and plastics are recovered from solid waste, they become a source of valuable raw materials to industries, thereby reducing foreign importation for countries dependent on those materials, while excess production could be exported.
3. Waste recycling reduces the waste disposal costs.
4. Waste recycling prevents the emission of excess greenhouse gases and water pollutants. It also helps to reduce greenhouse emissions that leads to global warming.
5. Waste recycling reduces litter which makes communities look untidy and thereby attracts more foreign investors to the communities.
6. Waste recycling if carefully and properly organized can be a source of livelihood to unskilled workers in a developing country, as it creates employment .
7. Waste recycling can be cost beneficial to the economy of the nation by increasing the country's gross domestic product (GDP).

GREEN ENTREPRENEURIAL OPPORTUNITIES IN WASTE RECYCLING FOR SUSTAINABLE ECONOMIC GROWTH IN NIGERIA

Entrepreneurs are individuals who conceive new business opportunities and take on the risk required to convert those ideas into reality (Ataman et al, 2018). Entrepreneurs play an important role as the engine of change in a market based economy since they are responsible for introducing innovation, adaptation and new ideas (Demuth, 2015). Afolabi (2015) explained that the Global Economic Monitor indicates that nations with higher levels of entrepreneurial activity enjoy strong economic growth. Green Entrepreneurial practices are those activities that are related to products or processes that are involved in reducing, reusing and recycling of resources for economic, environmental and social sustainability, Fulvia et al (2011).

According to Greent Project(2016),Green entrepreneurship is the activity of consciously addressing an environmental/social problem/need through the realization of entrepreneurial ideas with a high level of risk, which has a net positive effect on the natural environment and at the same time is financially sustainable. Green entrepreneur is someone who starts and runs an entrepreneurial venture that is designed to be green in its products and processes from the very moment it is set up.

Green entrepreneurs are valuable assets across various communities in Nigeria today. The Green entrepreneur sees the problems caused by climate change, environmental pollution and global warming; He/she also perceives the business opportunities in waste recycling and takes on the risk of engaging the process of waste recycling to ensure a sustainable environment and the sustainable economic growth of his community and nation.

THE NEED TO EDUCATE COMMUNITIES ON WASTE RECYCLING FOR SUSTAINABILITY IN NIGERIA

There is great need to educate communities including institutions and companies in Nigeria on waste recycling. This is vital as waste recycling will help to reduce the risk of climate change. According to the World Health Organization(WHO) Director-General on the World Health Day 2008, "Climate change is one of the greatest challenges of our time. Climate change will affect, in profoundly adverse ways, some of the most fundamental determinants of health: food, air, water. In the face of this challenge, we need champions throughout the world who will work to put protecting human health at the centre of the climate change agenda (Chan 2008)".

Climate mitigation is any action taken to eliminate or reduce the long-term risk and hazards of climate change to human life, property and the society. The International Panel on Climate Change defines mitigation as: "An anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases (Global Greenhouse Warming(GGW),2018)". According to the World Health Organization (WHO) Director-General on the World Health Day 2008, "Every event and every voice on every occasion is needed to give new energy and commitment to making the fundamental changes that will both stabilize the climate and prevent human suffering(Chan 2008).

Thus, the greatest challenge facing the Governments in the developing countries like Nigeria is the difficult task of reconciling economic growth, resource management and climate change mitigation and adaptation (Adelekan & Gbadegesin, 2005). Though, there abounds multiplicities in adverse effects inherent in climate change, the following approach could be deployed towards maximizing the economic opportunities in Waste recycling which is a climate change mitigation strategy in Nigeria:

- i) Radical awareness approach of information disseminations. The emergence of information communication and technology (ICT) around the world to a large extent has proven as very effective and efficient vehicle of letting people becoming aware of opportunities and benefits in waste recycling. These information dissemination platforms besides the internet include radio, television and telephone.
- ii) The government at all levels in Nigeria should provide enabling environment and sustainable fund in form of grants and loans to the teeming unemployed and underemployed Nigerian youths who may want to be involved in the waste recycling businesses in their different capacities. This approach when incorporated into long term policy planning in climate change mitigation in Nigeria will go a long way in reducing unemployment among the youths in the country.

iii) The use and involvement of non-governmental organizations that are environmental driven and climate change sensitive can go a long way in providing green entrepreneurial opportunities for a lot of individuals in Nigeria. Awareness of the economic opportunities in waste recycling can be made known to communities and cities through the various outreaches, seminars and workshops initiated by these environmental sustainability driven NGOs in Nigeria.

iv) Annual National budgetary allocation towards maximizing economic opportunities in waste recycling should be increased.

v) Building the capacity of the locals through adequate sensitizations, through the use of traditional and religious institutions in reaching the people through training and retraining of farmers and green entrepreneurs towards adapting to the opportunities in waste recycling for sustainability in Nigeria.

vi) Educational blogs can be used to inform, enlighten and educate researchers, entrepreneurs and interested individuals in Nigeria especially the internet literate ones about waste recycling. These blogs which are meant to be highly interactive allows individuals to contribute their ideas, suggestions and feedback to the environmental sustainability driven educators and green bloggers.

vii) Poetry has also been discovered as a great tool which can be used to educate individuals in Nigeria about the health and economic benefits of waste recycling. The Project Green Initiative which is an arm of the Benjy Poetry And Music Global Concepts, a company registered in 2017 with the corporate affairs commission, is a good example of a social enterprise which is very passionate about educating the communities in Nigeria about the green entrepreneurial opportunities in climate change mitigation and adaptation which includes waste management and waste recycling for sustainable economic growth in Nigeria.

Below is a poem advanced by the BENJY POETRY AND MUSIC GLOBAL CONCEPTS which further helps to illustrate how poetry can be used efficiently and effectively in educating communities in Nigeria about waste recycling for sustainability in Nigeria:

POEM: REDUCE, REUSE AND RECYCLE

Reduce, recycle and reuse

Accentuate our sustainable development

Environmental pollution we must refuse

To help ensure our world's betterment.

Reduce, recycle and reuse

Keep our environment clean and green

Green entrepreneurship let us use

To give our youths a livelihood means.

Reduce waste, recycle and make some gains

Financial abundance is the promise

For those who engage to regain

Waste recycling is a venture wise.

Waste can be a detriment to health

Inflicting diseases and conflicts

Waste can be turned into wealth

Waste recycling is a venture of profits.

Recycling conserves natural resources

And helps protect the environment

Recycling is a good income source

An engine room for socio-economic development.

Recycling gallantly reduces emissions

Of excess greenhouse gases

Recycling creates job provisions

For the unemployed and underemployed masses.

Reduce, recycle and reuse

A breath of fresh air to the community

Now health and wealth can be induced

With the hope of a brighter future we see.

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www.projectgreeninitiative.wordpress.com

CASE STUDY: POEM “REDUCE, RECYCLE AND REUSE” REVIEW by Barr. James Hope

The title of the poem “Reduce, Recycle and Reuse” has suggested the very important words and relevant tools in curbing the menace of climate change for sustainable development globally. Just recently, some team of girls (senior division winners, Team Cantavits from Eedo Delhi, India), at the **2018 Tecnovation World Pitch Summit in Silicon Valley**, were able to develop an app to track and dispose of electronic waste in an Eco-friendly manner, the app provides an end-to-end connection between e-waste producers and authorized recyclers. According to statistics, 81% of people dispose of their e-waste in an improper manner, not realizing its consequences. E-waste comes back to them in the form of toxic fumes and polluted water.

The sustainability of the environment is favourable to the system of reusing, recycling, reducing and repairing of waste and materials used from day to day consumption. It will amount to a waste of energy and resources from both consumers and producers, if materials are discarded and thrown away after use, when they can be recycled, reduced and reused. Benjamin Anabaraonye, using a simple and amazing poem, was able to identify some benefits of reducing, recycling and reusing to include:

- To prevent environmental pollution of any form.
- To save energy.
- To generate income and resource for youth empowerment.
- To save cost.
- To reduce amount of waste in the environment.

- Products will be well utilized and enjoyed.
- Reduce green house gas emissions.
- It conserves natural resources.

A look at the author's poetic techniques identifies:

1. **Theme:** The theme of the work is centered on the importance and benefits of reducing, recycling and reusing of waste.
2. **TONE:** The tone of the writer is explanatory, approving, hopeful and demanding.
3. **MOOD:** The writer's mood is inviting, candid, urging, emotional and very passionate about the subject matter.
4. **IMAGERY:** Imageries were also used, such as "A breath of fresh air to the community", "An engine room for socio-economic development", etc.
5. **STYLE:** The poem contains seven stanzas with each stanza having an end rhyme of ABAB. The poet exhibited a style of capitalizing each beginning line.
6. **TECHNIQUES:**

The use of **Repetition** "Reduce, recycle reuse"

The use of **Conjunction** "To keep our environment clean and green."

The reviewer adopts stanza seven (7) and recommends it as a boost for the actualization of the sustainable development goals. It is also helpful for the purpose of ensuring a sustainable, attractive and healthy environment (Hope, 2019).

FURTHER RECOMMENDATION AND CONCLUSION

Educating communities in Nigeria on waste recycling which is a climate change mitigation strategy is an important and urgent task which needs to be undertaken by governmental agencies, NGOs, community leaders, and passionate climate change professionals for our sustainable development in Nigeria. Nigeria which is one of the developing countries should establish and promote public policies within their borders to increase the awareness of waste recycling for environmental sustainability. Leadership summits on climate change mitigation and waste recycling, intensive awareness outreach, Waste recycling poems and blogs, are also recommended as important tools which can be used in educating communities in Nigeria on climate change mitigation for sustainability locally, nationally and globally. Communities, Companies and various institutions in Nigeria can make the task of waste recycling easy by placing labeled containers in the open for public use, or providing bins for home and business owners for strategic waste disposal and waste collection for recycling. Since everyone is involved in one way or the other in production of waste, everyone's effort is needed to ensure a cleaner, greener and healthier environment for sustainable development both locally, nationally and globally. Waste management and recycling education will bring about behavioural change and public participation which is said to be the key to a functional waste management system. Our planet needs to be preserved for future generations

and its inhabitants are in the best position to do that. Let's join hands today to make our world better for our future and that of our children tomorrow .

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CRUCIAL TRIPOD OF ENTREPRENEURSHIP: THE THREE PILLARS THAT CATALYSE SUSTAINABLE DISRUPTIVE SOLUTIONS, SDS FOR DEVELOPING MULTIDIMENSIONAL ENVIRONMENT

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Abstract

Entrepreneurship is a beneficial solution oriented undertaking that often involves risk. This paper posits that there are three interconnected pillars (*yearning, learning, and earning*) which provide important integrated foundation for emerging entrepreneurs. As an interdisciplinary approach, this crucial tripod is structured to facilitate interrelationship of multiple systems. The discourse is articulated in three parts: the first part focuses on *yearning*. Here, one sees how an individual strives towards the origin, beyond creatures to the creator. In assimilation of principles, one graduates from mastery to mystery, by relating finite to infinite. The human person embarks on a journey, not into oblivion or flight from obvious experiences, but to re-connect with the unbounded divine reservoir of novelty. In order to be resourceful, there is an advantage in linking self to the source; the second part dwells on *learning*; the interest tends to the creative origination of ideas. Following the introduction of Plato, the pioneer promoter of idea-concept in the *Academy*, the paper lunches into various cognitive tips or thinking clues which stimulate progressive and structured conceptualization (concentration, instantiation, generalization, miniaturization, magnification, translation, extrapolation, replication, mimicry, hybridization, optimization, contextualization, and ‘analogization’); in the third part, the concern culminates on *earning*; the emphasis is on the migration of ideas for ready value exchange in terms of returns/benefits; it highlights the dynamics of institutional evolution (scaling-up or scaling-down). Furthermore, it will address the multilayered interrelationships between the pillars of the crucial tripod (*yearning, learning and earning*) and demonstrate how to bridge gaps where it occurs. The leverage of start-up in a developing

multicultural environment receives a deserving attention in the context of sustainable and disruptive solutions.

Keywords: entrepreneurship, interdisciplinary, yearning, learning, earning, creation, conceptualization, exchange, start-up, multicultural.

1.0 INTRODUCTION

The paper begins by tracing the portrait of an entrepreneur. It posits that there are three interconnected pillars (*yearning, learning, and earning*) which provide important integrated foundation for emerging entrepreneurs. The imagery of the tripod is utilized to clarify the futility of attempting to advance without any of the pillars. Only a balanced entrepreneur is an integrator who can say 'I Yearn, *Credo*', 'I Learn, *Disco*' and 'I Earn, *Mereo*'. As it were, the start-up entrepreneur, from the vantage of crucial tripod downloads new forms following the platonic descending creativity option and cooks new concepts according to Aristotelian ascending creativity option. The mindset of an entrepreneur favours paradigm shift. For any individual to undertake sustainable disruption of the *status quo*, the dynamics of institutional evolution (scaling-up or scaling-down) ignites self as the pot on the leverage of the multilayered inter-related pillars of the crucial tripod. Bridging gaps, wherever it is among the pillars, accelerates development in a multidimensional environment like Nigeria.

2.0 PORTRAIT OF AN ENTREPRENEUR

Etymologically, the term 'entrepreneur' derives from French words *entre* and *prendre* – 'between' and 'to take' respectively. Both words combine to give 'to take in-between' or simply put, 'to grab', 'to grasp' or 'to undertake'. Hence, the term 'entrepreneur' describes anyone who undertakes to proffer solution(s). In fact, for V. C. Onu and A. I. Ikeme (2002), the interest is in multiple solutions rather than just one. The entrepreneur is an individual who engages with, rewarded advantage, the challenges of life; such persons often graduate from self-employed to become employers by straddling the middle course between the two poles occupied by the employed and the unemployed. The opting for self employment may be propelled by the occupation-necessity or motivated by opportunity-exploration (Carlos Arrund, *et al*, 2013). The entrepreneur answers the question, why are there many works, but few jobs around an environment under investigation? By putting order which ushers in novelty, (s)he could be called a co-ordinator or an innovator; this fact of start-up venture and the arranging together all requisite factors qualifies one to be referred to as an organizer and an initiator.

As a catalyst, an entrepreneur makes unusual changes easily, facilitator is the apt title. Since the entrepreneurs have penchant for best perspective, they are regarded as optimists. The broad-based training makes them generalist. Their attraction is learning how to learn, not as specialist in limited area of interest. They are confident and persuasive in their communications. Uncertainties do not diminish the unprecedented risk-taking capacity of the entrepreneur. Louis Jacques Filion (1997) illustrates that entrepreneurs buy at a known price, but sell at an unknown price. With proficiency, disequilibrium, deficiencies or discrepancies are spotted and an adequate realignment established. The input-output disparity is skewed so as to address the filling the need-gaps. The predominant inclination is interdependency, the mean between the burden of dependency and the illusion of independency. The psychological profiling claims that the right brain hemisphere is favourably activated by the entrepreneur, over the left brain hemisphere. The individual exhibits set of DeoxyriboNucleic Acid, DNA character traits that can be tested for, since they are internalized. The test score must be above 40%.

Alex I. Ikeme (2012) points out that for the sake of posterity, entrepreneurs proactively blend various resources, 3Ts (Talent, Treasure and Time), with integrity, an essential component of human resource. This human capital is the greatest stake in any enterprise. The entrepreneurial human capital can delay gratification till the ripe moment. It is an entrepreneurial characteristic to accept responsibilities for either outcomes (positive-success or negative-failure); here, the conceptualization via simulation becomes

extremely important in relating pros and cons. Entrepreneurs competently visualize the best case or the worst case scenarios. Too much caution stifles the confidence to commence. All the variables may not always be suitable, (the farmer who watches the wind will not attempt sowing, Fisherman-Peter recast your net for a catch) in tandem with our Lord's command.

The measure of entrepreneurship is duplex: *statically* – the number of entrepreneur in given spacio-temporal bound; and *dynamically* – the rate of germination or extinction of entrepreneurial start-up within the same boundaries. It is very important for a venture consultant to identify and investigate **the Black Box** of a crashed venture to avoid recurrence of the same incidence. The counselling must help to detoxifying the toxic elements or spotting and plugging the loopholes. Unfortunately some ventures crumble due to their defective constitution or dysfunctional operations. “Statistics have it that most Nigerian start-ups hardly survive the first three years of operation. For most of them hardly break even. For those that break even, they hardly can compete with their peers [globally]... [where ventures] operate a disciplined entrepreneurial culture of forward ever and backward never,” (Chris Osita Godson, 2014). The threats of comatose, liquidation and insolvency need to be constant concerns of entrepreneur. With the aid of the Crucial Tripod, an entrepreneur can catalyse Sustainable Disruption Solutions for country, state and nation of interest.

3.0 CRUCIAL TRIPOD OF ENTREPRENEURSHIP

Yearning, Learning and Earning is the three interconnected pillars (Crucial Tripod) which provide important integrated foundation and catalyst for emerging entrepreneurs. As an interdisciplinary approach, this crucial tripod is structured to facilitate interrelationship of multiple systems (at least the following, Revelation, Research and Remuneration). In the human subject, these three distinct notions coalesce; for it is the same human person who believes, ratiocinates, and accumulates. Human beings enjoy this *triplex capacitas* – capacity to entrust oneself to God in a relationship, capacity to know the truth, and capacity to exchange and store valuables. Today, it seems that most people who promotes learning, demotes yearning. But, both are compatible. Rephrasing the popular maxim, this paper posits that yearning and learning are like two wings on which humans soars into excellence. (Cf. Pope John Paul II, FR No.1). In other words there is no competition of any kind between faith (yearning) and reason (learning).

There are two extreme tendencies that must be avoided. On the one hand, **fideism** – the overemphasis of the superiority of faith which rejects reason, and hold on to faith alone. It often results into fanaticism, ‘superstitionism’, etc. On the other hand, **rationalism** – the overemphasis of the Priority of reason which dethrones faith, and hold on to reason alone. The consequence is that reason is stretched beyond its limit, which often give rise to relativism, nihilism, and atheism. There is also another unacceptable **parallelism** – the recognition of both faith and reason as relevant, but with the insistence that both be separated or kept apart. The recommended balanced approach is to respect, without encroachment, the distinction of the related fields, of faith and reason. Hence, yearning and learning go hand in hand, in the company of earning.

On the one hand, the frustrations of individuals who are certified in learning, but cannot boast of earning, are evident in the society. In this case, there a missing link between learning and earning. On the other hand, there are also frustrations of corporate institutions whose earnings are depleting due to unstable learning outcomes of the Research and Development, R&D Department. If one stagnates in learning, earning will gradually extinguish. The divine injunction says ‘be fruitful and multiply’. It is true that with two-wings, a bird can fly, with two-fins, a fish can float, and with two-legs, a [wo]man can flee. However, eggs can only be laid by when the bird perches off the air; offspring can only be given birth to, when the fish settles in water; the farmer can only harvest fruit, after sowing on a tilled land. Hence, the pillars of yearning and learning need the remaining pillar of earning. So also earning must accompany yearning and learning. Using iconic representation the three pillars are presented thus: we depict yearning with a faithful praying with hands outstretched; learning is graphically captured in the signage placed in the front or at the back of a car driven by a beginner; the euro currency sign stands for earning.

3.1 Yearning Pillar

The quest for excellence, the drive towards satisfaction, impetus to give up inferior and take up superior options is an osmotic pull to the region of profound happiness. This confirms that human fulfilment is beyond here and now. The indicators of this recurrent desire are expressed in the tendencies to prefer 'the new', 'the actual', 'the more', 'the best', 'the final' 'the giver'... Every longing for or gravitation towards valuable goods (*bonus*) is an inertia prompting humans to the supreme good, (*summum bonum*). Creatures attain the purpose of existence, *raison d'être* when inclined to the Creator. This perennial desire or inherent craving to be re-connected to the Source, who alone guarantees resourcefulness, is called **Yearning**. It is an act of faith or belief in one God who communicates self in Revelation. For us, Credo in Latin stands for 'I Yearn or Believe.'

In Genesis, God created Heaven and Earth. The Holy Bible narratives posit that within 6 cardinal days the entire creation was realized and on the sixth ordinal day human beings, male and female, were created in God's image (Gen 1:26,27) as the summit or the zenith of that unique generation. It is a supernatural origination from nothing, *creatio ex nihilo* or simply put, the emergence of reality is the establishment of the natural order. In the language of scholastics, creation denotes causing all to be, the inauguration of prime matter and the original essences. The creation account's refrain is 'it was good...' (Gen 1:4, 10, 12, 18, 25, 31) To be a co-operator in the divine process, each person needs the alternation of creativity-exercise and rest (*Sabbath*). The position promoted here is that God did not abandon creation (*deus absconditus*). Divine Sustenance stands for keeping creatures in being.

The Omniscient, Omnipotent and Omnibenevolent, God providently governs the universe. The endowment of freedom to humanity means that God intervenes but never interferes in our affairs. The sovereignty of the Almighty God manifests is care for the created beings (Matt 6:30-32, adorns and nurtures; Matt 10:29-31, attentive to the minute detail). God regulates all events, Wisdom 8:1. Ordinarily, the divine control does not obliterate human liberty. Only acts which align with the eternal plan disposed to God's appointed end will enjoy the concord of parts resonating within an integrated whole. Our yearning makes to strive for high ethical values. It is possible to show that the assent of Faith is backed by Reason. An entrepreneur, as co-creator thrives in the habit of consciousness of the surroundings, the alertness to feedbacks or objections and ability to sieve them. Bernard Lonergan (1972) offers four-fold method of conscious intentionality that aids not just yearning, but also learning.

3.2 Learning Pillar

Learners repeatedly search for illumination that shines upon the darkness of the intellect and the healing of the 'woundedness' of the will. In Latin, *disco* means 'I learn.' It is from this that the following words, discen(ment), disciple and discipline, derive. Let us now dwell on *learning*, with interest in the creative origination of ideas. Be happy to share your ideas with others; ideas are special kind of resources, since they multiply when shared. Learners are conversant with the fact that mistakes are part and parcel of learning. There is need to recognize the impact of learning preferences visual, auditory and kinesthetic. It is indispensable that for one to be a professional learner, one needs to engage a coach or a mentor, whose primary duty is to guide beginners' training and to filter ideas.

We must begin by paying tribute to Plato (c. 427-347), the pioneer promoter of idea-concept. By founding the *Academy*, it is not surprising that Researches after Plato may be regarded as mere footnotes on the landmarks he entrenched (Cf. Alfred Northwhitehead,) Platonism argues that only the Forms are the real, observable Materials are mere appearances or downloads. This conceptual scheme holds that particular copies are instantiation of the universal form or the ideal. These metaphysical concepts are immaterial, pure and unchanging. Here, the task of creativity is understood as migration of ultra-natural concepts to concrete examples in natural realm. The platonic method is illustrated in the *modus operandi* of some artists who holds that designs are outcome of trapping eternity in space and time or tapping into the unknown beyond. In the language of Immanuel Kant, Platonic concept of creativity is a process of penetrating the *phenomena* to reach the *nomena*. So, Platonic creativity is aptly called a descending creativity option. The use of mimicry to originate ideas follows this option.

For Aristotle, Creativity is the capacity to impress form upon matter, the productive migration from potentialities to actualities. There are four causes involved in the inauguration of a novel union of form and matter (final, formal, material, and efficient). In the Logic masterpiece, *Organon*, Aristotle sets

the authoritative foundation and parameters for discursive reasoning, as movement from the known to the unknown, from perception to conception (sensation – intellection). To expand your propositional knowledgebase, you can deploy the D³ or D-Cube Formulator: Division, Definition and Demonstration. Division entails sorting and labelling similar with keen observations; Definition circumscribes a subject with its distinctive predicate; Demonstration occurs when two propositions are compared, by way of argumentation, to arrive at the third proposition (conclusion). Let us now launch into various thinking clues or cognitive tips which stimulate progressive and structured conceptualization, an ascending creativity option championed by the Aristotelian creativity advocates.

The hub of crystallization of idea is *Concentration*; when a point is identified for focus, the intellect draws all our daily experiences towards that centre (centripetal pull) or radiates to all (centrifugal push). It echoes in the *dictum*, problem identified is problem half solved. Frequent rumination pushes the previous ideas to funnel into a new one. By reading published ideas in a chosen area the mind sips the concentrated findings of other researchers. Julius Ecuru *et al* (2013) explain Cluster as a concentration of firms in a geographic region for ‘coopetition’, competition and co-operation, Walley, K. (2007). In *Generalization*, new concept can sprout when one abstracts what is common and generally applicable to numerous particulars. Howard S. Becker (1998) posits that, although we think about them and speculate about them and define them, concepts are not just ideas, or speculations, or matters of definition. In fact, concepts are empirical generalizations, which need to be tested and refined on the basis of empirical research results – that is, of knowledge of the world.

For *Miniaturization*, most electronic products undergo shrinking modification. A typical case is computer (Main-frame – Desk top – Lap top – Palmtop – ...). Automation substitutes humans with programmed machines that operate with little or no external manipulation. According to Bill Gate, the founder of Microsoft Inc. “the first rule any technology used in a business is that automation applied to efficient operation will magnify the efficiency. The second is that automation applied to an inefficient operation will magnify the inefficiency.” *Magnification or amplification* heralds innovation by enlarging the existing items. The ideas of conference original stands for meeting of brothers in a monastic community for the purpose of learning, but now enlarged in the University Community as convergence of scholars (male and female) for the same purpose. Conference was for confraternity – group of brothers, just as ‘Consorence’ was for ‘consority’ – group of sisters. *Translation* from one discipline to another discipline can open new frontiers. It is no longer news that engineering discoveries could be taken across the discipline-lines to Medicine for profound improvements in health care delivery, as revealed by Ben Carson (1992). Here, the concern is not just language switching of linguistic tags but transplanting of conceptual systemic units from one body of knowledge to another. Linguistic translations, along with etymological mining for vocabulary reservoirs and digging for ideas encapsulated in proverbs, can also stimulate ideas.

With proper copy right *Replication* of existing products or services yield a good stepping stone. Franchising and Network Marketing are replica models. Transportation enabled Mahatma Gandhi to move across national borders, South Africa to India, the struggle to confront discrimination, with the concept of non-violence (Satyagraha) – dislodging the oppressors by the oppressed. In the entertainment industry, Lagbaja transported the masquerade concept from ceremonial setting to usual daily setting. Within proper limits, an *Extrapolation* may introduce a new frame of reference. Banks today have approved designate extramural location for financial transactions due to possibility of the digital mobile platform.

Hybridization functions as a cross-breeding or cross-fertilization of ideas usually not related together. The movie character Spiderman combines the notions of spider and man. Participation at conferences offer avenue for exchange of ideas. *Optimization* style helps one to probes for the best possible choices. The idea of the Best Case Scenario must be balanced with the Worst Case Scenario celebrated in Harvard. *Contextualization* inserts you in the milieu of what needs attention. The founder the Grameen [Micro-finance] Bank modelled it as a sustainable disruptive response to poverty in Bangladesh: in his words, “when you hold the world in your palm and inspect it only from a bird’s eye view, you tend to be arrogant - you do not realize that things get blurred when seen from an enormous

distance. I opted instead for ‘the worm’s eye view.’ I hoped that if I studied poverty at close range, I would understand it more keenly (Muhammad Yunus, 1999). In a sense, it can be referred to as Domestication.

One can evolve a new idea by combining ‘forward and backward time-steppings’ or *Gradualization* conceptual tip. Obi Vincent Ugochukwu Scholar, OVUS method is step by step gradational movement across the time lines, historical retrospective investigations (visitation of monuments) and futuristic prospective ‘conjections’ (visualization of marvels). This is an advance science with inclination towards falsifiability theory of Karl Popper (1963) instead of the usual verifiability theories. *Analogization* stimulates new ideas that may be plausible, but cannot be experimented upon. Charles Darwin by comparing cross breeding of specimens arrived at the theory of origin of species through random natural selection process.

For whatever reason, contemporary scholars have abandoned logic, one of the prerequisites for learning. Unfortunately, the repercussion is that the narrow minded approach tends to overshadow the broad minded approach; specialists are enthroned to the detriment of the generalist. But in antiquity, Hellenistic schools used to train scholars with the elementary curriculum of *Trivium* (Grammar, Logic and Rhetorics) and *Quadrivium* (Arithmetic, Geometry, Astronomy and Music). These foundational studies cobweb the mind and to equip us with mental stamina for the tedious task of tidy thinking. Only the rugged is fit for the mental marathon called thinking. There is a saying that constructive thinking is the hardest task that is why only few engage in it. Beware of the tendency towards destructive thinking, complaining. Do not simply swallow every opinion, try to chew and digest properly before assimilation. Never allow experts, neighbours, peers, friends, families etc determine completely your life path. In order to own your life personal input is inescapable.

The cultivation of imaginative thinking is a **sine qua non** in entrepreneurial mindset. What is your view of life (vision): “[once] a teacher threw a challenge at some six year olds when she tried to get them to believe [self projection]. She asked for the biggest thing around the world. While some said an elephant, some said a ship ... One of the pupils quietly raised her hand and shyly suggested that the eye was the biggest thing. When the teacher further inquired, she gave her reason that ‘the eye sees all those big things. What else can be bigger than the eyes she enquired?’ [The Lesson is that, often] You cannot truly achieve more than what you see of yourself and the ability you believe yourself to have.”(V.C. Onu and A.I. Ikeme, 2008).

Dream big, but start small and improve gradually; as the saying goes think globally but act locally. In geosciences, dreaming or envisioning can be translated as mapping of outlines. It must be squealed by planning which segments the mapped areas for detail features. Learned person who delights only in abstract concepts without a corresponding concrete plan(s) may not earn much except with assistance. None is yet to build a castle in the air, i.e. by mere wishful thinking

3.3 Earning Pillar

This aspect highlights the exchange of learning for earning, application of acquired knowledge yields returns. Integral education must address the relevance of financial proficiency in earning. Benedictine monastic motto says ‘*laborare et orare*’; ‘to work and to pray’ are important ingredients of progress; in other words, work as if everything depends on work and pray as if everything depends on prayer. You may pray for extra-ordinary gifts, but it can begin disposing yourself by doing ordinary things in an extra-ordinary manner. What is the level of commitment in your present work? Your extra efforts make you employer indebted and provide the basis for promotion inevitable. Even an imprisonment or underemployment is not an excuse to postpone self development. Generosity of Joseph catapulted him out of slavery and prison in Egypt; when you go extra mile, people will demand your supply. Always remember that “the difference between ordinary and extraordinary is that little extra,” Jimmy Johnson.

‘Negotiability’ is an extra faculty for win-win deliberative exercise that enables two or more parties arrive at a consensus or at least a compromise decision. Quick granting of unearned concession may put one in vulnerable position that warrants an Oliver Twist scenario. More haste may mean less speed. Accept a stalemate and adjourn. Profound financial Intelligent Quotient, IQ makes revival

possible after disaster. Robert T. Kiyosaki (2010) could assert that, if we are wiped out, which is always possible, our real asset will be our financial IQ. We can rebuild again because we focused more on Learning than earning. Shallow financial knowledge and or application of financial principles at institutional level usually manifests as little, if not zero earnings. Many strive in pursuit of money. But when you inquire from them, what money is? They will offer incompetent answers.

Before the introduction of money, *trade by barter* was the only medium of exchange. This means that then humanity had operate within the inconvenience, attaining double coincidence (a farmer wishes to sell yam to buy shoe, must reach out to the shoe maker who has the exact size and willing sell it in order to buy yam. A more complicated concern is how to correlate services and commensurate products. So the invention of money tackled both issues (medium of exchange and measure of value), in addition functions as storage of value. Of the three roles money plays, awareness of inflation is indispensable in the third. Handling money well calls for understanding the impact of taxation and FOREX fluctuation foreign exchange (the national and the international dimensions). For more update in this regard, Robert Kiyosaki, *Rich Dad, Poor Dad* is recommended. One without familiarity with the basic economics may not navigate easily through the financial jungle.

Whoever receives money has three fundamental choices: 'to spend', 'to save' or 'to invest'? Since, Money is a currency, and not a stationary; it flows in and out. Proper monitoring presupposes documentation and periodic review of the cash out/in flow (expenses and income). Cash flow analysis will reveal segments or areas of leakages for closer looks. This can be done with the help of another person (auditor). The interest of the wealthy is more on the net worth calculations (assets minus liability) than on the increment of single income volume. The weighing of financial status is supported by budgetary proposal. For whoever fails to plan has planned to fail. The financial plan includes a time frame, the estimated income and estimated expenses. In order to break out of the endless vicious cycle of working for money, one must graduate from saving to investing.

Money works for you when it is released from imprisonment or exhumed. An entrepreneur is not in habit of slavishly pursuing money but prepares the honey-comb and the money-bees are attracted. The poor run errands for money, while the rich send money on errands. The one who borrows money to spend has submitted self for financial shackles. Buying without instant payment is a form of borrowing, hence it not advisable transact on credit, except for furthering investment profile. An Asian proverb says if you want to go fast go-solo, but if you want to go far go-solidarity. Corporation is the channel of migrating learning to earning.

Corporations are standard instituted way of combining efforts of many individuals. Government authorizes and regulates creation of corporate persons. Due diligence is required for registration of corporations. Never dabble into illegal novelty, it may dribble you out circulation. The climax of learning is the migration of beneficial operations from the human-person-scope to corporate-person-scope. *Human Person* used to be regarded as the subject of acts, active factor of production (actor) and property as the object of acts, the objective component of production (acted upon), until the arrival of *Corporate Person*. In the face of the Law both are entitled with certain rights and responsibilities. The later is nexus of contractual agreements between multilayered participants (eg. Company relates at numerous levels with stakeholders, shareholders, directors, managers, members of staff, debtors, creditors, customers, suppliers, agencies, etc).

By the way, a university is a corporate learner and by extension a corporate earner. Many thinkers, like Susanna Kim Ripken (2008), disagree on the notion of corporate person; is it an aggregate of constituent members (the sum of the shareholders in the case a company)?; is it an artificial creation of law? is it a real entity greater than its constituent parts and its registration merely an official recognition? The apparent point of convergence is that the corporate person does legitimately interact with the human person.

Initially, the properties of Corporations were not taxed, because the court regarded them as properties of the individual shareholders. 14th Amendment USA Supreme Court, *Santa Clara vs South Pacific Railroad*. With the enlargement of ownership base, separation of ownership and control (shareholders can come in and go out, at will without changing the nature of the institutions' operation),

corporations assume their own identities (autonomy) graced with perpetual succession. Hence, Lord Green stated in *Stepney Corporation vs Osofsky* (1937) that "... a company once incorporated does not die but may only be killed." Peter F. Drucker, *Concept of the Corporation* (1972) argues that, "The Corporation is permanent, the shareholder is transitory. It might even be said without much exaggeration that the corporate is really socially and politically *a priori* where as the shareholder's position is a derivative."

3.4 Crucial Tripod as a Solution Catalyst for Sustainable Disruption

It is important to highlight that the two creativity options are identified with two related but distinct words: the descending creativity option (invention) and ascending creativity option (innovation). While in invention one discovers the already existing, in innovation one inaugurates another into existence. Hence, instead of restricting the discourse-term to either invention or innovation, the paper formulates an alternative inclusive term 'creative solution.' Clayton M. Christensen *et al.*, (2002) distinguishes innovation into two: first, Sustainable Innovation, SI is a novel creative solution that focuses on improving or augmenting the existing order; second, Disruptive Innovation, DI is a novel creative solution that inaugurates by counteracting the existing order. SI appeals more to the mature firms (incumbents), who prefer to hold-on to the established markets, but DI favours the start-up firms (entrants) who launches the emerging markets.

A blend of SI and DI yields what may be referred to as the Sustainable Disruption Innovation SDI or the Sustainable Disruptive Solutions, SDS which is comparable to the Paradigm Shift of Thomas Kuhn (1970). For him, paradigm stands for a relatively inflexible model-box that correlates solutions to corresponding problems. Changes within the box are often cumulative or incremental, but crises may arise due to anomalies that cannot be addressed within. Thinking outside the box, a new (incompatible and incommensurable) paradigm may be inaugurated to displace the old paradigm. In six (6) phases, Olajumoke Familoni (2014) shows that at the full scale of the shift, all conduct their affairs in the new as if the old never existed. Interruption, which is an unstable distraction of a system, should not be equated with Disruption. Sustainability, which necessarily couples with Disruption, means meeting the need of the present generation without mortgaging that of the future generations. In other words, a Disruption without Sustainability is simply an Interruption.

Entrepreneur Clusters, as nursery of fledgling companies, like Silicon Valley is catalyst for entrepreneurial revolution or paradigm shift. Such cluster environment fosters the yearning, learning and earning. With the crucial tripod, the SDI catalysed, as a complicated and structured result, not as random and rare occurrences. The Start-up firms ought to know that since they are disadvantage by the economies of scale enjoyed by the incumbents, they can leverage on the advantage of the economies of scope as the entrants. The capacity to incubate must be matched with well-articulated and institutionalized succession that guarantees succession. For success without successor is a failure in disguise. Since the SDI is not a chance event, it possible for the Start-Ups to incorporate a scalable creative solutions. Dan Senior and Saul Singer (2009) demonstrate that the scaling up SDI can be on national level. The commentary of the reviewers encapsulates the points: The story of Israel's economic miracle is that "...Israel developed a culture where authority can not only be challenged, but must be..." – Barron's; "Israel has thrived not despite its obstacles but because of them; may be other places can too." Israel a tiny nation of immigrants is the first technology nation – Forbes.com. Also institutional dynamics must accommodate corporate scaling-down or downsizing, whenever necessary. Suffice to say that DI is subset of superset called the Reverse Innovation RI, Vijay Govindarjan and Jim Euchner (2012) with bridges five (5) gaps: performance gap, infrastructure gap, sustainability gap, preference gap and regulatory gap.

5.0 DEVELOPING MULTICULTURAL ENVIRONMENT: the Case Study of Nigeria

Development derives from French words, *des* and *veloper*, which means 'unfolding', 'unpacking', or 'unwrapping', in order to remove from or deliver out of 'envelopes'. John Henry Cardinal Newman (1960) elaborated on the idea of development and highlighted about nine versions. When one

relates development in terms of material resources, it means processing or perfecting them. In other words, development is turning their potentiality to actuality. The landmass of a country is considered developed only when there are evidences that it is being put into fruitful use. Its natural resources are classified into renewable and non-renewable categories. While more researches need to tilt towards renewable resources, attentions also need to address wastages by adopting recycling options, where possible. Development can be expressed in term of functionality of structure of governance. Hence, a developed state or corporate entity is that which allow functional exercise of power. Individually or collectively, people can be rated as socially developed, when they progress from embryonic stage to adult stage. These three dimensions describe the multivalent environment for entrepreneurship.

An entrepreneur catalysed with the crucial tripod can address the multidimensional challenges in a given environment. Environment is a term that designates the aggregate of conditions within which one operates. It is ones situations, settings or surroundings. Following the three dimensions of development, the corresponding environments of an entrepreneur are multi-potential Country, multi-directed State and multicultural Nation. The entrepreneur identifies the environmental challenges as surmountable by applying the Sustainable Disruptive Solutions, SDS. The prominent environment is the multicultural atmosphere. The people are often referred to as human resources or human capital. There is need to x-ray the lifestyle of each social grouping (ethnic): history, religion, language, gender preferences, etc.

Nigeria is suitable for a case study of a developing multidimensional environment. Suffice it to say there are three nuances to the notion of Nigeria. Undoubtedly, one can describe Nigeria as the giant of Africa? This is with reference to the massive geographic space and abundant natural resources in our **Country, our Father Land**. Nigeria could be viewed as a **Sovereign State** that governs self independently on the principle of separation powers. When one regards Nigeria as a **Nation**, the emphasis shift to the people who are related in the past by birth, nativity or historical heritage; in the present, share similar condition or common identity; in the future, joint aspiration. Our solidarity is hindered, when one discriminates between the natives or ‘the sons and the daughters of the soil’ and the foreigners the non-natives. Can you estimate the population of Nigeria and the number of ethnic groups?

Carlos Arrund, *et al.* (2013) argue that, a culture that is risk averse on personal level often reverberates this trait in the reluctance to engage greater aggregate risk represented by the start-ups. The social stigma due to failed attempt discourages restart. The migration from the closed innovation platform to open innovation platform is an example of a sustainable disruptive solution in the cultural context. While, closed platforms rejoice over rigid insularity, opened platforms combine both efforts inside and outside the organization’s boundaries (Omur Yasar Saatcioglu, 2013). This robust networking increases the value of output, rapidly with numerous external inputs. Following the ‘WaZoBia’ principle, one can take Yoruba, Igbo, and Hausa as representative samples of Nigeria. Entrepreneur must be ready to wear many caps. As an entrepreneur, to design an appropriate cap, cultural background of the end user must be considered. Let the one whom the cap fits wear it. Multilingual proficiency and digital operation competency are of high cultural value and help the entrepreneur to navigate the multicultural environment.

6.0 CONCLUSION

The journey of an entrepreneur is an endless quest. We shall not cease from exploration... [even if at] the end of all our exploring will be to arrive where we started and know the place for the first time (T. S. Elliot). The two options of creativity (descending and ascending) must be deployed by an entrepreneur to crystallize the Sustainable Disruptive Solutions, SDS. Since, for Plato, ideas percolate and drops like rain from above, while for Aristotle, ingredients from below can be disintegrated and reintegrated or presented as new ideal like cooked meal. One perspective views the world as already made, while the other holds a world in the making.

“Endless invention, endless experiment,
Brings knowledge of motion, but not of stillness;
Knowledge of speech, but not of silence;
Knowledge of words, and ignorance of the Word.

Where is the Life we have lost in living?
Where is the wisdom we have lost in knowledge?"

— T.S. Eliot, *The Complete Poems and Plays, 1909-1950*

Only an entrepreneur who integrates yearning, learning and earning, the three pillars of the crucial tripod could catalyse sustainable disruption solution in a developing multidimensional environment: Globe as the macro instance and Nigeria as the micro instance. Never forget that ideas are very fragile, so they are not documented they may be lost forever. The greatest enemy of the learning pillar of entrepreneurship is poor record keeping (inaccurate or distorted). Entrepreneur civilization is, therefore, then 'enter or power' button [of the computer keyboard] of national development. This is incredibly a new way of looking at development in developing economies like Nigeria," according to Cas Onuogu cited in Chris Osita Godson (2014). If we take Nigeria to an eagle nurtured among chickens; do you think its full identity will emerge, anytime soon? It will be possible only if we break the conventional barriers (albatross) and behold the impossibility of impossibility, by way of paradigm shift.

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PROSPECTS AND CHALLENGES OF GREEN TRANSITION FOR ENTREPRENEURS IN NIGERIA

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Abstract

Without a doubt, scientific findings have indicated that non-renewable energy sources are bound to run out, the heavy reliance on these sources by heavy industrialized societies and less developed countries alike, is even bound to exhaust these sources faster than nature can replenish. This reality is shaping the present and future of entrepreneurship, it is on this background that this report seeks to analyze the extent to which entrepreneurial activities are threatened and can be supported by a switch from nonrenewable sources to renewable sources of energy. The study analyzes major stakeholders in nonrenewable energy sources and how such actors militate against going green. This report is purely qualitative, it relied on secondary sources of data like book, journals, online materials etc. in the theoretical framework; Sustainability theory is adopted. Green theory describes how ill economic practices may yield increase but have a long term negative impact on the society. The report concludes that there is a dilemma between going green and economic development, but an early switch from nonrenewable sources to renewable sources will have better long term effect on the entrepreneurial activity and the environment at large.

Keywords: Greening, Entrepreneurship, Sustainable Development, Energy

Introduction

The spike in scientific warnings on the negative impact being made on the environment by enormous economic expansion and prosperity of man is said to have begun to offset the delicate natural cycle upon which all life on earth depends (Benedick, 1998). The population expansion of man over the years has also deepened humankind's heavy overconsumption of the planet's resources faster than nature can replenish. A 2017 UN report states that the world's population in 2030 is estimated to have risen to about 8.6 billion, and by 2050, it is expected to have risen to about 9.8 billion. This report factors in the fact that there will be a drop in fertility, despite this drop, an estimation of 83m people will still be added to the global population annually (UN report, 2017). The rise in population will only further deepen the already over reliance on earth's resources. With the ongoing ill practices of capitalist to maximize profit, the earth

is only set to further exploitation that not only threatens the livelihood of humankind, but the sustainability of all life on earth. Due to the cross-national nature of the detriment done to our environment by gross unrestricted industrial practices, unilateral, bilateral and global actions have been taken by governments to ensure sustainability. Some of such actions pose as threats to Entrepreneurs in Nigeria, other global south and global north countries.

Despite the challenges of going green that Entrepreneurs are set to face, there are more challenges to not going green. Not going green is equal to not willing to innovate; not willing to innovate equals the death of such business enterprise. Going green economically according to Veleva and Ellenbecker (2001) refers to paying attention or consciousness to how our actions affect the environment, therefore the incorporation of environmentally friendly practices to every facet of production and distribution of commodities. According to Ataman, Mayowa, Senkan and Olusola (2018), going green is not just the responsibility of producers, but also the responsibility of consumers, who are expected to be conscious in consuming, that is; consumers have the responsibility of seeking out, purchasing and disposing eco-friendly commodities and services. This implies there is a mutual reinforcing responsibility on both entrepreneurs and consumers in ensuring environmental sustainability. Apart from the role of producers and consumers in protection of the environment, a major player in environmental protection is the Government. The role of government is so pivotal in environmental sustainability because government has a responsibility of regulating the actions of both producers and consumers. The government is expected to make policies that curb the excesses of producers, and make use of the might of the State to enforce such policies.

In Nigeria, there are policies promulgated by the State that are formulated for the purpose of environmental protection, this is carried out under the auspices of The “National Environmental Standards and Regulations Enforcement Agency (NESREA)”. This is the National body vested with the sole responsibility of formulating and ensuring adherence to environmental laws in the country. Despite the existence of this body and the laws promulgated by the body, the actions taken by the body to punish and penalize violators has been a major weakness of the body (Adebayo, Jegede and Ogundele, 2015).

While it is becoming a major priority for industrialist in more industrialized countries to transition from heavy reliance on non-renewable energy to renewable sources (Kotler & Keller, 2009), industrialists in Nigeria are yet to adopt eco-friendly practices. A major reason for the lagging behind in the progressive move to greener energy is because of the affordability and level of information people have on green energy. There are numerous prospects that await entrepreneurs that willing to go green, challenges also

awaits such entrepreneurs. This report seeks to elucidate these prospects and challenges to going green faced by entrepreneurs in Nigeria.

Conceptual Framework

The gravity of the impact done to the environment by humankind's unrestricted actions have drawn numerous scholarly attention to the concept of greening in attempts to proffer a way out of degradation. The idea of greening gained momentum as the 20th century wrapped up with the realization of the damage done to the environment which is evident in depletion of natural resources and degradation of the environment. Čekanavičius, Bazytė, and Dičmonaitė (2014) opine that greening is traceable to mid-1960s, while the trend became adopted in business about 20 years later.

Generally speaking, sustainable development is the “ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland Commission, 1987). Particularly speaking of greening in business, Brown, and Ratledge (2011) defines green business as “an establishment that produces green output”. A more comprehensive definition is given by Business Dictionary (2019) as “business functioning in a capacity where no negative impact is made on the local or global environment, the community, or the economy. A green business will also engage in forward-thinking policies for environmental concerns and policies affecting human rights.”

Going green or greening in business is being conscious of every input and stage of production and distribution of goods and services, making rational choices that have the least negative impact on the environment to ensure continuity. Ataman, et al (2018) summarizes greening as a practice which enables prospects of economic prosperity through judicious use earth's resources, paying keen attention so as not to jeopardies the environment.

To Drucker as cited in Pahuja and Sanjeev (2015), “An Entrepreneur is the one who always searches for change, responds to it and exploits it as an opportunity.” They also stated that the word is coined from the French word “entreprendre” which connotes to take on a task or undertake. To the 6th edition of the Advance Oxford English Dictionary, “An entrepreneur is someone “who sets up a business or businesses, taking on financial risks in the hope of profit”. In the early sixteenth century, the term was

used refer to people who engaged in military expeditions towards the seventeenth century, it was adopted to also cover civil-engineers and other personnel who engaged in construction. Later in the eighteenth century, the term became inclusive of business men and women. To Pahuja and Sanjeev (2015), “Richard Cantillon” is responsible for describing an Entrepreneur as a person who undertakes actions despite uncertainties and risks. Ever since, there have been numerous definitions of entrepreneurs and entrepreneurship, that there is no universally accepted definition.

For eons of years, entrepreneurs have often engaged in several activities in aims to maximize profit. As capitalists, entrepreneurs have often favoured choices that minimized costs of production in order to have larger return (profit). And this is where sustainability and entrepreneurship intersect. In the quest for profit maximization, entrepreneurs have been accused of plundering and overusing or exploiting the earth’s resources so much that the future is threatened. When we say the future is threatened, we do not necessarily refer millions of years from now, with over seven billion people on earth with insatiable wants, the demands for the utilization of resources is only bound quadruple, in a report by Ruz (2011), a list of earth’s resources that have been plundered by humankind and beginning to drop include; fresh water, oil, coal, natural gas, phosphorus, earth’s rare elements.

These listed resources are major sources of energy, and they are broadly divided into renewable and non-renewable energy. To Jaiswal (2013), renewable energy are those sources of energy that nature is capable of replenishing faster than they are used, while non-renewable sources are those sources that cannot be replenished as fast as they are plundered or exploited.

They are replenished at the rate higher than the rate of exploitation.

According to Jowitz (2011) the large number of human population on earth is not the problem but, unrestricted and unchecked actions of man in the quest of maximization of profit. The dilemma of going green faced by entrepreneurs is either to continue in the use of non-renewable sources of energy which are more affordable or to go through a process of transition that will bring about a pause in production thereby a halt in income. And this is the major constraint to going green for entrepreneurs.

Theoretical Framework

The study of the prospect and challenges of green transition to entrepreneurs adopts the sustainability theory, which seeks describe how the wants of the present-day can be met without affecting the

forthcoming generation. The term sustainability became well announced in the year 1987, in which it gained its international importance through the “Brundtland Report” by Gro Harlem Brundtland. The report shows the urgent need of sustainability. He postulated the famous explanation of sustainability which communicates that “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. Sustainability is multifaceted in nature but most effort of defining it focuses on three main models of sustainability which are; social, environmental and economic sustainability. (Khalil 2011).

This theory reveals that there are three main models of sustainability; the social, environmental and economic sustainability. These models are interconnected and when taken together, they form a good platform for taking important decisions and platforms (Wanamaker, 2018). When the concepts that are entailed in the three models are applied to the world circumstances, everybody gains. The economy isn't harmed, the standard of living of people is improved, the natural resources are well-maintained and the environment is safe.

Economical Sustainability

This model focuses on how to maintain opportunity which is mostly in form of capital and the capital is referred to as the man-made capital (Wanamaker 2018) i.e. incomes after the usage of the natural resources should be used to generate new chances of equivalent or better value. Meadows, Randers & Behrens (1972) noted that if the natural resources of an economy are over utilized, there will not be sustainability, therefore the economical sustainability comes into play here whereby the natural resources are maintained and adequately utilized. Looking at the investment aspect of economical sustainability, spending on the poor can be considered as an investment for later days. (Amartya 1999) “We generate options for the future by generating options for today's poor because more options will yield greater development”.

Social Sustainability

This second model focuses on how decisions can affect the living together of individuals, communities and societies (Wanamaker 2018). This model also entails many things like human right, public involvement and participation, citizenship, justice, resource distribution that helps the society to flourish over time and environmental law. According to Jenkins (2009) this model helps to sustain social systems and environmental conditions that portrays human dignity. This model mainly recommends the sustaining of the cultural conditions that are required to recognize civic identity and ecological personhood through

ecological involvement (Plumwood 2002). The primary goal of social sustainability is to address human development and poverty.

Environmental Sustainability

Based on what the research topic is focused on, we will be focusing more on the environmental sustainability model of the sustainability theory. It is known that the earth system is buoyant and resilient (Ludwig, Walker & Holling, 1997). It implies that it has the ability to retain its present state and also return to its present state after disruption. Even at that the earth system possesses a boundary to which equilibrium is sustained (Rockström, Steffen, Noone, Persson, Chapin III, Lambin, Lenton, Scheffer, Folke, Schellnhuber, Nykvist, De Wit, Hughes, Leeuw, Rodhe, Sörlin, Snyder, Constanza, Syedin, Falkenmark, Karlberg, Corell, Fabry, Hansen, Walker, Lverman, Richardson, Crutzen & Foley 2009). Rolson (1994) states that instead of centering straight to opportunity or capital as the main element for sustainability, their concentration should be shifted directly to the health of the living world. The environmental service must be sustained in order to serve as a helping hand to both the economic and social models of sustainability.

This model helps us to know that it will get to point whereby the fossil fuels (coal, natural gas and oil) will get a stage where it cannot replenish itself or return to its present state of disruption or after continuous and persistent usage of it. The theory helps us to understand that essential natural resources should be sustained for the usage of present and future generation.

Rise of Greening

With the rise in scientific warning on issues related to climatic change, global warming, oil peak, and other related factors, unilateral, bilateral and global actions became necessary to curb excesses and to militate against the impact of ill practices that have effects on the environment. These unilateral, bilateral and global actions can be regarded to be the cradle of going green.

The “United Nations Conference on the Human Environment” of 1972 held in Stockholm Sweden can be said to be the first global conference organized by the United Nations in regards to environmental protection. Issues that were discussed in the conference included such issues as; human rights, pollution, environmental policies, non-renewable energy. In effect, UNEP (United Nations Environment Program) was birthed from the conference in June 1972. Ever since, UNEP has been a major global authority in making global plans and agenda that are geared towards the protection of the environment (About UN Environment n.d). UNEP has a mandate of setting the pace in environmental sustainability projects.

According to Ataman et al (2018), basic tenants green economy as postulated by UNEP includes; a reduction in carbon led economy, green growth, creation of green jobs, recycle based economy and an economy that adheres to ecological regulations and principles. Other major UN conferences organized towards solving environmental issues that have been caused by humankind' excesses include but are not limited to the following;

- UN Conference on the Human Environment (1972)
- World Commission on Environment and Development (1987)
- United Nations Conference on Environment and Development (1992)
- General Assembly Special Session on the Environment (1997)
- World Summit on Sustainable Development (2002)
- UN Conference on Sustainable Development (2012)
- UN Sustainable Development Summit (2015)

Source: Dag Hammarskjold Library (UN Documentation: Environment)

A major factor that necessitated the rise in green economy is the realization that the heavy reliance on fossils to fuel industrial activities is unsustainable. At the rate that human wants are insatiable and the desire for capitalists to cut cost and maximize profit, such fuels will run out faster than they can be replenished by nature. This will create crisis from increased cost of production due to the production based on scarce resources. This challenge facing the economy is not the only challenge. Another major challenge is the environmental degradation, climatic change, caused by the large emission of harmful greenhouse gasses particularly carbon dioxide from power plants of houses, industries, vehicles etc. (Greentrumble, 2017).

Constraints to Green Transition in Nigeria

Despite the regular clamor for transition, many industries mainly in under developed and developing countries still stick to the use of un-renewable energy fuels like petroleum, coal, natural gas, etc. A major reason for the constant use of this stratum of energy is the abundance or availability; another is the level of technological advancement in a country. Other reasons for the continued use of fossil fuels despite their hazardous nature will be discussed in details in this unit. They are the challenges or constraints to going green for entrepreneurs.

1. Power Crisis:

The situation of power generation and distribution in Nigeria is appalling and inadequate when compared to the population and size of the country (Claudius, 2014). It is even more appalling to state that this has been the situation of the country since the 90s. Despite massive investment in the sector by past and present administration and even the privatization of the sector has not been able to yield expected result. In response to the power crisis, entrepreneurs have had find alternative means to power their entrepreneurial activities. In their attempts, many do find solace in building private power plants that are fueled by fossil fuels. Fossil fuels plants are credited for being able to generate large amount of power that enables entrepreneurs continue in their actives uninterruptedly. This serves as hindrance to going green, because since entrepreneurs already have an alternative that is very capable to power their activities, there is no need to seek other means that will cost more.

2. Affordability and Availability

In the quest to power their activities privately, entrepreneurs often go for fossil fuels. Why fossil fuel and not renewable energy? They often favour non-renewable energy in place of renewable energy because of their availability and affordability. These double **As** are a two advantages of fossil fuels and reasons why entrepreneurs stick to fossil fuels. Nigeria is an oil rich State, a large volume of her foreign exchange is gotten from exportation of crude oil. Nigeria also has a large reserve of natural gas that is estimated to be at about “192 trillion cubic feet” which puts the country at the ninth position on global natural gas reserve ranking (Nkwopara, 2017). When compared to how much it will cost to set up a solar panel capable of powering an entrepreneurship firm, the use of petrol powered generator has always been more affordable, which serves as a constraint to going green in Nigeria particularly to small scale entrepreneurs who are still struggling to compete with big firms. A switch to green production process will lead to a spike in the cost of production, directly increasing the selling price of the commodity, therefore making the goods uncompetitive in a market flooded with cheap imported goods.

3. Transportation

The movement of goods and services in a county is critical to the sociocultural and economic ties of a country (Oyelola, Ajiboshin, & Rahemm, 2013). The major means of transportation means are land, water and air. In Nigeria, and many other countries of the world in both global north and global south, these transport systems are major causes of the ozone depletion through the emission of Co₂ which is known to be harmful to the environment (Capital, 2010). When entrepreneurs choose to go green by making use of green resources in the process of production, in the process of distribution, they often end up making use of vehicles, train, motorcycles, ships and aircrafts which are mostly powered by non-renewable energy.

4. Waste Management

Due to incompetence and corruption in Nigeria, waste management has been an issue faced by average Nigerians. Ikande (2018) stated that the pandemic of improper disposal of waste in Nigeria is making day to day life difficult for residents of the country, and it needs quick and long lasting solution proffered. In a field study conducted by Onuminya and Nze (2017), to study waste management in Lagos state, they concluded that LAWMA's approach to waste management in lagos has not been effective, and that the approach by visionscape has been counterproductive. Efe (2013) proffered solutions to waste problem in Nigeria have often failed, from observation, it was inducted that the cost of waste disposal service is high and unattractive, making average Nigerians to find other means to dispose their wastes. Some unsustainable ways that have been adopted by Nigerians to get rid of their industrial and domestic waste include dumping into bodies of water like streams, rivers and even gutters when it rains. These ill practices are harmful to aquatic animals and the humans who consume such animals. Another ill practice is the open burning of domestic and industrial wastes which is against regulation. These practices are harmful to humankind and the environment, but people keep disposing their wastes these ways because they are cheaper.

5. Stakeholders of non-renewable energy firms

The persistent epileptic power supply in Nigeria created opportunity for wealth generation through the importation, assembling and sales of power plants. It is safe to say that while the power situation is a pandemic to some, it is a panacea to some others. According to Alli (2016), from a data gotten from division of statistics of the UN, producers of power generator like Cummins, Siemens, Ilk, Wilson and many others have taken advantage of the dwindling power supply to invest millions of dollars into importation of generators into Nigeria. If the power issue persists, it is expected that the investment in importation of generators is set to be about \$450 million (N162, 675,000,000) by 2020. Increase in population will lead to more demand for power plants majority of which are powered by fossil fuels.

Apart from investors who have invested massively in the importation of generator, another category of stakeholders who gain from the heavy reliance on petroleum are dealers in petroleum. Shell Oil Company announced its interest to invest in Nigeria's Natural gas sector (Odeyemi, 2015). These stakeholders are capitalists who are solely interested in profit maximization hence will frustrate any plan that threatens to change the status quo.

Prospects of Going Green

Other reason for the over reliance on fossil fuel are, over familiarity, level of understanding and level of technological advancement in the country. The discussed reasons for the over reliance on crude oil and other fossil fuels by entrepreneurs in Nigeria may seem justifiable, but a continued reliance on such energy to fuel the country's industries is unsustainable, Okarfor (2018) postulates that Nigeria will run out of crude oil in 52 years. A crucial question that arises from this issue is that what then will entrepreneurs who have invested all into non-renewable sources do? This is why it is pertinent that green transition becomes a must for everyone. As stated in the introductory part of this report, a choice not to go green is a choice not to innovate, and innovation is the only way a business enterprise can be sustained. Going green is good for business and good for the environment, there are several benefits entrepreneurs stand to gain from going green, these benefits also include the prospects of green transition.

1. Operational Efficiency

Going green necessitates increased consciousness in operation; this encompasses sourcing for raw materials, production stages and processes, and distribution processes. Therefore; based on the responsibility of being ecofriendly, entrepreneurs are more likely to become efficient through reduction of material cost, water cost, energy cost etc. to ensure conservation and prevent wastage of resources (Majurin, 2017). As an analogy, should an entrepreneur device means to cut reduce the amount of electricity normally used in production by making use more efficient techniques and practices, there will be a direct drop in the cost of production. The results of this are; the entrepreneur is likely to have increased profit, or may choose to drop his/her selling price in other to become even more competitive (ILO, 2011).

2. Environmentally Friendly

In a study conducted by Joshua, Ali and Happy (2015), it was concluded that there is a direct correlation between entrepreneurship and the environment, and how going green is a panacea to environmental degradation. Over reliance on fossils is dangerous especially when with considering the heightened warnings of them running out in the nearest future. What then will enterprises that rely solely on the use of fossil fuels do when they run out? Another importance to going green is the need for the creation of sustainable environments in other to conserve earth's resources for the future.

The operation of a firm has direct impact on its environment, and this has a return effect on the firm itself. In the environment, humans and animals alike are susceptible to diseases caused by air and water pollution from factories. Due to hydrocarbon pollution in Niger Delta region, many have been badly affected and are potential cancer patients (Onwuaombe, 2017). As an analogy, should a chemical

company regularly dispose toxic waste into the water bodies in an environment, they will directly responsible for the harm caused to the health's of people who make use of the water in cooking in their households and those who eat the fishes from such water. Another effect is the fact that the toxic chemicals will lead to a drop in the quantity of fishes in such waters which is a threat to people who make ends meet from fishing. However going green is the simplest panacea to all of these.

3. Healthy Workforce

The people with immediate contact with harmful substances in production are members of the workforce of the company. The workforce of an eco-friendly firm will have less to worry about when compared to workers of non-eco-friendly businesses who are regularly exposed to substances that can have both short term and long term negative impacts to their lives. Such damages may include; nausea, lungs damage, cancer etc. A healthy workforce yields productivity.

4. Access to financial incentives

The need to go green has become a mantra for several governments; hence policies and laws have been made to make the transition as smooth as possible and to make the use of renewable energy as attractive as possible. Some of the initiatives put in place to make the continued use of fossil fuels unattractive are the placement of fines and taxes on polluters. Other financial incentives introduced to make greening attractive is the reduction in taxes levied on ecofriendly companies (Majurin, 2017). A reduction in taxes will reduce the cost of production.

5. Opportunity to New Market

With the rise in warning of the depletion of the ozone layer and the unsustainable nature of fossil fuels, consumers are becoming more aware of their roles in sustaining the environment leading to a demand for ecofriendly goods and services. This rise is an opening to infinite market just like the infinite nature of renewable energy. An entrepreneur may hence go into the manufacturing and sales of;

- a. Solar panels, ecofriendly fuel stoves to replace use of coal and fire wood,
- b. The construction, servicing sales and of composting plant which is used in transforming organic waste into fertilizers. This will help reduce the consumption of petroleum or Urea made fertilizers which are harm at the long run. The use of organic made fertilizers will be beneficial because it does not only boast the growth of crops, but it helps to nourish the soil thereby replenishing vital nutrients used in the farming process.

- c. Manufacturing, sales and distribution of medium to small scale power generators powered by renewable energy and technology in place petroleum and diesel powered plants that constantly emit gasses that destroy the environment.
- d. Construction, sales, servicing and distribution of biogas tanks and power plants, which transforms organic household waste into fuel for cooking, lighting in places where kerosene is heavily depended upon.
- e. Job creation through endless possibilities of renewable energy.

6. Legal Compliance

There are laws put in place by the NESREA to protect the environment. These laws are often willfully violated by several manufacturing firms. Going green will enable firms to be in compliance with the regulations of NESREA, which will therefore reduce funds that will be spent on fines and taxes.

7. Sustainability

Reliance on fossil fuel in entrepreneurial activities is not sustainable since they are not quickly replenished and are said to run out with the heavy reliance on them. Such industries that solely operate on fossil fuels are set to be at a grid lock or abrupt halt by the time fossil fuel becomes extremely high and eventually run out. For continuity, making contingency plans to switch over to more sustainable fuel is a wise practice because this ensures the continuity of the business.

The prospects afforded by going green are enormous and infinite just like the very nature of renewable energy. It is advisable that entrepreneurs make the necessary transition if they will wish to sustain their enterprises.

Conclusion and Recommendations

Entrepreneurial activities have direct short and long term effect on the environment. Impact of decades of unregulated entrepreneurial activities are beginning to tell on the present, the future is likely to have less precious earth elements that the present has with the ever growing population of the world.

The drop in resources threatens the activities of entrepreneurs who rely on them for their operations. What will be the future of such enterprises when such precious minerals and resources run out due to over

consumption and poor conservation? The dangers of over reliance on fossil fuels do not only affect the environment, human beings and animals are also affected by ill practices like the emission of greenhouse gasses like Co₂, oil spillage which on soil and into bodies of water which hinders the growth of crops and poisons water bodies therefore making them inhabitable for aquatic animals.

A panacea to the environmental degradation is found in the concept of “Green Economy”. Green economy is a conscious economic activity that takes into consideration the effect made on the environment in the process of production, distribution and purchase of goods and services. The “purchase” part of idea shows the role of consumers in the protection of the environment. Whereby manufactures are to be sensitive to making use of ecofriendly resources in their production stages, consumers are also expected to seek out and purchase goods and services from ecofriendly dealers.

A constraint greening is people’s over familiarity with the traditional way of using coal, and other fossil fuels. Therefore this report recommends the education of the populace on how they can be change agents by purchasing ecofriendly services. This makes green economy a three people’s job; the Government, the Manufacturer and the consumers. Another recommendation to policy makers is the investment in renewable energy. A major constraint to going green is the cost of greening. Government’s investment in renewable energy will largely make it more affordable. Such investments may include providing low interest loans to people who are willing to invest in ecofriendly enterprises, tax free operations for ecofriendly service providers etc.

Another key recommendation is the punishment of violators of environmental laws and policies. MNCs and other enterprises have a history of willfully damaging the environment without paying due recompense for their actions. Punishment of violators has to be made a priority to serve as deterrence to others.

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DISRUPTIVE INNOVATION AND OPPORTUNITIES IN GREEN ENTREPRENEURSHIP FOR SUSTAINABLE ECONOMIC GROWTH IN NIGERIA

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Abstract

Climate change, global warming and other related environmental challenges which constitute a threat to sustainable economic growth in Nigeria have also created opportunities for green entrepreneurship. Through our literature review and participant observation, we have discovered that there is a great need for individuals, institutions and communities to adopt the green entrepreneurship which is eco-friendly and has the capacity to provide green skills, green technology and green jobs for sustainable economic growth in Nigeria. This paper identifies climate change education as vital for preparing individuals, institutions and communities in Nigeria for climate change impacts and learn how to adapt and mitigate effectively for our sustainable economic growth and development. It further identifies disruptive innovation in climate change education as vital in promoting green entrepreneurship in Nigeria and vital for preparing individuals, institutions and communities in Nigeria for sustainable green entrepreneurship. This paper calls for more intensive research in disruptive innovation approach to maximize the green entrepreneurial opportunities in climate change adaptation and mitigation strategies for sustainable economic growth in Nigeria. It further identifies green entrepreneurs as assets and eco-friendly agents of positive change who are in high demand in Nigeria today. This paper examines the concept of disruptive innovation in green entrepreneurship in Nigeria and outlines the benefits and economic opportunities in green entrepreneurship for sustainable economic growth in Nigeria.

Keywords: Climate Change, Disruptive Innovation, Economic Growth, Green Entrepreneurship

INTRODUCTION

In business, a disruptive innovation is an innovation that creates a new and value market and eventually disrupts an existing market and value network, displacing established market-leading firms, products, and alliances (Wikipedia). Innovation can be sustaining, evolutionary, revolutionary or disruptive. In this study, we shall closely examine disruptive innovation and the disruptive process as it relates to green entrepreneurship in Nigeria. A disruptive process can take longer to develop than by the conventional approach and the risk associated with it is higher than the other more incremental or evolutionary forms of innovations, but once it is deployed in the market, it achieves a much faster penetration and a higher degree of impact on the established markets (Assink, 2006).

Christensen (1997) defined a disruptive innovation as a product or service targeted at a new set of customers. Generally, disruptive innovations were technologically straightforward, consisting of off-the-shelf components put together in a product architecture that was often simpler than prior approaches. They offered less of what customers in established markets wanted and so could rarely be initially employed there. They offered a diverse package of attributes valued only in emerging markets remote from, and unimportant to the mainstream. The new set of customers for green products in Nigeria which are eco-friendly invariably and inevitably appreciate the climate change adaptation and mitigation capacities and opportunities in green entrepreneurship.

Disruptive innovation in green entrepreneurship in Nigeria has created a new market- the green market which came along with green products such as solar cookers, solar water heaters, solar rechargeable lanterns, solar dryers, solar stills, solar powered street lights and traffic controllers, waste recycling plants, etc. which have the capacity to bring about a sustainable environment and sustainable economic growth in Nigeria. Disruptive innovation in green entrepreneurship in Nigeria furthermore implies that big companies which relied heavily on excessive burning of fossil fuels, and deforestation which are the major contributors to climate change, air pollution and global warming will have to

innovatively and creatively change their market and mode of operation in order to continue to be relevant for sustainable environment and sustainable economic growth in the 21st century in Nigeria and beyond. Christensen (1997) argues that disruptive innovations can hurt successful, well-managed companies that are responsive to their consumers and have excellent research and development. These companies tend to ignore the markets most susceptible to disruptive innovations because the markets have very tight [profit margins](#) and are too small to offer a good growth rate to an established (sizable) firm. In this study, we shall highlight the place of disruptive innovation and the opportunities for the unemployed and underemployed youths in green entrepreneurship for sustainable economic growth in Nigeria.

Understanding Green Entrepreneurship and Green Economy

According to Afolabi (2015), Entrepreneurship is the manifest ability and willingness of individuals, on their own, in teams, within and outside existing organizations, to perceive and create new economic opportunities (new products, new production methods, new organizational schemes and new product-market combinations) and to introduce their ideas in the market, in the face of uncertainty and other obstacles, by making decisions on location, form and the use of resources and institutions. Entrepreneurship arises when an enterprising individual identifies an unsolved problem or an unmet need or want which he then proceeds to reply to. In the process, he transforms the existing status quo into a future opportunity and turns ideas into a commercial reality (Ataman, Mayowa, Senkan, & Olusola, 2018). Studies have shown the positive impact of entrepreneurship on economic growth, which includes employment generation and empowerment of the poor in society (Oluremi and Gbenga, 2011).

Demuth(2015) defined a green entrepreneur as an actor in the green economy that embodies the marriage of economy and environment taking into account the human factor and social development, explaining that green entrepreneurship is a concept that gives rise to new economic opportunities, job

creation and environmental innovation. Bakari (2013) opined that green entrepreneurs get their motivation intrinsically and their business activities positively affect the natural environment, enhance economic sustainability, and deliberately concentrate on a more sustainable future. According to UNEP(2011), Green economy is “an economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. The green economy creates opportunities for entrepreneurs and in order to take advantage of this, the employability of young people and women should be improved by providing targeted, up-to-date training in the new skills required in the green economy and by creating incentive mechanisms to encourage green entrepreneurship (Demuth, 2015).

Nigeria is a highly populated nation plagued with economic problems; however, the green economy is an opportunity for economic transformation if handled with the best of care and intentions. (Ataman et al, 2018). Bakari (2013) explained that the main difference between the green entrepreneur and the traditional entrepreneur is that the green entrepreneur aims to create a business model that is both economically profitable and creates environmental and social value. A green business is seen as an enterprise that has no or minimal negative impact on the global or local environment, community, society or economy. It is one that incorporates the principles of sustainability into each of its business decisions and supplies environmentally friendly products and services that replace demand for non-green products and services (Schapper, 2016). Despite, the benefits of entrepreneurship to the economy of any society, it is pertinent for the sustainability of the environment to be put into consideration by business operatives. Hence, it becomes imperative for the Nigerian entrepreneur to adopt green practices in business (Ataman et al, 2018).

Afolabi (2015) explained that the Global Economic Monitor indicates that nations with higher levels of entrepreneurial activity enjoy strong economic growth. The future of African economy depends largely on its entrepreneurs as well as government policies on entrepreneurship and a positive entrepreneurial environment is extremely important to ensure an entrepreneurial individual or a firm succeeds at its

venture. The greenmarket is an emerging market which offers a wide range of opportunities for the green entrepreneur by creating opportunities in various fields such as green supply chain, green production, green design, green buildings, recycling among others. (Ataman et al,2018). The need to go green for sustainable development in Nigeria has created amazing opportunities for green entrepreneurs to engage in green businesses and these green businesses are beginning to gain popularity which will, in turn, result in a green economy which is the agenda of the United Nations Environment Programme (UNEP).

Disruptive Innovation in Climate Change Education for Sustainable Economic Growth in Nigeria

The challenges and impacts of climate change in our time cannot be overemphasized. It is a challenge that affects every country in every continent all around the globe today and Nigeria is not an exception. Population growth, increase in the number of production and consumption of goods across the globe led to the depletion of natural resources and causing severe damage to the environment. Effects of such damages include global warming, increased environmental pollution, flooding, heat waves, an outbreak of multiple diseases e.t.c. Various Countries in the World realized the threats to the environment and began working hard to minimize the harmful effects of business activities on the environment. The realization, concern and conscious actions towards the environment led to the emergence of sustainable development which emphasizes the need to promote sustainability by advancing the form of development that emphasizes minimal damage to the environment and the society with the well being of future generations in mind. With these lines of thoughts, green entrepreneurial opportunities in climate change adaptation and mitigation activities abound. These drives for sustainable entrepreneurial investments created the platform for eco-innovation and green consumption. Eco-innovation encourages and advocates the incorporation of environmentally sustainable practices at every stage of the production process and service delivery (Veleva & Ellenbecker, 2001). The Intergovernmental Panel on Climate Change (IPCC) defines adaptation as the “adjustment in natural or human systems to a new or changing environment. Adaptation to climate change refers to adjustment in natural or human systems in response to actual stimuli or their effects, which moderates harm or exploits beneficial opportunities. Various types

of adaptation can be identified, including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation (IPCC 2001).

Climate mitigation is any action taken to eradicate or reduce the long-term risk and hazards of climate change to human life, property and society. The International Panel on Climate Change defines mitigation as: “An anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases (Global Greenhouse Warming,2018)”. Sustainable economic growth means a rate of growth which can be maintained without creating additional significant economic problems, especially for future generations. Rising economic growth provides the basis for expanding incomes and employment and also the resources needed by the government to finance programs for social uplift. Such growth is most effective when it is (a) inclusive in the sense it provides opportunities to all segments of society -- the poor, marginalized and disadvantaged; the middle class; and the wealthy -- to participate in the growth process, and (b) sustainable in ensuring that it only takes from nature what is required and does not disadvantage future generations. Rising growth leads to prosperity, which in turn enhances the well-being of people (World Bank, 2017).

Climate change is a global challenge which green entrepreneurs need to tackle with urgency to ensure a sustainable environment and sustainable economic growth in Nigeria. Climate change education is therefore imperative for preparing communities, countries and continents for the impacts of climate change and to learn how to adapt and mitigate effectively for global sustainability. Disruptive innovation in climate change education identifies the innovative tools and opportunities in climate change adaptation and mitigation strategies to achieve sustainable economic growth in Nigeria.

Disruptive Innovation for Maximizing Economic Opportunities Available Through Climate Change Adaptation and Mitigation in Nigeria

According to Fareed (2012), green opportunities in agriculture accounts for 97% of revenues generated in Europe/North America with more than 80% of producers in Africa, Asia and Latin America. Employment

opportunities of 30% more jobs in East Africa and 178,000 new jobs in Mexico. Globally, investing US\$630bn in the renewable energy sector by 2030 would create 20 million additional jobs and over 50 countries have set renewable energy targets including Mexico, Brazil, China, India, Iran, Morocco, Syria, Tunisia, Senegal, South Africa and Uganda.

However, In recent times in Nigeria, the impacts of climate change have posed a serious threat to sustainable development (Enete, et al 2012; Eze and Osahon, 2015; FAO, 2010), and its consequences on poverty reduction, erosion, bio-depletion, flooding, drought, energy inefficiency and sea level rise in developing countries like Nigeria. The profound impacts from the above forces on the environment have forced key decision makers in the developing countries like Nigeria to re-examine and continue to negotiate a way out of this dilemma of climate crisis which has affected sustainable development (Ijeoma, 2012; Onu and Ikehi, 2016). Thus, one of the greatest challenges facing the Governments in the developing states like Nigeria is the difficult task of reconciling economic growth, resource management and climate change mitigation and adaptation (Adelekan & Gbadegesin, 2005). These opportunities created by the need to go green will enhance entrepreneurial development; however, the green entrepreneur like every other entrepreneur has to identify a feasible business opportunity, research it, harness resources to turn the idea into reality, develop and execute a plan for business development and oversee its growth (Ataman et al, 2018). Though there abounds a multiplicity in adverse effects inherent in climate change, disruptive innovation approach could be deployed towards maximizing the economic opportunities in climate change mitigation and adaptation in Nigeria which includes:

- Radical awareness approach of information dissemination. The emergence of information communication and technology (ICT) around the world to a large extent proves to be a very effective and efficient vehicle of letting people become aware of green entrepreneurial opportunities in climate change mitigation and adaptation. These information dissemination platforms besides the internet include radio, television and telephone.

- The government at all levels in Nigeria should provide an enabling environment and sustainable fund in form of grants and loans to the teeming unemployed youths who have the goal of engaging in green entrepreneurship. This includes those who may want to be involved in the renewable energy industry, waste management and recycling business, etc. in their different capacities. This approach when incorporated into long term policy planning in climate change mitigation and adaptation in Nigeria will go along in reducing poverty, hunger and unemployment among the youth in the country thereby ensuring sustainable economic growth.
- The use and involvement of Non-governmental organizations (NGOs) that are environmentally driven and climate change sensitive can go a long way in providing green entrepreneurial opportunities for a lot of individuals in Nigeria. Awareness of the lucrative opportunities in climate change mitigation and adaptation can be made known to communities and cities through the various outreaches, seminars and workshops initiated by these green entrepreneurial NGOs in Nigeria.
- Annual National budgetary allocation towards maximizing profitable opportunities in climate change mitigation and adaptation should be increased.
- Planting of economic trees to curb incessant cases of flooding that affect agricultural yield should be encouraged. Tree planting activities also have the capacity to provide employment and a good source of income to the unemployed youths while enjoying other fringe benefits derived from it.
- Building the capacity of the locals through adequate sensitization, through the use of traditional and religious institutions in reaching the people through training and re-training of farmers and green entrepreneurs towards mitigating and adapting to the environmental challenges of global warming and climate change.

- Educational blogs can be used to inform, enlighten and educate the youths, farmers and professionals in Nigeria especially the internet literate ones about climate change mitigation and adaptation. These blogs which are designed to be highly interactive allows them to also contribute their ideas, suggestions and feedback to the climate change educators and green bloggers for sustainability. Green blogging also has the capacity to generate income, reduce unemployment and help to ensure sustainable economic growth in Nigeria.
- Poetry has also been discovered as a great tool which can be used to educate individuals in Nigeria on climate change mitigation and adaptation. The Project Green Initiative which is an arm of the Benjy Poetry and Music Global Concepts, a company registered in 2017 with the corporate affairs commission, is a good example of a social enterprise which is very passionate about educating the communities in Nigeria about the green entrepreneurial opportunities in climate change mitigation and adaptation. Eco-poetry which can also be called the green poetry can be used innovatively and creatively to educate individuals, communities and institutions about climate change adaptation and mitigation. Through participant observation, we have also discovered that the use of green poetry also has therapeutic and socio-economic benefits for sustainable development in Nigeria.

Similarly, below is a green poem advanced by the BENJY POETRY AND MUSIC GLOBAL CONCEPTS which further helps to illustrate how poetry can be used efficiently and effectively in educating communities in Nigeria on climate change adaptation and mitigation for global sustainability.

POEM: REDUCE, REUSE AND RECYCLE

Reduce, recycle and reuse

Accentuate our sustainable development

Environmental pollution we must refuse

To help ensure our world's betterment

Reduce, recycle and reuse

Keep our environment clean and green

Green entrepreneurship let us use

To give our youths a livelihood means.

Reduce waste, recycle and make some gains

Financial abundance is the promise

For those who engage to regain

Waste recycling is a venture wise.

Waste can be a detriment to health

Inflicting diseases and conflicts

Waste can be turned into wealth

Waste recycling is a venture of profits.

Recycling conserves natural resources

And helps protect the environment

Recycling is a good income source

An engine room for socio-economic development

Recycling gallantly reduces emissions

Of excess greenhouse gases

Recycling creates job provisions

For the unemployed and under-employed masses

Reduce, recycle and reuse

A breath of fresh air to the community

Now health and wealth can be induced

With the hope of a brighter future we see.

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www.projectgreeninitiative.wordpress.com

CASE STUDY: POEM “REDUCE, RECYCLE AND REUSE” REVIEW by Barr. James Hope

The title of the poem “Reduce, Recycle and Reuse” has suggested the very important words and relevant tools in curbing the menace of climate change for sustainable development globally. Just recently, some team of girls (senior division winners, Team Cantavits from Eedo Delhi, India), at the **2018 Tecnovation World Pitch Summit in Silicon Valley**, were able to develop an app to track and dispose of electronic waste in an Eco-friendly manner, the app provides an end-to-end connection between e-waste producers and authorized recyclers. According to statistics, 81% of people dispose of their e-waste in an improper manner, not realizing its consequences. E-waste comes back to them in the form of toxic fumes and polluted water.

The sustainability of the environment is favourable to the system of reusing, recycling, reducing and repairing of waste and materials used from day to day consumption. It will amount to a waste of energy and resources from both consumers and producers if materials are discarded and thrown away after use when they can be recycled, reduced and reused. Benjamin Anabaraonye, using a simple and amazing poem, was able to identify some benefits of reducing, recycling and reusing to include:

- To prevent environmental pollution of any form.
- To save energy.
- To generate income and resource for youth empowerment.
- To save cost.
- To reduce the amount of waste in the environment.
- Products will be properly utilized and enjoyed.
- Reduce greenhouse gas emissions.
- It conserves natural resources.

A look at the author’s poetic techniques identifies:

7. Theme: The theme of the work is centred on the importance and benefits of reducing, recycling and reusing of waste.

8. **TONE:** The tone of the writer is explanatory, approving, hopeful and demanding.
9. **MOOD:** The writer's mood is inviting, candid, urging, emotional and very passionate about the subject matter.
10. **IMAGERY:** imagery was also used, such as "A breath of fresh air to the community". "An engine room for socio-economic development", etc.
11. **STYLE:** The poem contains seven stanzas with each stanza having an end rhyme of ABAB. The poet exhibited a style of capitalizing each beginning line.
12. **TECHNIQUES:**

The use of **Repetition** "Reduce, recycle reuse"

Use of **Conjunction** "To keep our environment clean and green."

The reviewer adopts stanza seven (7) and makes a recommendation as a boost for the actualization of the sustainable development goals. It is also helpful for the purpose of ensuring a sustainable, attractive and healthy environment (Hope., 2019).

The Implications of Recycling in Green Entrepreneurship for sustainable economic growth in Nigeria

Green Entrepreneurial practices are those activities that are related to products or processes that are involved in reducing, reusing and recycling of resources for economic, environmental and social sustainability, Fulvia et al (2011). While health concerns are a major issue with waste management and recycling, the economic implications of waste recycling which is a climate change mitigation strategy cannot be over-emphasized. Financial abundance and ample profits are added advantages for the few audacious and courageous individuals that can see the business opportunity in collecting the wastes which go beyond endeavouring to keep their environments clean.

When collecting recyclable waste, the savvy individuals in the business filter exactly what they want. You can be decided to collect only plastic waste, only aluminium can wastes, only rubber wastes, any other type, or all of them. Executing recycling business ideas that focus on the collection of a particular type of waste keeps the recycler's business streamlined, makes waste collection easier, and increases the chances of profitability (Edom, 2016).

All over the world, the idea of recycling has been welcome as an engine of socio-economic development because it has been seen as the route for employment generation and its broad public appeal

and obvious environmental advantages (Onwughara, Chukwu, Alaekwe & Albert, 2013). If waste recycling is carefully implemented, environmental pollutions, degradations and other human activities that are detrimental to nature and the environment will be reduced to its barest minimum and this will help to achieve the United Nations Sustainable Development goals of zero poverty. Studies have revealed that there are entrepreneurial opportunities in waste recycling which is a climate change mitigation strategy for sustainability in Nigeria. There's nothing more exciting than being nice and making money while at it. When it comes down to recycling, it's about keeping your environment clean and generating income at the same time.

Recycling is the perfect example to use when stating that people see gold right in front of them, yet they do not even know it. Recycling business ideas and opportunities are largely overlooked because of the low awareness surrounding the industry in Nigeria (Edom 2016). Proper waste recycling is one of those climate change mitigation measures which involves the reduce, reuse and recycling of waste products which are therefore very vital to ensure a sustainable environment and sustainable economic growth in Nigeria.

Conclusion and Policy Recommendations

From the findings of this study, It can be clearly seen that there is a profound need for disruptive innovation to maximize the green entrepreneurial opportunities available in climate change adaptation and mitigation for sustainable economic growth in Nigeria. There is also need for disruptive innovation in educating individuals, communities and institutions on the impacts of climate change as well as the green entrepreneurial opportunities in climate change adaptation and mitigation for sustainable economic growth in Nigeria. Furthermore, the following measures are recommended:

(i) Nigeria which is a developing country in Africa should establish and promote public policies within their borders to increase the awareness of the green entrepreneurial opportunities in climate change adaptation and mitigation for environmental sustainability and sustainable economic growth.

(ii) Leadership summits on climate change adaptation and mitigation for environmental sustainability, intensive awareness outreach, green poems and blogs, have been recommended as disruptive innovation tools which can be used in educating communities in Nigeria for our sustainable development.

(iii) Disruptive innovation in climate change education will bring about behavioural change and public participation which are said to be the key to a functional environmental management system and sustainable development. Educating communities in Nigeria on the use of renewable energy and waste recycling strategies which are climate change mitigation strategies is an important and urgent task which needs to be undertaken by governmental agencies, NGOs, community leaders, and passionate climate change professionals for our sustainable development in Nigeria.

(iv) **Through this study, it is clearly seen that the green entrepreneurs are assets which are highly sought for and urgently needed in various communities and cities in Nigeria for our sustainable economic growth. The green entrepreneur uses his green skills to provide green jobs which help to achieve a green economy that brings about the green growth of his community, city or country.**

(v) **It is good to know that there are numerous green entrepreneurial opportunities for our teeming unemployed youths in Nigeria. There is a great need to create awareness of Renewable Energy, Waste Management and Recycling Industry in Nigeria for maximizing green entrepreneurial opportunities for sustainable economic growth.** It is also our recommendation that poetry should be used as one of the valuable tools in climate change education which can help to create awareness about the green entrepreneurial opportunities in climate change mitigation and adaptation for sustainable development in Nigeria.

(vi) More intensive research is needed in the field of disruptive innovation approach to maximize the green entrepreneurial opportunities in climate change adaptation and mitigation for sustainable economic growth in Nigeria.

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TRACK THREE:
DISRUPTIVE INNOVATION IN
ENGINEERING AND SUSTAINABLE
ENTREPRENEURSHIP

CREATIVITY AND INNOVATION IN GOVERNANCE: AN APPRAISAL OF PUBLIC PERCEPTION AND ADOPTION OF (TSA)

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Abstract

This study is an examination of public awareness, perception and adoption of the technologically innovative tools in the management of the economy. The introduction of Treasury Single Account (TSA), Bank Verification Number, (BVN) and Voluntary Assets and Income Declaration Scheme (VAIDS) are some of the technologically driven innovations which the government believed would assist in driving the war against corruption in Nigeria and also improve transparency in the governance process. While effort is expended in the introduction and pushing of the innovation through the system, not much is known about the rate of public's awareness, perception and adoption of the innovation in the country, factors that are considerably important in its success. The objective of this study, therefore, is to find out how well Nigerians knew about the TSA during the introductory stage, as well as determine what was people's perception of the new idea and the level of acceptance within the society. Anchored on the Diffusion of innovation and the public sphere theories, the study adopted a mix of discourse analysis and survey of 115 persons for their views on the subject matter. Situated within the public sphere theories, the study examines opinion leaders' assessment as well as the roles of the media in the society as agents of change and influence in relation to the discussions following the introduction and adoption of these innovative techniques of governance.

Keywords

Awareness, Bank Verification Number, Innovation in governance, Media, Treasury Single Account (TSA), Voluntary Assets and Income Declaration Scheme (VAIDS)

Introduction

Mismanagement of resources, corruption and indiscipline among others, rank high among factors said to be causing wastage of resources and robbing Nigeria of development. Successive regimes from 1966 up to 1999 through to the present have identified corruption and indiscipline as recurrent features in governance and social life. Nevertheless some efforts to solve them have also been canvassed and implemented with each measure meeting with some form of opposition. However, many of these options were not technologically driven, creating room for abuse and hence achieving little success. Consequently, the present government activated the technology-

driven TSA hitherto kept in the coolers, in order to digitally manage and control excessive corruption in the system.

As Anya (2002); Agbo (2002: 270) and Adegbite (1991: 85) indicate, ‘the issue of corruption, mismanagement and underutilization of public enterprises had resulted in huge losses in resources and manpower potentials, hence the government’s decision to opt for technology-driven and dependable ways to solve the problems.’ By applying creative and innovative approaches to a known problem, the government opened the floodgate of discussions on a theme that is germane to the country’s survival and future greatness. Consequently, the mass media, public opinion leaders, political actors, professionals of all hues, all come to the public sphere to share their views about this new idea.

Expectedly, the media as the public sphere is adept at setting the agenda of debate on this public issue and they provided needed platform for opinion leaders, political actors and other important social commentators to make their opinion known to Nigerians in their assessment and acceptance of the innovations. As the media provide platform for all to express their views on certain issues, the public sphere, exists as a means of public discourse and as a veritable aspect of transmitting democratic principles and governance (Habermas, 1962).

How well the media and social commentators have been able to discuss the introduction, perception and acceptance of these initiatives, as well as the extent to which the citizens embraced them are important factors for study. A study of the public sphere in Nigeria will significantly add to extant public knowledge and also advance the frontiers of social research in public discourse and political governance. Furthermore, it hopes to provide framework and foundation upon which future research work in public discourse analysis and dynamics of the public sphere can be pursued.

Statement of the Research Problem

Government’s introduction of Treasury Single Account (TSA) as a technologically-driven innovation was believed to assist in driving the war against corruption in Nigeria and also improve transparency in the governance process. While effort was expended in pushing the innovation through the social system, not much was known about how adequately the relevant public was informed about it; their perception of the innovation and their acceptance/adoption of same – factors that are imperative to its success. The problem therefore is that without adequate public awareness of the new initiative and considerable adoption of same by the people, the purpose may not be fully realised. The study therefore explores public perception, understanding, and acceptance of the initiative as a creative measure to curb corruption in the country.

Objectives of the Research

The specific objectives of the research are:

1. To determine the perception of the public towards the TSA innovation
2. To determine level of adoption/acceptance by the general public
3. To determine dominant information source by the general public

The Research questions

The research questions for this study are:

1. What is the perception of the public towards the TSA?
2. To what extent did the general public adopt/accept the innovation?
3. Through what medium did the public gain knowledge of the TSA?

Theoretical Framework

The work is anchored on the framework of the public sphere and the Diffusion of Innovation theories. The public sphere is understood in relation to the mass media's role in the society as espoused in Habermas' 1962 work, "The Structural Transformation of the Public Space." The notion of this theory is that it would help to inform scholarship on problems of the relationship of state and civil society, the origins and prospects for democracy and the impact of the media, Calhoun, (1992:vii) Habermas made the point that an informed, knowledgeable public should dictate democratic politics in the public arena, against the secrecy characterizing autocratic regimes. Consequently, he suggests that the private political opinions of individuals and other pressure groups should become the public opinion (formed in the public sphere) of the people as a whole which then could be construed as advice to existing political authority.

The study examined how the public sphere offered platform to various elements in the society – political actors, commentators, opinion leaders, etc. – to analyse and dissect the introduction and adoption of TSA as a governance instrument. The analysis is along their understanding, adoption and perception of these government's principles. The second relevant theory in this discourse is the Diffusion of Innovation theory. This theory was first discussed in 1903 by Gabriel Tarde (Toews, 2003), who plotted the original S-shaped diffusion curve. This was followed by Ryan and Gross (1943) who introduced the adopter categories that were later used in the theory presently popularized by Everett Rogers in his 1962 book, *Diffusion of Innovations*. Rogers listed categories of adopters to include innovators, early adopters, early majority, late majority, and laggards (Rogers, 1962, p. 150).

This work assesses the significance of this theory to the attitudes of the relevant stakeholders to the innovative techniques in financial administration in Nigeria by considering the various levels or components of diffusion of innovation as enumerated above. Early adopters are extremely critical to innovation. Innovators are found to be in the smallest percentage, (12.5%); the early majority and late majority occupy the largest share of the spectrum with (34%) each; while laggards (16%) and early adopters (13.5%) follow in that order. This identified order is significant for both manufacturers to focus their research efforts, and for Management, such as Nigerian government through the CBN not to be discouraged that the relevant persons are not adopting new innovations as much as desired within a short time.

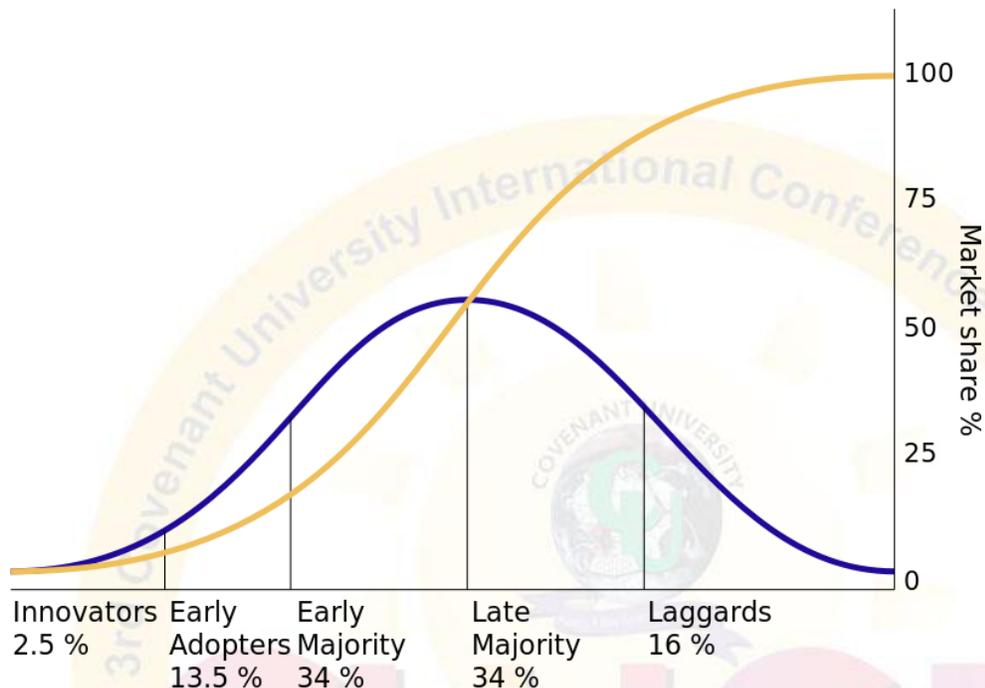


Fig. 1.1

A typical graph showing innovation adoption framework, adapted from Scott Bales, (2014). The graph above shows five categories of the adopters: innovators, early adopters, early majority, late majority, and laggards.

Literature Review

In their work, ‘An Empirical Study of Social Networking Behaviour Using Diffusion of Innovation Theory, Odundo, 2003; Zeeb, (2004), cited in Odiegwu-Enwerem (2014), found that compatibility, complexity, trialability, and relative advantage were all significant factors influencing the use of social networking. The growth in social networking use by students was said to have been fuelled by a social circle incentive. Those in the group have more social interaction and pressure exists to belong to this communication circle. John MCwhorter’s study, titled, A Study of Early Adopters of Innovation, identified both organizational and environmental factors as statistically significant.

Organizational influences were stronger than environmental influences in determining the rate of adoption of innovation in hospitals and organizational influences were statistically significant and present among early adopters of magnet programs in hospitals. Organizational complexity, size, slack resources, control of domain, and the presence of a competitor with magnet designation were the factors associated with the rate of innovation among hospitals and specifically influencing the early adoption of innovation among hospitals. The combination of

both organizational and environmental factors had a significant influence on the rate of early adoption of nurse magnet programs within hospitals.

Similarly, Scott Bales (2016) conceptualizes an early adopter as “a person who embraces new technology or innovation before most people do, contending that early adopters tend to buy or try out new hardware items and programs, and new versions of existing programs, sooner than most of their peers.

Method of Study

The study adopted discourse of media and commentaries on the fallout of the introduction and operation of the innovation and survey to gather data from a convenient sample purposively selected from among staff of University of Lagos, Akoka, Nigeria. Using discourse analysis, the paper considered the opinion of knowledgeable financial analysts and social commentators on the subject matter. The questionnaire, as a survey instrument, was developed and used to obtain information from the respondents and the unit of analysis was each of the respondent staff members to whom the questionnaire was administered. All together 115 copies of questionnaire were analysed using Google form, an analytical research tool developed by Google Incorporated, which was used to create the questionnaire template as well as achieve accurate analysis thereafter.

The key items on the research questionnaire which the researcher sought answers to include: to find out the period of awareness of the TSA innovation in banking transaction among Nigerians; secondly to find out their source of information on the innovation; thirdly, the respondents' main source of information on the new idea.

Data Presentation and Analysis

Table 1: Time when people became aware of TSA

S/N	Time Period	Frequency	Percentage
1	First Month of the introduction	5.74	5.
2	Second Month of the introduction	31.05	27
3	Third Month	78.2	68
4	Total	115	100

The majority of the respondents (68 percent) said that they became aware of Bank Verification Number idea in the third month. Only 27 percent said they were aware in the second month while 5 percent knew about it in the first month of the introduction.

The attitude of the respondents towards the innovation was another item of study. The majority of the respondents indicated that they were positively disposed to the idea; they discussed it among work colleagues and got positive feedback which also encouraged them to go ahead with the new idea. This trend is consistent with the tenets of the diffusion and innovation theory. In

this regard, awareness of the new technology, as well as influence of opinion leaders, including peers, are considered to be key factors in its adoption.

Table 3: Level of acceptance/adoption by citizens

S/N	Attitude of respondents	Frequency	Percentage
1	Positively disposed and adopted	60	52.17
2	Negatively disposed, not adopted	41	35.65
3	Neutral about the innovation	14	12.17
	Total	115	100

The above table shows that within the period under focus, 52.17 per cent of the respondents indicated that they welcomed the new idea; 35, 65 percent were negatively disposed while about 12.17 percent remained neutral.

Table 4: Key sources of information to the public

S/N	Source of information	Frequency	Percentage
1	Newspaper	25	21.73
2.	Radio	28	24.34
3	Television	35	30.43
4	Magazine	5	4.34
5	Internet	12	10.43
6	Other	10	8.69
	Total	115	100

The next question was to know what their source of information was: “From which source did you hear about it?” Out of six options/categories, (30.43 %) indicated television as their major source; 24.34% said radio while another 10.43% said they got their information from the Internet concerning the introduction of the innovative products.

Discussion of findings

Survey approach

Research objective 1 sought to find out the level of awareness of the innovative instruments among the respondents. The finding showed that the majority of the respondents were aware of the introduction of the TSA and BVN in the third month as indicated in table 1 where 68% confirmed that position; 27% got to know in the second month while 5% was aware in the first month. This can be assumed to mean that the process of awareness creation occurs progressively and builds up in the third month of a new innovation. This however, depends to an extent, on the level of publicity deployed to drive the initiative. Given the level of discussions and commentaries that greeted the two initiatives, it is most likely that thye government deployed a reasonable amount of publicity to support the innovation

Research question 2 examined respondents' level of adoption of the instruments and found from table 3 that 52.17% were positively disposed to it; 35.65 were negative while 12.17 % were indifferent. There is a causal relationship between positive attitude to an innovation and its adoption. It is therefore to be expected that the full adoption of the innovation was a function of the citizens' positive disposition towards it, indicating that they were receptive to the idea. This finding reminds us of the need to create a positive aura around any prospective idea before it may be introduced to the people if we hope to achieve high degree of acceptance. Unfortunately, the common practice, especially among governments is to push ideas unto people's faces without the preliminary effort to curry people's understanding and buy in. This is part of the reasons some government policies and programmes tend to fail.

Table 4 helps to answer the research question 4 which is concerned about the respondents' key sources of information. Television ranked highest with 30.43%; followed by radio with 24.34% and newspaper 21.73 percent. Internet trailed behind with 1.43% as the sources of media information on the initiatives while other sources accounted for 8.69%.

The study shows that the introduction of the TSA and BVN in the Nigerian banking system was understandably an innovative, technology-driven initiative for the government as it achieved a number of set goals, considered to be gains by the administration and other knowledgeable personalities within the economy. As a new innovation, there were doubts about its usefulness and effectiveness; however, these doubts soon gave way to fear of loss of business and deposits especially by the commercial banks who had for long benefited from the previously unregulated process.

It is unarguable that the various discussions, commentaries and media portrayals must have enhanced people's understanding, acceptance and participation in the government initiative, hence justifying the need for adequate promotion and publicity for good ideas to flourish.

Discourse Analysis Approach

The overall thinking among commentators was that prior to the full introduction/implementation of the TSA in September 2015, commercial banks in Nigeria were said to be regularly liquid. This means that Ministries, Departments and Agencies (MDAs) kept their funds (which were meant for their daily operations) in those banks as working capital. However, it was discovered that all the funds was not in one single account but found to be in 17, 000 different accounts scattered across Nigeria and overseas (www.thecable.ng). With such dispersal of funds, government found it difficult to keep track of and protect the funds from being abused.

Typically, government funds could be mismanaged by MDAs through illegal lodgements in banks with little or no interests accruing to the government. There is also the understanding that many MDAs opened several bank accounts through which public funds were siphoned illegally, thus justifying the coming of Treasury Single Account to plug these holes. The Managing Director of SystemSpecs, the company that deployed the software for the TSA, Mr John Obaro, said that TSA has reduced government's debt-servicing costs, lowered liquidity and boosted effective use of surplus cash.

Some people, however, claim that the TSA brought much hardship to Nigerians, alluding to the “probable negative consequences of policies that do not pass through the crucible of critical thinking.” According to the Managing Director, Wema Bank, Plc. Segun Olokotuyi, concerning banks’ profitability after TSA implementation, over 2 trillion Naira left the banking system for the CBN while Wema Bank ‘lost’ almost 50 billion Naira to the innovation. In response, the Director of Banking Supervision in the Central Bank, Mrs Tokunbo Martins confirmed that the TSA regime actually precipitated unintended consequences on the commercial banks. She revealed that from inception of the TSA till March, 2016, the sum of N2.67 trillion had been transferred from commercial banks to the CBN and that amount represents 15.14 per cent of total bank deposits of 17.65 trillion within the period under study.

All this suggests that the idea of TSA may not have been properly discussed before implementation by the government. They further argued that warehousing money in one place, (through TSA) is one thing, but utilising it for the general good is yet another; they urge government to ensure that the bulk of the money realised should be released to the economy to work for the people. According to Professor Ocheni of Kogi State University, in a paper he presented at a workshop, said that TSA facilitates better fiscal and monetary policy coordination and better reconciliation of funds and banking data which in turn improves the quality of fiscal information; it also eradicates financial misappropriation in the public sector. Again, it is argued that beyond transparency and accountability, the TSA introduces economy and efficiency into overall management of public finances which in the long run would lead to effectiveness in government spending.

Conclusion and Recommendation

Based on the findings of this work, it is hereby concluded that the introduction of the governance instruments was gradually but steadily learnt of by citizens within the first three months. This awareness also determined people’s capacity to accept or reject the idea based on what they perceive of the initiative. Consequently, the paper also concludes that there was a general acceptance of the idea by citizens which also most probably led to its in line with Roger’s concept. The paper also concluded that the media were instrumental to awareness and acceptance of the idea; this position is anchored on the finding which showed that television and radio as well as Internet played significant roles in disseminating the information, much more than newspaper and magazine or other channels.

Based on the findings and conclusion, the paper recommends that:

1. Introduction of new ideas into governance, particularly technologically driven initiatives, need to be adequately publicised through the media to enable a good majority of the citizens to understand and buy into it.
2. Following the above recommendation, it is hereby recommended that citizens’ acceptance and adoption should be made paramount even as the innovations are driven through the social system. Failure to do this may affect the success of the initiatives.
3. Finally, important programmes of government must be adequately publicised through the media channels that have been identified by the people as their primary and reliable sources of information. These include: the television, radio, newspaper and the Internet.

Despite the seeming popularity of the social media, it appears that the majority of the people still rely on the traditional media for sourcing important national news.

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THE FUTURE OF EDUCATION: A DISRUPTIVE FRAMEWORK THAT BRIDGES POLICIES AND QUALITY EDUCATION

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Abstract

The world as we used to know it, is not on the same level again. Consequently, the level and type of education dished out to students need to be reviewed from time to time. The level of innovation and skill required in industries need to be disruptive to serve the students of the future. The study examined the future of education using disruptive frameworks that bridges policies and quality education. There is need for intentional reviews of institutional policies and technical frameworks in the educational sector that meets the demand of the fast-paced world

of work. It may be precisely impossible to predict the future of education, but it is certain that education will become simpler as a result of technology and the need for simplicity in various approaches to deliver products and services. The inquisitiveness of students will make them and their sponsors question the current model of formal education, particularly when they compare what they are paying for with the free access they already have to knowledge. Educators need to focus on making learning interesting for learners and helping student learn how to learn. The consistency of this will cause a shift from the idea of getting formally educated and certified to being educated for the purpose of learning. Learners will choose what they want to learn, where they want to learn and from whom they want to learn; thus, learning will become more personalized. Technology will certainly enable education. The Nigerian educational system does not lack the required policies but the technical implementation seems laced with many hurdles. In conclusion, the Nigerian educational sector needs disruptive frameworks and technologies that guarantees the future of education.

Keywords: *Disruptive Framework, Future of Education, Industry, Policies, Universities*

INTRODUCTION

The world as we used to know it, is not on the same level again. Consequently, the level and type of education dished out to students need to be reviewed from time to time. The level of innovation and skill required in industries need to be disruptive to serve the students of the future. Kilki *et al.* (2018) opined that disruption can be attributed to a negative occurrence, but there is need for a form of internal conflict to have innovation. The internal conflict means that some things will suffer while some part will benefit. To achieve the quality education desired for now and meet the needs of the future, the point of comfort must be left by education stakeholders. A disruptive education should be one that out-performs the present education and its delivery system. In the present Nigerian educational system, Anyadike *et al.* (2012) and Afolabi and Oyeyipo (2017) argued with over 200 tertiary institutions, the products are most times unemployable. They attributed this to the outdated school curricula and lack of employable skills. Uwaifo (2009) argued that the educational system must move away from the era of chalk and talk, rather focus on the industry needs to build employable graduates. Researchers such as Kakwagh and Ikwuba (2010) and Olokundun *et al.* (2014) noted that unemployment has been the most socio-economic challenge gripping developing nations such as Nigeria. This most times is linked to curricula of higher institutions. The curriculum should be such that help graduates to fit into the world of work or be creators of jobs (Afolabi *et al.*, 2017). Rather than waiting on the government in developing countries, the onus is on schools of higher learning to re-strategize on how to ensure that their graduates are employable and also create employment for others. Studies have pointed out the need to integrate innovative aspects that can make the curriculum sustainable such as Entrepreneurship course, Computing courses and so on (Afolabi *et al.*, 2017; Oluwatobi *et al.*, 2018; Oluwatobi *et al.*, 2019). In developed countries, the higher institutions have deeply taken initiatives to create graduates

that are ready for the workplace as a result of listening to the needs of industries (Jackson, 2013). Adeyemo *et al.* (2010) opined university researchers in developed countries are able to observe the need trends of industries and examine their importance in improving the state of the nation's economy and technological advancements. Nigeria's education system should not be left behind. The OECD (2018) predicts that students in the future of education would need to develop new skills, attitude and values in order to survive and contribute to the world's future. These set of students are termed "change agent". The future is laced with so many uncertainty, therefore students should be prepared for deep thinking, motivated, focused and able to make well-informed choices (OECD, 2018). Education needs to go from preparing students for the industry but rather equipped individuals that become responsible for the world's ecosystem and engaged citizens. This study aims to examine the future of education by using a disruptive framework that bridges policies and quality education. In this study, the future of education in terms of what educators need to know, the classroom of the future, gaming as a tool for education and the role of policy makers in the future of education is discussed.

The Future of Education: What Educators need to know

Educators preparing for the future of education need to be proactive rather than reactionary. The future of education may not be such that can be predicted, but educators can prepare for it. The Nigerian educational system needs to move away from the "fire brigade approach" and determine what future students, future classroom and future educational materials need to look like. Sadly, there are very few schools that are thinking in this disruptive manner. Educators that want to prepare for the future of education need to find solutions and explore the challenges facing the Nigerian educational system and its students. For instance, the present student in the Nigerian educational system has a high degree fluency in the use of technology. Okebukola (2018) reported that 68 percent of secondary school students in Lagos and Rivers States have smart phones. In the study by Nwachukwu and Onyenankeya (2017), they found out that more than 38 percent of the students spent 1 to 5 hours on their smart phones. Their study noted that 75 percent of the secondary school students engaged the smart phones for social networking rather than for academic activities. This aligns with Okebukola (2018) assertion that 73 percent of university students in Nigeria will rather be on Facebook than facing their books. This is an issue educators that want to prepare for the future of education need to deal with. The number of mobile subscribers in Nigeria has risen to 150 million, while 97.2million out of them are connected to the internet (Jumia Mobile Report, 2018). The projection will continue to increase due to cheaper smart phones and reduction in internet bundles due to competition. Educators need to device ways of meeting students where they most love to be – "Social media". Educational learning materials and teaching methods that can be accessed via social media needs to be developed for the future of education to be sustainable. In addition, it would be risky having educators that are technology illiterates trying to teach the students of the future.

The effect of the social media distraction can be felt in the poor reading culture among Nigerian students. This has become worrisome to educators and academic scholars who seem to be deliberating on active solutions to the poor trend. Oyewole (2017) asserted that most second school students in Nigeria only read when examinations are approaching and dump the textbooks when they are through with the exam process. The statistics on the senior school leaving certificate examination popularly called WASSCE is instructive with credit pass rate of 26 percent and 17.13 percent in 2017 and 2018 respectively in five subjects which include core subjects of English Language and Mathematics. Among adults, the literacy rate according to the Human Development indices shows a dwindling literacy rate of 59.6 percent in 2016 to 51.1 percent in 2017. The onus is on Educators to utilize the space of technologies to improve reading experience among students. Educators need to focus on making learning interesting for learners and helping student learn how to learn. The reality is that a disruptive framework for using technology to attract students to begin to read more and learn more would cost “money”. With government struggling to pay and increase teachers’ salaries and low investment in the education sector with a meagre 7 percent of budget in 2018 for the education sector in Nigeria, educators must think of innovative ways of raising funds for the required quality education of the future. It is certain that the Nigerian society would demand more from the future school system and there is need to invest to get the right result. In preparing for the future of education, Okebukola (2018) summarized that educators need to be aware that;

- Students would become more inquisitive.
- Students would have greater interest in electronic gadgets to support their social media interaction.
- Students would be more interested in non-educational tasks.
- Students would have shorter attention span with poorer reading culture.

This is well illustrated in Figure 1 which showed the areas where educators need to be aware of and prepare for in order to deliver the quality education for the future students.

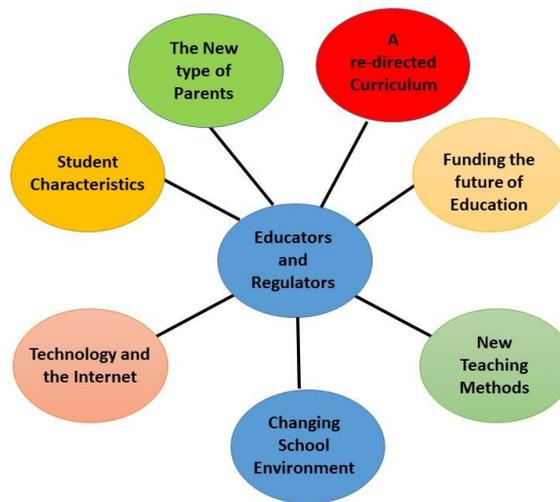


Figure 1. Awareness illustration for Educators in the future of education

Classroom of the Future

Technology is playing a crucial role in modelling the classroom of the future. Presently with the power of artificial intelligence (AI) and other intelligent software, the physical and emotional state of students in a learning environment are being measured to detail students' understanding and performance (Okebukola, 2018). The AI is able to measure facial expression, heart rate, skin moisture and even odour and report in real time to educators. Also used in the present classrooms are smart boards, virtual reality (VR) and augmented reality (AR) to aid teaching. With the dwindling rate in the number of educators, developed countries are deploying the use of robotics to teach students. The disruptive nature of technology in education would be such that classrooms may not exist in the physical form as it is experienced today. Technology would create networks that would break geographical boundaries. The place of a disruptive technology in education would ensure that learners will choose what they want to learn, where they want to learn and from whom they want to learn; thus, learning will become more personalized. In preparing the Nigerian educational system for the future of education it is important to consider the peculiar challenges of the system. The present state is that there are very few schools for the teeming Nigerian population. It is recorded that about 2million students apply for Joint admission matriculation board examinations annually and only a quarter get to be offered admission. In addition, at the grassroots, there are over 10.5million out-of-school children in Nigeria and yet less classrooms to take them. It becomes more worrisome if the statistics remains the same with a growing population of over 200 million at a growth rate of 3 percent annually. In order to address this, classrooms of the future need to be flexible. New learning agents need to emerge while networks play a major role. Adedeji (2018) opined that new ideas and ideologies must drive the future of classroom. Education must

disrupt itself and allow technology to play a leading role. Presently, some schools in Nigeria have started Massive Open Online Courses (MOOCs) in the educational space which require no classrooms. Using module platforms, educators and students do not have to be in same physical classroom space. They are taught, graded and guided in an online network space.

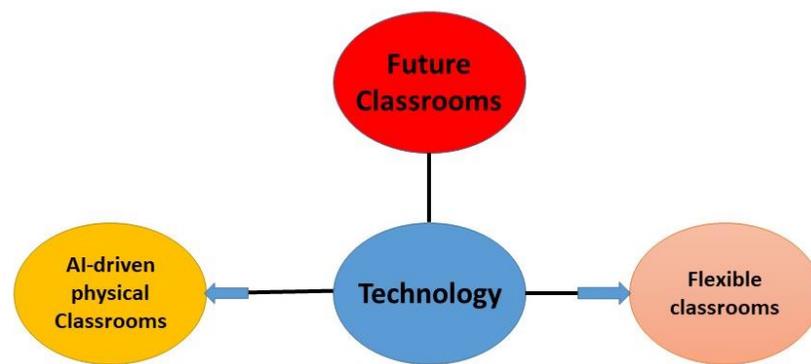


Figure 2. Classroom of the Future driven by technology

Gaming as a tool for Education

Apart from technology playing a crucial role in modelling the future classrooms and the delivery of learning, games can be incorporated in the classrooms of the future to derive several benefits. Figure 3 showed some selected games that can be used as a tool for education for students in a classroom setting. In a presentation by Akinkugbe (2018), it was recorded that board games engenders patience through the process of taking turns, problem solving skills, enhances social interaction and communication skills through the face to face interaction, increases vocabulary through speech improvement, increased focusing range, improve cognitive thinking and confidence building. In this age of technological distraction, gaming ensures that communication is increased, listening skills are improved and teamwork skills are practiced. The present set of students and children are drawn to non-educational tasks such as gaming and take games seriously. They all want to be winners but do not always know how to handle losing (Akinkugbe, 2008). By using games as an educational tool, students are to learn how to lose gracefully, how to joke around and how to celebrate wins. This is a wonderful opportunity for them to learn good sportsmanship skills (Akinkugbe, 2008). Educators need to focus on making learning interesting for learners. A classic example of a game that can be used by educators in a classroom setting in the future of education include the use of Monopoly board games. Although, these games are moving to online space in order to continually attract the tech-savvy children of nowadays. In the Monopoly game, money management strategies are taught to players/students. Monopoly teaches players the importance of having an “emergency fund” to take care of unexpected events. This is perhaps the most important lesson

in both the game and the real world. The game teaches risk management, cash flow in terms of savings and investment and strategic management.



Figure 3. Selected games as tools for education

Source: Akinkugbe (2018)

Akinkugbe (2018) stated that the Monopoly game promotes positive change in the society by teaching values, rewarding ethical behavior, highlighting state laws, educating players about personal finance while re-iterating these lessons in a fun and engaging way. Players are required to pay income tax, pay rent to other players and pay utility bills, and protect the environment. The game promotes a sense of integrity among players by discouraging negative behaviour and rewarding positive behaviour in an engaging but symbolic way.

The role of Policy Makers in the Future of Education

Policies are deliberate actions that act as a map in decision making in order to achieve documented goals and objectives. Quality education is practically impossible with a sound policy in place to drive it. Educational stakeholders too are incapacitated without a goal in place to arrive at the desired destination of “quality education”. In preparing for the future of education, it is important to take a look at the past and present policies that have shaped the education system. Nigeria has operated under three (3) main era of pre-colonial, colonial and the 6-3-3-4 system. The latter educational system was introduced in the early 1980s to cater for the technological advancement of the 21st century and produce the complete graduate. Under the Universal Basic Education it has been reformed to a 9-3-4 system. However, all these systems in most cases have not delivered the required result of creating employable graduates and thinkers for job creation. The national educational goals are centred on philosophies revolving around the nation, the individual, the state of the world and capacity building. Policy

formulation for Nigeria's educational sector is formulated, co-ordinated and monitored by the Federal Government of Nigeria (FGN). Therefore, through the parastatal of the Nigerian Federal Ministry of Education the quality of education is monitored and co-ordinated. Oyedeji (2015) opined that a major lapse in the policy formulation in the Nigerian education space is the non-involvement of teachers in the policy formulation. It is only the ministers/commissioners of education and the professional officers of the Federal and State Ministries of Education that formulate the educational policy for the country (Oyedeji, 2015). A disruptive policy framework would be such that makes the teacher the central part of policy formulation in the Nigerian education system. How do you make a teachers transmit the idea of the Ministry without their involvement in the formulation of the idea? There is a disconnect in the Nigerian education policies which a disruptive policy framework can help address.

Due to lack of funding for the public schools right from the primary section to the tertiary level, the involvement of the private schools have helped to increase the quality of education in the nation. Most scholars believe that the curriculum as it has been centred on the 6-3-3-4 system, has not been able to solve the 21st century challenges pervading the nation. According to UNESCO (2008), the curriculum should be so robust so as to prepare the young ones to be able to handle the explosion of new knowledge in technology and science-oriented world. UNICEF (2000) noted that a sound educational policy should involve the students, content, process, environment and the expected learning outcomes. Njoku (2016) argued that the bane of Nigeria's education policies has been lack of implementation. This has not allowed the goals of the 6-3-3-4 system to be realised in the classroom and in the students. The unsuccessful role of educational policies is reflective of the state of infrastructure, manufacturing and economic state within the country. There are many challenges the Nigerian education sector has to deal with, many of which can be address through a continuous and conscious implementation of the right policies. A nation can only develop as much as the quality of its education sector. Policy makers have a crucial role to play in determining the future of education in Nigeria. Much has been said about the role of the industry. The industry may want to take part in the grooming of quality education of students but without policies in place, it becomes a herculean task. Universities and the industry cannot work in isolation to breed quality graduates. Both have to work together to create the right applicable content in ways that cultivate the right sets of graduates. Figure 4 showed an approach to use policies to prepare for the future of education in Nigeria. In Figure 4, quality teachers are the core of policy making in the future of education not politically appointed personnel. Quality teachers can only be obtained through proper funding to train, retrain and motivate them. The funding is also required for the proper equipment and design of a conducive teaching and learning environment. In obtaining adequate funding for Nigeria's educational system, the government cannot do it all. The private sector must contribute to the funding of the educational sector in order to get a robust and sustainable workforce to drive the technological revolution in the industries. Quality teachers should be at the core of creating curriculum that means the needs of the industry and future aspirations. In all there is need for uniformity in standards. This is where non-governmental

organizations and the ministry of education comes in. They are guides to provide quality controls and quality assurance to the process, content and environment for quality education.

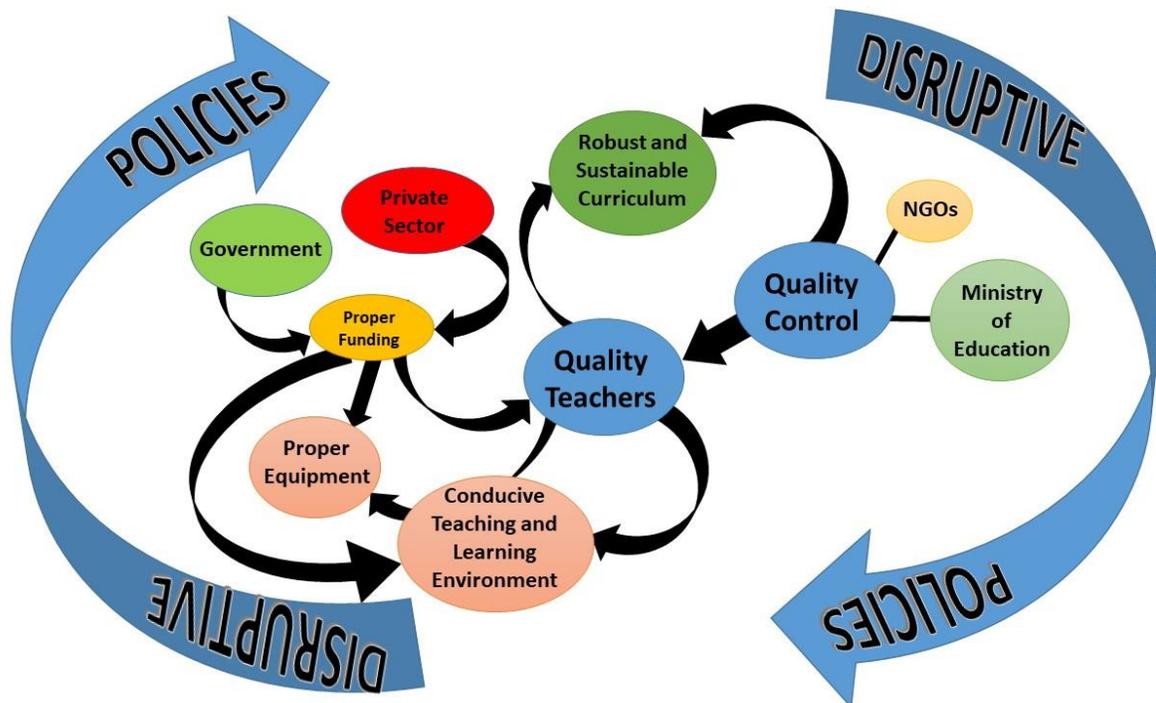


Figure 4. Teachers at the core of Policy Making in the Future of Education

CONCLUSION AND RECOMMENDATION

The study examined the future of education using disruptive frameworks that bridges policies and quality education. Educators preparing for the future of education need to be aware that students' characteristics is evolving, technology and internet diffusion among students is increasing, the type/requirement of parents are changing, innovative funding strategies must be identified, a sustainable curriculum must be developed and new teaching methods must be mastered. The study noted that the classroom of the future would be largely driven by disruptive technologies. Either that the disruptive technologies would facilitate easier teaching and assessment of students' performance or there will be no classrooms at all (no geographical boundaries). In developing new teaching strategies, educators should not ignore gaming as a tool for educating students now and in the future of education. The study noted that policy makers are crucial in the future of education. Quality teachers are at the core of sound policy formulations, as their involvement would ensure a more robust and sustainable education system. The Nigerian educational system does not lack the required policies but the technical

implementation seems laced with many hurdles. In conclusion, the Nigerian educational sector needs disruptive frameworks and technologies that guarantees the future of education.

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**BOLSTERING POLITICAL STABILITY, NATION BUILDING AND
YOUTHS EMPOWERMENT THROUGH SUSTAINABLE
ENTREPRENEURSHIP DEVELOPMENT IN 21ST CENTURY, NIGERIA**

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Abstract

Entrepreneurial development is the seeds of political stability and youth empowerment as well as the fruits of nation building in Nigeria. In view of this, the paper examined bolstering political stability, nation building and youths' empowerment through sustainable entrepreneurship development in 21st century, Nigeria by focusing on explaining the basic concepts in the paper; objectives and goals of entrepreneurship education; political stability through entrepreneurship development; youth empowerment through entrepreneurship development; and nation building through entrepreneurship development. Also, the paper examined the problems facing entrepreneurship development in Nigeria. Based on the discussion, it was recommended among others that, Government at all levels as well as NGOs should guarantee soft loan to youths and able persons in the society who wish to be self-employed after providing business plan and acquiring basic skills for the venture; Government should at all levels ensure that more funds are provided in their annual budget for entrepreneurship development programmes that can lead to job opportunity in order to achieve nation building process in Nigeria; Also more skill acquisition centres should be established to encourage the teeming population to develop their talents and reduce the search for white-collar job.

Key Words: Political Stability, Entrepreneurship Development, Youth Empowerment, Nation Building.

Introduction

“No one is born a good citizen, no nation is born a democracy, rather, both are processes that continue to evolve over a lifetime. Young people must be included from birth. A society that cuts itself off its youth severs its lifeline” (Kofi Annan, in Briggs, 2007:1). Thus, the abundance of natural resources in any nation does not in itself make it to be ranked among the developed

nations; rather it is the specialized skills, competence and ability possessed by its populace which can be harnessed to utilize these resources.

Youth in any society are known as the backbone of political stability. Hence, their role in sustainable nation building cannot be over emphasized. Unfortunately, they are the silent majority who are the victims of deprivation in Nigeria (Ibrahim, 2008), where they have been given less attention by the necessary authorities towards integrating them into the process of political stability and nation building. This was in contrast with the situation in 1960s when the often quoted mantra by Late Chief Nnamdi Azikiwe, “show the light, and the people will find the way”. This was in realization of the fact that the bedrock of Nigerian political stability and nation building effort centred on empowerment particularly, of the youth.

However, the oil boom in the 1970s changed this view as its global prices rose and boosted exports. The fall in oil prices in the 1980s had devastating impact on Nigeria as reported by the Federal Office of Statistics that in 1960, 15% of the population was poor but by 1980, the poverty rate had grown to 28%. This trend continued till in 1996 when poverty rate in the country rose to 66% or 76.6 million Nigerians out of a population of 110 million then. As at 1999, the United Nations human poverty index credited Nigeria with 41.6% poverty rate which is among the 25 poorest nations in the world. The increasing rate of poverty in Nigeria indicates that 80 million of the 120 million people are poor (Giwa, 2008). In 2018, report by The World Poverty Clock shows Nigeria has overtaken India as the country with the most extreme poor people in the world. Stating that, 86.9 million Nigerians now living in extreme poverty represents nearly 50% of its estimated 180 million population (Kazeem, 2018).

Thus, with this rising rate of poverty in the country, there is the need for sustainable entrepreneurship development that will impart and impact the right knowledge, skills, values and

attitudes as well as stir up the productive potentials of the youths to achieve political stability and nation building (**Oghojafor, Kuye, Sulaimon & Okonji, 2009**; Nsofor, Umeh, Ahmed & Idris, 2014).

A stable political scene is one where the ruling government is favoured by the population and does not experience strong indicators of social unrest. Sustainable entrepreneurship development and political stability are deeply interconnected (New Era, 2015). The common denominator and the most obvious relationship between entrepreneurship growth and political stability is the fact that entrepreneurship provides the teeming population with job opportunities and improved livelihood and venture creation and as such reduces redundancy, crime and over dependency on the government.

Youth empowerment is often addressed as a gateway to intergenerational equity, civil engagement, democracy and nation building (Okoli & Okoli, 2013). Taking a cue from the objectives of entrepreneurship development as enunciated by Oborah (2006) that is, to make youth self-reliant and subsequently encourage them to derive profit and be self dependent. It is easily deductible that entrepreneurship development will in no mean way create jobs which translate to youth empowerment. Youth empowerment could be said to mean, the youths being able to eat when they are hungry, being able to meet their basic needs, have a shelter over their heads, ability to speak out in things of concern to them in the society, not being deprived in any ramification in life and ability to cater for their health needs whenever necessary (Okoli & Okoli, 2013).

Entrepreneurship development relates with nation building is in the area of investment, enabling environment for doing business and a lot more. No company or individual, whether local or international, will feel comfortable making any kind of capital investment in any country where

the climate is characterised by upheavals and a lot of uncertainty. Sustainable entrepreneurship development is the incubator of the change this nation needs. Nigeria needs the entrepreneurship to champion the long-awaited change - economically, politically, socio-culturally and technologically. The developed and powerful nations in the world today would not have attained that status without the indispensable role of the entrepreneurship development (Ibanga, 2011 & Ukommi, 2016). To better understand how sustainable entrepreneurship development relates to political stability, youth empowerment and nation building, this paper is divided into five (7) sections outlined thus: conceptual perspectives (political stability, youth empowerment, nation building and entrepreneurship development); political stability through sustainable entrepreneurship development; youth empowerment through sustainable entrepreneurship development; nation building through sustainable entrepreneurship development; Problems facing entrepreneurship development in Nigeria, conclusion/ recommendation and references.

Clarification Perspectives

Political stability is the durability and integrity of a current government regime. This is determined based on the amount of violence and terrorism expressed in the nation and by citizens associated with the state. A stable society is one that is satisfied with the ruling party and system of operations and is not interested in revolutionary or despotic ideas. A stable political scene is one where the ruling government is favoured by the population and does not experience strong indicators of social unrest. While there are problems within any nation, and times of war or hardship are common, a stable political system is one that can withstand these occurrences without major societal upheaval and ongoing endurance of these circumstances (Nomor & Iorember, 2017).

According to Sottilotta (2013) political stability is a very controversial concept. Sottilotta argued that; a first broad definition refers to the absence of domestic civil conflict and widespread violence. In this sense, a country can be considered rid of instability when no systematic attacks on persons or property take place within its boundaries. Secondly, classic interpretation equates stability with government longevity. Thirdly, political stability draws on the lack of structural change, that is, the absence of internally or externally induced change in the basic configuration of a polity (Sottilotta, 2013). Thus, political stability refers to the capacity of a country's political system to withstand internal or external shocks.

The African Youth Charter states that, a youth or young person refers to persons male or female, between the ages of 15 and 35 years. According to the Encarta Dictionary 2008 edition, Youth is the time when somebody is young: the period of human life between childhood and maturity. To Mifflin (2005), youth empowerment on the other hand is an attitudinal, structural and cultural process whereby young people gain the ability, authority, and agency to make decisions and implement change in their own lives and lives of other people including youth and adults (Mifflin, 2005:1). The commonwealth plan of Action for Youth Empowerment (2007-2015). The commonwealth defines youth empowerment thus:

Young people are empowered when they acknowledge that they have or can create choices in life, are aware of the implications of those choices, make an informed decision freely, take action based on that decision and accept responsibility for the consequences of those actions. Empowering young people means creating and supporting the enabling conditions under which young people can act on their own behalf, and on their own terms, rather than at the direction of others (cited in Mifflin, 2008:6).

Also, Briggs (2007) sees youth empowerment as an attitudinal, Structural and cultural process whereby young people gain ability, authority and agency to make decisions and implement change in their own lives or other people (Briggs, 2007:2). This is why youth empowerment is

often addressed as a gateway to intergenerational equity, civic engagement and democracy building. When the youth are empowered, they develop themselves and invariably develop their society.

Nation building is the conscious and focused application of our people's collective resources, energies, and knowledge to the task of liberating and developing the psychic and physical space that we identify as ours. It involves the development of behaviours, values, languages, institutions, and physical structures that elucidate our history and culture, concretize and protect the present, and insure the future identity and independence of the nation. Nation building is the deliberate, keenly directed and focused, and energetic projection of national culture, and the collective identity. Nation building refers to the process of constructing or structuring a national identity using the power of the state. This process aims at the unification of the people within the state so that it remains politically stable and viable in the long run. Nation building can involve the use of propaganda or major infrastructure development to foster social harmony and economic growth (McDubus, 2018). Thus, nation building is aimed at promoting peace and harmony, reducing conflicts, laying good foundations for economic, social and political development and above all to create conditions for progress.

Hisrich (2002) defines entrepreneurship as the process of creating something different with value by devoting the necessary time and effort; assuming the accompanying financial, psychological and social risk; and receiving the resulting rewards of monetary and personal satisfaction. Entrepreneurship is not just identifying opportunity and taking advantage of it, but it also requires that sufficient time and effort (mental, physical) must be put in order to create value.

With effective entrepreneurship development, the people of Nigeria can move forward and unite. Since, the living condition will improve and wealth can be distributed across all people.

Goals and Objectives of Entrepreneurship Education

The overall objective of Entrepreneurship education is to continuously foster entrepreneurship culture amongst students or youths so as to achieve development in all sphere of life. Oborah (2006); **Oghojafor, Kuye, Sulaimon and Okonji (2009)**; Garavan and O’Cinneide (1994) as cited in Chigbuson (2011); and Kennedy (2013) gave the following as the goals of Entrepreneurship education/ Development:

- i. To foster entrepreneurial mindsets, skills and behaviours among the recipients; -
- ii. To empower students with the competencies and skills necessary to prepare them to respond to their life needs, including running their own business, so that they become productive citizens;
- iii. To develop innovation in youths and develop their skills to identify, create, initiate and successfully manage personal, community, business and work opportunities;
- iv. To increase the awareness and understanding of the process involved in initiating and managing a new venture as well as to enhance the public’s perception of learners of small business ownership as serious career option; and
- v. To identify and stimulate entrepreneurial drive, talent and skills to undo the risk-averse bias of several analytical techniques and to devise attitudes towards change.

Entrepreneurship development remains a pivot upon which the wheels of the society revolve. This is because, Entrepreneurship development has been taunted as a means of stimulating socio-economic and political growth through the generation of greater employment opportunities, provision of food and shelter to the family, generation for revenue for the running of

government, the development of local technological base and conservation of foreign exchange earnings of national governments (Kennedy, 2013).

Political Stability through Sustainable Entrepreneurship Development in Nigeria

Political stability can be attained through the accessibility of majority of the people, to essentials of life such as food and nutrition, shelter, good health care, education and gainful employment. This also means eradication of poverty, provision of diversified employment opportunities and radical reduction in income inequality through a transformation in institutions related to the desired modern changes (Agada & Pius, 2014). This can be achieved through Sustainable entrepreneurship development in two important ways. First, it provides an alternative to employment opportunity to teeming population. Second, entrepreneurship helps lay the foundation for sustained and diversified economic growth. Progressively, tax receipts and export earnings from such growth would eventually reduce fiscal dependence on budgetary and program assistance (Gilpin & Koltai, 2012).

Entrepreneurship development helps trigger political progress by creating jobs when they are needed the most. It contrasts with the aid-fuelled political growth common in most developing countries such as Nigeria because it makes more use of domestic resources and could be more effective at spurring economic diversification and political stability (Del Castillo, 2011 & Extractives for Development [E4D], 2011). Also, Entrepreneurship development is capable of building good human and personal relations thereby addressing personal and social challenges that lead to political unrest. Vital to the prosperity of any democratic governance, is an efficient, trustworthy and social cohesive of citizens (Anho, 2013).

Democratic governance is attainable with citizens' empowerment. Thus, empowered person stands to empower the masses. Any citizen who is empowered in his time of hardship will lead his people through the right path. He/she does anything possible to see that he meets up with the demand of the society. Thus, well empowered citizens will not participate in embezzlement of public fund and other deviant act that could lead to political instability (Babalola & Fasiku, 2015).

Moreover, Agweda and Abumere (2008); Sanbom (2003) in Anho (2014) also noted that the greatest skill people develop in lives is the ability to build healthy relationship with other. If good human relationship is built, political and national security is guaranteed. Entrepreneurship development makes this possible because it help citizens of a country to utilize its resources thereby reducing inequality and as well eradicates poverty. Hence, entrepreneurial development enable recipients live a meaningful and fulfilling life and contribute to national development.

Youth empowerment through entrepreneurial skills and craft training and acquisition, employment, economic opportunities in investment, access to infrastructure, finance and participation in agriculture, encourages productivity hence, political development can be assured. Young people belong to the generation of potentially productive force. In developing nations, they represent important opportunity for locally led political and economic growth, which can secure a prosperous future (RISE Networks, 2013). If therefore human development indicators are raised among the youth population, productivity would also be greatly achieved. This will in turn lead to economic growth as according to Rodney (2005), there is a correlation between human development and the socio-economic conditions of a state.

While youth empowerment through sustainable entrepreneurship development encourages economic growth, Melamed, et al (2011) opines that, it has the indirect potential to alleviate

poverty as a result of simultaneous increase in employment opportunities and increased labour productivity. Country's entrepreneurship development is related to youths' development, which encompasses health, education, employment and economic liberalization by way of extending property rights to the poor.

Empowering young people through sustainable entrepreneurship development means creating and supporting the enabling conditions under which young people can act on their own behalf, and on their own terms, rather than at the direction of others. Common Wealth of Nations opined that young people are empowered when they acknowledge that they have or can create choices in life, are aware of the implications of these choices, make an informed decision freely, take action based on that decision and accept responsibility for the consequences of these actions (Akpomi, 2009; Eze, 2010; Ekankumo & Kemebaradikumo, 2011; Wikipedia, 2013 in Okoli & Okoli, 2013).

Although the Government may have spent a lot in the name of fighting crime without understanding that the formula or solution is youth empowerment through sustainable entrepreneurship development. Any nation that wants to fight crime should start with youth empowerment morally, academically as well as financially. When youth are taught well on the danger and punishments behind arm robbery or dealing in drugs, there is every possibility that they will not take part in them. In a nut shell, youth empowerment in any nation reduces social crime (Babalola & Fasiku, 2015). Entrepreneurship development therefore serves as a means of behaviour modification and meeting the needs of individuals and the society.

Nation Building through Sustainable Entrepreneurship Development in Nigeria

The infrastructures of many nations are built with the tax paid by the citizens. Workers who earn much because they are empowered contribute more of their money through tax payment. When

the taxes are gathered, they are used for nation building. Social and infrastructural amenities are well created and maintained in an economy where entrepreneurship is highly appreciated and utilized. Improved transport system, communication system, electricity, pipe borne water, hospitals and schools are some products of sustainable entrepreneurship development.

On this note, Agoha (2011); Nwosu and Nnabuanyi (2006) in Jato (2012) submit that “the level of entrepreneurship development of a nation determines its nation building level and viability. High level of viability accords a nation more respect in international affairs. Imparting entrepreneurship consciousness in the Nigerian citizens is a means of achieving nation building. Nigeria cannot talk of sustainable nation building without a sound acquisition and nurturing of entrepreneurial skills, attitudes and values.

Acquisition of entrepreneurial skills and intention can make the Nigerians creative and innovative, thereby being able to contribute to socio-economic advancement of the country. Nigerians should realize that the nation has socio-economic problems due to her poor state of entrepreneurship development. So, there is this urgency to promote entrepreneurial behaviour and intentional among the citizens for nation building and development (Agweda & Abumere, 2008).

Furthermore, empowering Nigerians through entrepreneurship activities in the area of Information and Communication Technology (ICT) would help boost sustainable nation building. Information and communication Technology supports activities involving the creation, storage, manipulation and communication of information. We live in an information age and as we know, information is very important in man’s activities as it is needed to ensure that a changing society like ours make wise decisions and have desirable revolution for nation building.

Chijioke (2005) noted that internet which is an instrument of ICT, provides information that goes a long way in enhancing the nation building processes of its users because it enables one to be knowledgeable and enlightened and also develops ones potentials and capabilities. The internet makes it possible to have E-mail, E-commerce, E-banking, E-library and E-learning which can be employed by the citizens for nation building. Note that, a step in showing entrepreneurship consciousness for improvement of science and technology in Nigeria is by no small measure aimed at ensuring effective nation building.

Entrepreneurship development increases and improves technological standards. Development in machines and other important discoveries could be made possible if the citizens are empowered through entrepreneurship programmes. Many inventions today are because the citizens have entrepreneurial mindset to take time to study science and make them real. They are encouraged to use their initiatives to bring out what will help the society (Egbefo & Abe, 2017).

Also, competitiveness, innovation and economic growth depend on the capacity of a country to produce future citizens/youths with the skills, attitudes and behaviour to be entrepreneurs and to act at the same time in a socially responsible way. Entrepreneurship is not only about creating business plans and starting new ventures. It is also about creativity, innovation and growth, a way of thinking and acting relevant to all parts of nation building. This interdependence comprises both institutional rules and environmental conditions that define the range of socially and economically viable entrepreneurial opportunities and the way in which entrepreneurs and other stakeholders shape these surrounding institutions and environmental conditions (Omogbolahan, 2012). Thus, Entrepreneurship development has a way of discouraging laziness and idleness among our teeming population. Most people that are idle today or probably lazy are those that seem to know little or nothing about entrepreneurship.

Problems of Entrepreneurship Development in Nigeria

As stated earlier, government after government has initiated programmes to aid entrepreneurship development in Nigeria. In spite of all these attempts, the under listed problems are specific to the Nigerian entrepreneurs (Olagunju, 2004 in **Oghojafor, Kuye, Sulaimon & Okonji, 2009**):

- i. **Lack of trust by Nigerians:** This has resulted in the rejection of "made in Nigeria" goods as inferior to the imported ones. The mentality that anything made in Nigeria is inferior has discouraged and forced many local entrepreneurs to go out of business.
- ii. **The dire shortage and inadequacy of infrastructure facilities:** This is only of the greatest problems facing the Nigerian entrepreneur. It is no longer news that 58 years after independence, the supply of electricity is epileptic if non-existent, and the roads are death-traps leading to loss of lives and properties.
- iii. **Corruption:** Since entrepreneur have to deal with government officials from the Local to State and the Federal Government. The demand for gratification in forms of bribes, double taxation, among others has brought frustration to many entrepreneurs. According to Morphy (2007) in **Oghojafor, Kuye, Sulaimon and Okonji (2009)**, it is hard to do business in some part of Nigeria because some governments officials ask for bribes in order allow build a factory or open a store and other business centres.
- iv. **Lack of managerial know-how:** This results from the inability to apply appropriate managerial concepts and principles in running the affairs of the business. This is usually manifested in poor financial control, weak marketing effort, failure to develop a strategic plan, uncontrolled growth, improper inventory control.
- v. **Unguided and unrestricted importation of goods into the country:** The advent of globalization with its attendant liberalization and deregulation has forced the Nigerian

government to remove restrictions on the importation of goods even when there is a local substitute or competing brand. The unguided implementation of globalization has strangled most businesses. This is because, these businesses use obsolete methods of production, and private sources of power and in the end, their product are inferior and cost higher than the imported ones.

Conclusion

Entrepreneurship development is a foundation for nation building, youth empowerment and nation building. Thus, entrepreneurial development according to Anho (2014) goes beyond training and education, it involves a process of human capacities building through formal and informal training in order to inculcate entrepreneur basic skills among the teeming population such as financial skills, technical skills, creative skills, managerial skills, intellectual skills, marketing skills, communication skills and technological skills.

Recommendations

It is obvious that economic empowerment and development cannot take place if there is no proper Entrepreneurship development programme. Based on this, the following recommendations are made:

- i. Government at all levels as well as NGOs should guarantee soft loan to youths and able persons in the society who wish to be self-employed after providing business plan and acquiring basic skills for the venture.
- ii. Government should at all levels ensure that more funds are provided in their annual budget for entrepreneurship development programmes that can lead to job opportunity in order to achieve nation building process in Nigeria.

- iii. Also more skill acquisition centres should be established to encourage the teeming population to develop their talents and reduce the search for white-collar job.
- iv. Government and other stakeholders should prepare a wide range of opportunities for youth's empowerment in order to promote political stability in Nigeria.
- v. Entrepreneurs should aim at giving some basic skills training to the unskilled and semiskilled people so that they can contribute more positively to nation building and political stability in Nigeria.

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INNOVATION IN INDUSTRIAL POLICY-From Cement policy to Gold policy

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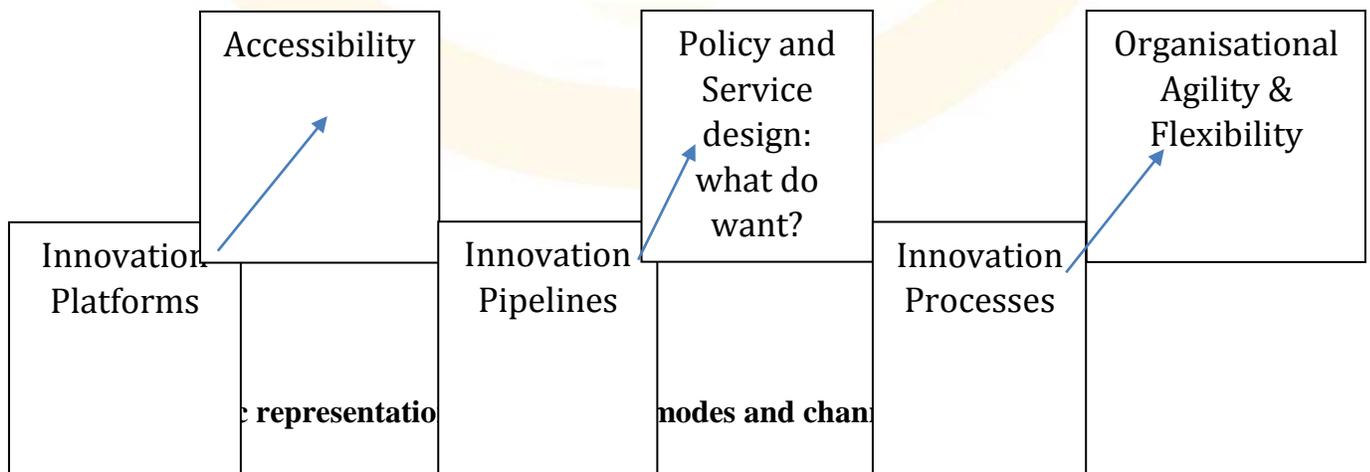
Abstract

Public sector innovation in Sub-Saharan African countries has been under- researched largely because of the perception of real or apparent manpower skill gaps that inhibit creativity. However, in recent years, a few African countries like Nigeria are beginning to use design-based thinking and similar inverse techniques to accelerate policy design, policy review and policy implementation using new innovations different from the top-down policy approach of the early 2000s. Recently, the Federal Government of Nigeria used an open collaboration Lab approach in 2018 to resolve industrial challenges using a 360° stakeholder circuit. The Lab is a creative environment where novel practical solutions are developed to economic and entrepreneurial problems with the objective of harvesting new policies, new frameworks and new service

delivery mechanisms in a compressed timeframe. Based on the outcomes of the first Lab, a few government policies have been accelerated and the government policy cycle shortened from 2-3 years to approximately 9-12 months. This research study focuses on the techniques and successes of the Lab innovation with emphasis on the gold policy that was accelerated for entrepreneurs, and contrasts it with the cement policy developed a decade earlier. The benefits of the innovation and how this innovation may be scaled to improve entrepreneurship and economic development in Nigeria are also highlighted. From the study, the findings reveal the efficacy of the Lab approach and the collateral benefits it impacts on various stakeholders.

1.0 INTRODUCTION

Public sector expenditures account for as high as 30% or more Gross Domestic Product in many countries (OECD 2011). Beyond the spending, the public sector also holds significant powers as policy makers, regulators and enablers of business and entrepreneurial spending. Hence the pressure to deliver better outcomes to business entrepreneurs and citizens has warranted the drive for newer and better service delivery models through continuous process improvement that is incremental or disruptive innovation, which is game-changing. In developing countries, the changing demographics and income inequality in an era of fiscal constraints are equally placing additional pressures on governments to respond quicker and faster to citizen needs using new or innovative constructs (Carstensen and Bason, 2012; Ojo, 2014). In essence, the objective is that new platforms are being developed to increase accessibility between government and citizens, new pipelines are being opened to enhance service delivery, and new processes are being implemented to improve organizational flexibility; as represented in Fig. 1.



However, delivering on innovation in the public service has proved challenging. Borins (2002) highlighted initial reasons why public sector innovation was treated as an oxymoron for two main reasons; first, most public sector agencies are pseudo-monopolies with little competitive pressure to disrupt themselves except perhaps occasionally by a new government seeking re-election or a new politician seeking to leave a legacy. Second, public sector organisations are typically large administrative bureaucracies structured to perform core, repetitive tasking with consistency, and to act as custodians of such public practices.

In summary, the imperative for innovation in the public service and by implication in industrial policy formation is due to a progressive inflexibility based on complex hierarchical rule-based system and top-down decision making processes, which causes it to be increasingly distant from citizen's expectations (Yamamoto, 2003).

Industrial policy is simply government's strategy or official policy to increase industrial or manufacturing output, and develop the industrial sector through incentives, subsidies or deliberate provision of an enabling environment (UNCTAD/ UNIDO, 2011). Rodrik (2004) redefines the scope of industrial policy as strategic collaboration between the private sector and the government to elicit information on significant externalities, and to co-create interventions to remove critical obstacles to industry and enterprise development. Innovation in industrial policy would therefore be viewed as the application of novel techniques and approaches for government to collaborate with the private sector and industrialists to achieve this objective of accelerated industrial or manufacturing development.

Earliest records of innovation in modern industrial policy was the ingenious use of reflationary deficit financing in Japan's post-war industrial policy formulation to achieve a record growth of 81.5% in industrial output within three years from 1931-1934. This remarkable use of policy to drive industrial output and almost double it without any apparent mainstream theoretical underpinnings was innovative and breakthrough enough to have earned the phrase "Japanese industrial miracle" (Chalmers Johnson, 1982). More recently, authors such as UNECA (2017) have attempted to document new approaches to spurring industrial development in several African countries, while Tyce (2019) investigates the nuanced success of Kenya's industrial policy with respect to the textiles and garments sector.

RESEARCH METHOD

This research adopts a qualitative or descriptive research method, using two focus industries as case studies. The primary approach was to conduct a desk research and literature review of recent practices in public sector innovation and industrial policy innovation and then funnelling through to innovation in industrial policy in Nigeria.

This research focuses on innovation in Nigeria’s industrial policy. A schematic representation of how a singular industrial policy is developed is presented below in Figure 1.

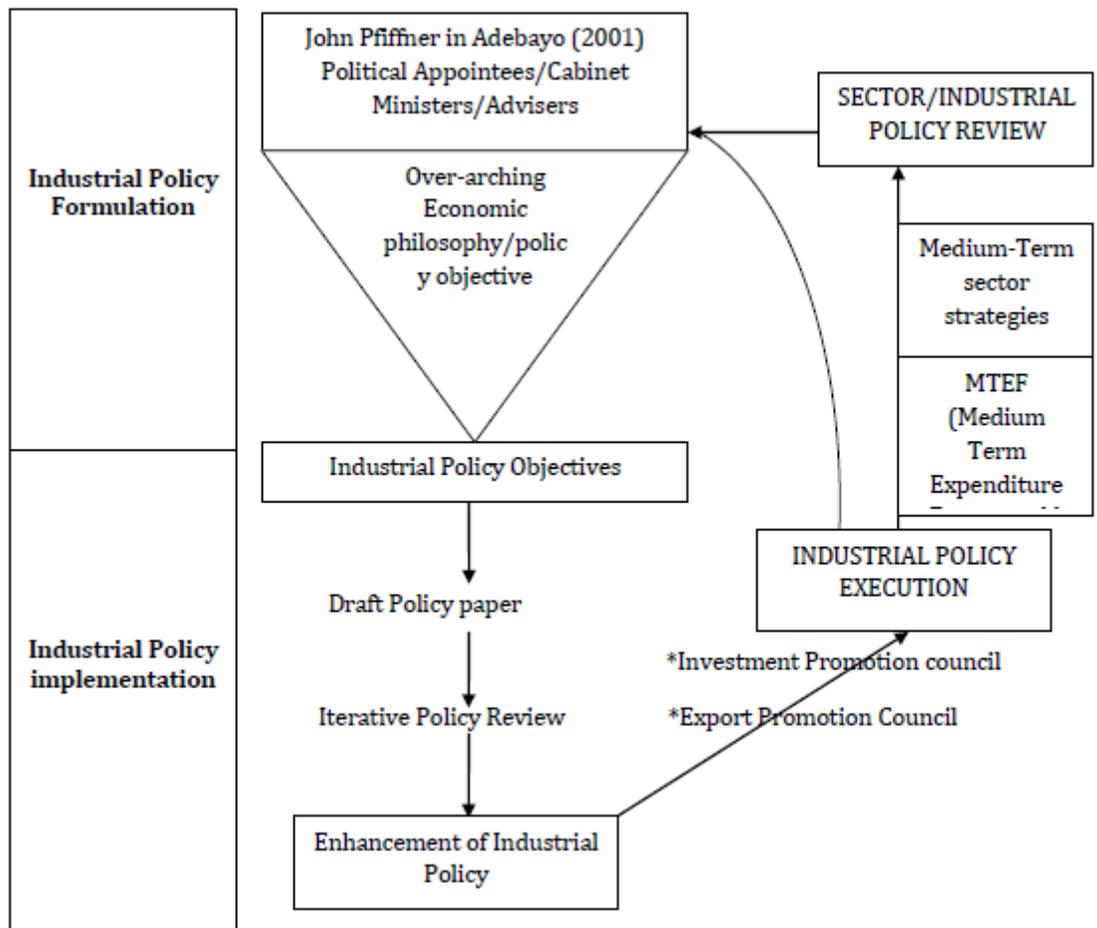


Figure 2: Schematic Representation of Industrial Policy Development in Nigeria

2.0 LITERATURE REVIEW.

2.1 Public service innovation

Public sector innovation is a very broad concept. Conceptually, four common references to innovation and by implication, public sector innovation, have been used loosely in the literature.

- 5) Types of innovation
- 6) Modes of innovation
- 7) Methods of innovation and
- 8) Sources of innovation.

However, DeVries, Bekkers and Tummers (2014) and De Vries, H.A. (2018) detail a more systematic approach to the classification of innovation in the public service. Based on their classification, the four innovation types used are process innovation (focused on either the technological or administrative core of the organisation), product or service innovation, governance innovation and conceptual innovation. The broader literature consider modes of innovation are based on the extent of involvement of other non-governmental actors, e.g. public-private etc. Methods of innovation could be design-based thinking, human-centred design, user-centered design etc, though some of these could be argued to be synonyms or not mutually exclusive. Sources of innovation typically refer to the channels etc (Qianget *al.* 2015). Evans (2018) for instance identifies 5 initiatives, borrowing from proven techniques in industry and finance, to accelerate innovation in the public sector.

First is open-source or “outside-in” innovation from outside the organisation’s boundaries to access crowd-sourced or citizen-sourced ideas from outside the core public service. Second is a public-private idea hub to leverage industry partnerships and enrich insights through inside-out solution flows whereby prototype solutions are validated by external parties or the public before mass roll-out. Third are tech-combinations or parallelism, whereby public sector agencies simply replicate systems or technologies successful elsewhere, after a simple cultural validation. Fourth is agile ideation sessions whereby public sector leaders can utilize to help energize their

innovation pipelines and accelerate the influx of ideas is to conduct rapid, event-based innovation sessions, possibly enabled by somewhere to have digital innovation sessions. Fifth, and probably more complex and time-consuming, is institutionalising innovation one agency at a time within government through a programmatic approach by establishing a formal innovation office and by systematically building the capabilities of the innovation office across strategy, people, process and technology with playbooks and toolkits. Elements of the fourth and fifth types of initiatives, that is agile innovation sessions conducted in a manner such as to institutionalise the innovation in a programmatic manner form the bedrock of what has been popularly known as “Labs” in industrial policy implementation.

In the public service, innovation may also be classified based on outcomes. Innovation outcomes have been typified to include various types of outcomes such as concept or conceptual innovations, product innovations, service innovations, process innovations and policy innovation (De Vries et al. 2014). Most of the literature has however centred on policy innovation, as this is viewed as the initial driver of other types of innovation in the public service. Policy innovation can be defined as the formulation, realization and diffusion of new policy understandings.... and strategies for solving problems” (Sorensen and Waldorf, 2014). Industrial policy innovation or innovation in industrial policy can therefore be interpreted as the application of new strategies, approaches, new perspectives, new understanding, and new methods in the development of industrial policy formulation or implementation.

More recently, authors such as Carstensen and Bason (2012) and Stevens and Verhoest (2016) have expanded on the concept of “collaborative policy innovation” as an approach that could enhance policy innovation in three dimensions. First, by mobilizing wider and relevant audience base of stakeholders, secondly by creating newer and more nuanced understanding of the policy problem, and third by extending the problem-solving beyond the immediate problem to broader scopes than the specific problem presented (Sorensen and Waldorf, 2014). Collaborative policy innovation can therefore be defined as “..... multitude of actors intentionally working together to develop, realise and propagate enriched policy solutions that are radically different from their predecessors in terms of policy understanding, program theory, objectives, and strategies in order to tame unmet societal challenges” (Steven and Verhoest, 2016).

However, empirical evidence suggests that most innovations in the public sector fail for several reasons due to agency-problems between politicians who are lead policy makers and career civil servants entrenched in bureaucracies with an anti-innovation DNA, among others. Even when these are mitigated, the greatest issue appears to be scaling and the difficulty to spread, replicate or diffuse new successful practices in one aspect or agency or policy area of government to other. Dyce (2018) for instance has critically detailed different forms of innovative thinking, design thinking and its alternatives, and how they can be utilized in different contexts. The application of the most contextually suitable form of innovative thinking and framing the issue as appropriate is therefore critical when deploying innovation techniques in the public service. However, a challenge still exists in applying these concepts and frameworks in a sustainable manner to transforming public service in some countries.

One growing phenomenon is the institutionalization of innovation in public organisations so as to ingrain new thinking and new approaches into policy development. Examples for instance abound in the United Kingdom and the Scandinavian countries and the Malaysian countries, among others, with Bason (2010) documenting the pervasiveness of these isolated innovation facilities, called “innovation labs” as part of modern public organisations in many countries.

2.2 Industrial Policy

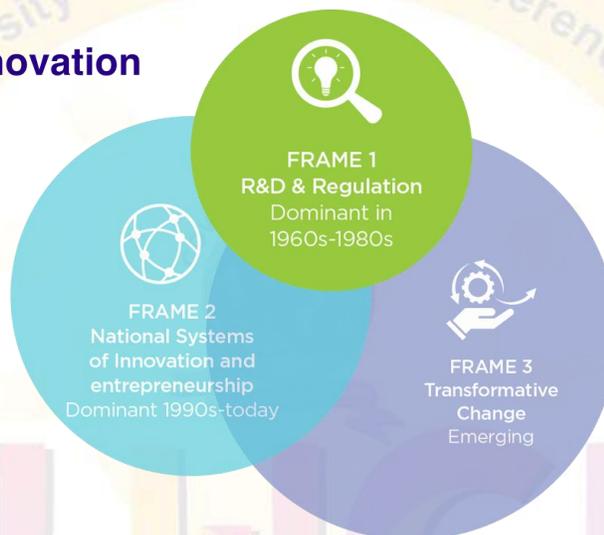
As indicated earlier, “industrial policy”, is “a government policy for targeted industries that deliberately favors sectors or industries (or even firms) over others which is usually (not necessarily) against market signals to enhance efficiency and promote productivity growth for the whole economy as well as for the targeted industries, which is referred to as selective, sectoral or vertical industrial policy” (Chang, Andreoni, Kuan, 2013). Besides vertical industrial policy, industrial policy may also be defined horizontally or functionally, with respect to social goods such as education. Authors such as Chang, Andreoni and Kuan (2013), have analysed the different approaches and frameworks for industrial policy formulation and implementation in a wide range of countries, including Japan, United States, Germany, Korea, Singapore, Finland, Italy, Brazil and China. For instance, while many countries adopt a deliberate approach to industrial policy development as a requisite for structural transformation, other countries only adopt a formal approach to correct “sectoral imbalances accumulation”.

This was the case in Europe in the early 2000's when in response to the recession that had led to the formation of sectoral bubbles and the shrinking of the productive sectors such as manufacturing (European Commission, 2011, p35-39), the EU industrial policy was designed. In the case of Europe, the aim of the industrial policy was to stimulate growth and competitiveness in the manufacturing sector towards a European industrial renaissance or re-industrialisation. Notwithstanding, the rationale or mode of industrial policy adopted, the ultimate objective is often to either increase manufacturing value added or to sustain a modern and innovative economy. More recently, prominence is also being given to increasing international competitiveness (World Economic Forum, 2018)

2.3 Innovation in Industrial Policy in Emerging Markets

Most of the earlier literature on innovation in industrial policy in emerging markets have been focused on Asia until more recently when the United Nations Economic Commission for Africa commenced documenting smart trends on industrial policy in Africa (UNECA, 2017). A number of the available case studies on industrial policy innovation are therefore on Asian countries, including Singapore. Based on the available literature, Chee-Yuen and Kam (2001) and Appold (2016) have documented, the weakness of state intervention and industrial policy in East Asia following the Asian financial crisis. With the earlier 'East Asian miracle' rechristened as the 'East Asian mirage', the imperative for revamping the institutional framework and approaches to industrial policy have gradually led to the emergence of some innovation. In the five advanced East Asian countries surveyed (Japan and the four Newly Industrialised Economies of Taiwan, Korea, Singapore and Hong Kong), the lessons learnt from the policy inertia and institutional dysfunction appear to be leading to some subtle policy shifts in other emerging markets. While the evidence is qualitative, the implications of the unsustainability of the industrial policy experiences of some of these five countries may have contributed to the impetus for revisiting the direction of industrial policy in other countries such as Malaysia (Yusuf and Nabeshima , 2009).

A diagrammatic representation by Tip Consortium (2019) of the gradual shift in innovation policy over the last six decades may also be applied to innovations in industrial policy.

Figure 3: Shifts in Innovation and Industrial Policy Innovation**The 3 Frames of Innovation**

Source: *Tip Consortium.net* (Transformative, Innovative Policy Consortium).
<http://tipconsortium.net/about/>

In Africa and Asia, one of the well documented case studies of innovation in industrial policy implementation is the Malaysian Lab approach utilized by the Prime Minister's office in 2010. Indeed, the "transformative change" framing of the issues around innovative industrial policy was the thematic underpinning of the change in Malaysia's industrial policy direction. Please refer to Figure 3 above. The Malaysian long-term economic plan, called the National Transformation Program with a mission to transform Malaysia into a high-income nation by

2020, comprised a Government Transformation Program and an industrial policy called the Economic Transformation Program, ETP (World Bank, 2017). According to the World Bank (2017), the ETP reflected the government's industrial policy of picking priority industries, choosing projects to accelerate development of the strategic or prioritized industries. The special purpose vehicle of government called the Performance Management and Delivery Unit (PEMANDU) was then mandated to support implementation and monitor the delivery of the Economic Transformation Program. For the ETP, the industrial focus was on twelve national key economic areas (NKEAs) namely: oil gas and energy, palm oil and rubber, financial services, tourism, business services; and wholesale and retail. Other NKEAs included communications content and infrastructure, electronics and electricals; and agriculture. In addition, there were 3 NKEAs that were not enablers for the industrial sectors: education, healthcare, and Greater Kuala Lumpur/ Kiang Valley.

Implementing the new industrial policy in Malaysia after heightened public discontent with the government necessitated the introduction of a new approach that consisted primarily of a new 'delivery unit' in the Prime Minister's office to drive implementation of the industrial policy. Second, delivering the industrial policy required a newer approach to setting outcomes in conjunction with the private sector industrialists, granularising the targets, and translating the overarching industrial policy into concrete projects with clear deliverables to achieve the industrial policy priorities. The innovative tool used to translate the industrial policy objectives into programs and granular projects was the "Lab", a series of intensive stakeholder workshops to detail and sequence industrial priorities into mini-projects, and establish accountabilities to deliver on each key result area.

Despite the positive case studies and results attributed to the Malaysian innovation of using innovation or policy-style Labs for industrial policy formulation and implementation, Sahel and Jordan (2015) present alternative if not parallel innovations in industrial policy in other countries. While they admit the credible benefits of PEMANDU's dynamic "growth diagnostics" to identify cross-cutting problems inhibiting industrial development and then translate the resolutions to granular goals and action plans, a few limitations such as group-think and the assumption of steep learning cycles remain. Nonetheless, most reviewers of the Malaysian

success acknowledge the success of the institutional innovation engendered by PEMANDU (World Bank, 2017).

Based on the outcomes of the Malaysian experiment classified by the World Bank as a success, several other countries have attempted the use of the Malaysian Lab approach to aspects of their respective economic policy implementation, and more specifically to industrial policy implementation. These countries include Tanzania from 2013 to 2017, South Africa in 2014, India in 2016, Sultanate of Oman in 2016, Federation of Russian in 2017 and Nigeria in 2018.

The focus of this research is on the Nigerian Focus Labs to accelerate industrial policy implementation immediately after the economic recession of 2016 to 2017.

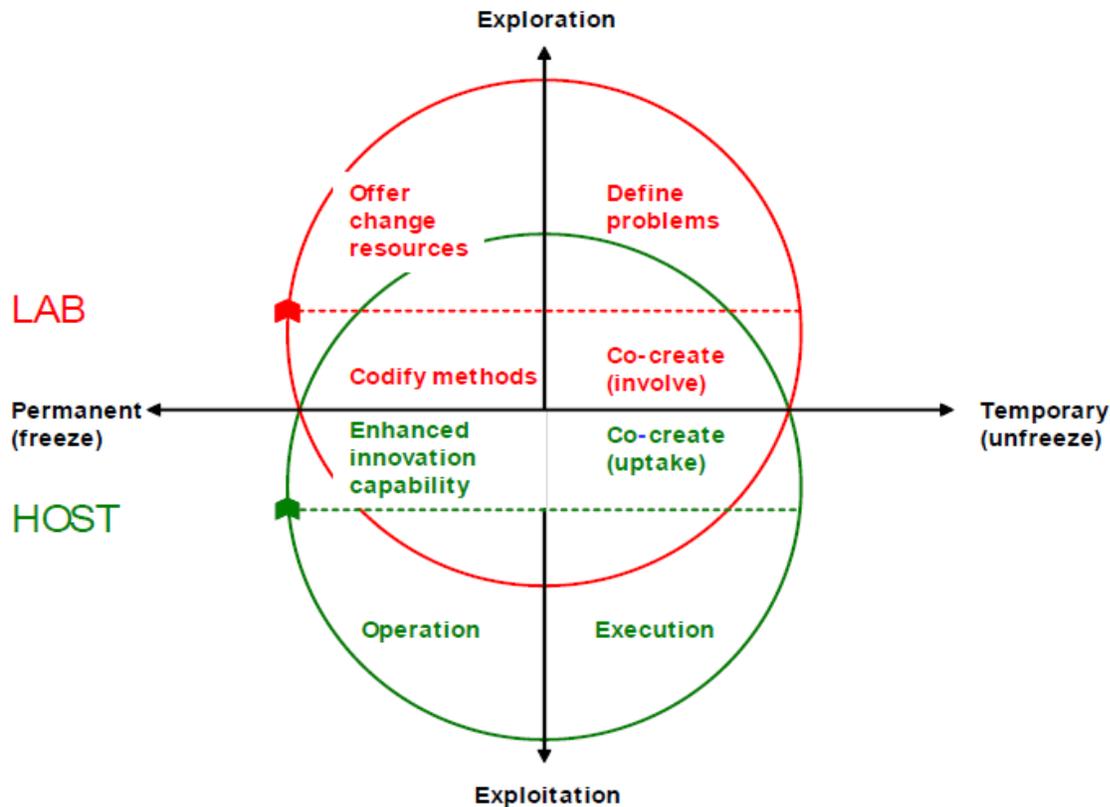
3.0 OVERVIEW OF THE LABS: CONCEPTS OF THE FOCUS LABS

3.1 What is a Lab?

Labs were run as in-depth, multi-interest stakeholder workshop in Malaysia from 2010 (World Bank, 2017) with participants from both the private and public sector. The labs were designed to break down government strategic priorities, including industrial priorities, into granular interventions, and then scale ownership among stakeholders. Based on the World Bank study “Labs are one of the highest value added innovative tools” and a multi-stakeholder problem solving tool introduced by PEMANDU, the delivery unit in Malaysia, for a minimum duration of 6 weeks (World Bank, 2017, p. 36) . An alternative definition is “The Lab is a consultative process where people work together iteratively to design solutions to identify policy challenges within a strict time span (World Bank, 2017, p. 38). Generally, the Labs were made up of a full-time team to resolve complex problems in an iterative process , and within a dedicated physical workspace , to deliver big fast results (PEMANDU, 2017).The approach was described as “radical, practical, and innovative” by the PEMANDU staff. (Zehan, 2017).

Christiansen and Bason (2011) have captured the innovative and co-creation aspects of the lab as well as the overall logic of the lab as represented below in Figure 4:

Figure 4: The logic of labs



Source: Christiansen and Bason (2011), the authors' translation

3.2 Labs in Industrial Policy Development and Review

Since independence in Nigeria, the Federal Government of Nigeria has adopted the disciplined process of national development plans. Hence, since the First National Development Plan of 1962-1967 through the Fourth National Development Plan of 1981-1985. Most of these national development plans were detailed with strict cadence from national objective to programs, projects, and estimated project costs. Some elements of project owners, implementation action steps, and timelines were also included in the National Development Plans or their annexures. These plans encapsulated the industrial policy thrusts of the Federal Government and by the 1980s the Federal Government had proceeded to develop a document called the Industrial Policy of Nigeria. (Federal Ministry of Industries, 1988).

However, with the advent of military rule in 1983 and the weakening of the civil service structures responsible for disciplined planning, the rigors of the national development plans and their successor rolling plans or perspective plans weakened. With the return to civilian rule in 1999, some attempts at structured economic policy planning and industrial policy formulation

was reactivated with the development of the National Economic Empowerment and Development Strategy (NEEDS) of 2004 and the Nigeria Vision 20:2020. (National Planning Commission, 2004; National Planning Commission, 2009). While the NEEDS document contained mainly over-arching elements of industrial policy, the Nigeria Vision 20:2020 contained supporting documents such as the First Implementation Plan that contained project costing.

Other key industrial policy documents developed in the period from 2000 to 2015 include the Backward Integration Program to incentivize industrial value-added and local value chains in selected industries, and the Nigeria Industrial Revolution Plan (FMITI, 2014)

By 2017, when the Federal Government developed the last 4-year medium-term development plan in the 2009-2020 long-range plans, to span from 2017-2020, it was evident that with the biting economic recession, a new approach to development plan implementation needed to be adopted. First the Federal Government established an Economic Plan “Delivery Unit”, called the Economic Recovery and Growth Plan (ERGP) Implementation Unit, with some mild conceptual similarities to the Malaysian PEMANDU. Secondly, the Federal Government leveraged the experience of the Malaysian PEMANDU to run the Nigerian version of the “Labs”. In Nigeria, the Labs were called “Focus Labs” to reflect the razor-sharp and sector-specific focus on the priority sectors of the Economic Recovery and Growth Plan.

The next sections examine the typology for Labs before reviewing the innovative use of Labs in Nigeria.

3.3 Types of Labs

Due to the rapid evolution of ‘labs’ in the public sector since the year 2000, and the practice-driven approach to public sector labs, a strict typology and conceptual classification of these labs is yet to emerge. However, Schuurman and Tonurist (2017) and Fuller, M. & Lochard, A. (2016), amongst other authors, have provided insights into the taxonomy of labs. A simple description of different types of Labs available in the literature are summarized below:

Table 1a: Different Types of Labs

Living Labs

Innovation Labs

A bottom-up approach to testing digital technologies with their real-life actual users in their natural settings or settings that reflect the whole holistic environment of the user OR User-centered, open innovation ecosystem based in systematic user co-creation approach (Ballon & Schuman 2015)

A hybrid of a think-tank, digital R&D, and a social enterprise where the public sector can test and scale out public services.

Source: Adapted from (Schuurman and Tonurist, 2017)

Table 1a: Different Types of Labs

Policy Labs	Social Labs
<p>Policy labs are setting that construct public policies in an innovative, design-oriented environment by engaging citizens and companies aiming to tackle complex challenges in the formulation and implementation of policy. Based on assumption that policy oriented research is done by multi-disciplinary teams rather than individuals, the policy lab attempts to simulate this collaboration.</p>	<p>Social labs are platforms for addressing complex social challenges that have 3 core characteristics:</p> <ul style="list-style-type: none"> • Social (versus Technocrats or Experts): Diverse participants from different sectors of society and business community. • Experimental: Adopt a creative, iterative, ongoing approach to resolving an issue rather than a one off experiment. • System: Ideas and initiatives harvested from the social labs are expected to be released first as prototypes and or systematic in the society.

Source: Fuller, M. & Lochard, A. (2016) Public policy Labs in European Union Member States

3.4 What is a Focus Lab?

In Nigeria, similar to the intensive stakeholder workshops using iterative problem-solving approaches deployed in Malaysia, the Nigerian government adopted what was termed a “focus lab”. The objective was to have a forum for private-sector investors to confront senior government officials, including Cabinet ministers and regulators, with their most complex and intractable business problems, and expect solutions within a time frame of six weeks (Osinbajo, 2018). This open approach implied a 360 degree consultative approach where the all providers of inputs into the policy, regulators and ultimate approvers of the policy in the Executive arm of the Federal Government were consulted simultaneously. From the ERGP Focus Lab (2018) brochure, a focus lab, in the context of development plan implementation, is somewhat different from the conventional physical laboratory experiment or even the innovation lab often used in product development. Conversely, it is a problem-solving platform that focuses on tackling issues faced by an entity through an iterative trouble-shooting process (ERGP Focus Lab, 2018; Ministry of Budget and National Planning, 2017). In essence, these sector-focused or focus labs were designed to tackle complex sectoral challenges by generating ideas and resources to solve them. The expected outputs from the labs are:

- Detailed implementation programmes, with the total funding required from both the public and private sectors; and
- Identifying the person responsible/accountable for each line item, with timelines attached to stages of the implementation plan.

Focus Labs, although being utilized in Nigeria for the first time to facilitate implementation of the ERPG, have been successfully used elsewhere (e.g Malaysia, Oman, South Africa) to transform the policy implementation process en route to accelerating growth in the national economy.

3.5 ERGP Focus Labs: Objectives and Approach

According to the Ministry of Budget and National Planning (2018), the novel idea of adopting Focus Labs to accelerate the attainment of the strategic objectives of Nigeria’s Economic Recovery and Growth Plan (ERGP) was a key outcome of a Cabinet Retreat on ERGP Implementation held in Abuja on August 10, 2017 with the theme: “Getting Implementation Right”. The over-riding objective of the ERGP Focus Labs was to speed up the implementation

and delivery of the strategic objectives of the ERGP by unlocking private sector capital in some key sector of the economy. The initial focus areas of the Labs are:

- Agricultural and Transportation
- Manufacturing and Processing; and
- Power and Gas.

Similar to the Malaysian Labs, the approach is to bring all relevant stakeholders in the public and private sectors into periods of intensive interactive working sessions, to brainstorm on practical steps to overcome any identified challenges in the selected areas, through collaboration. Other goals of the Lab were to identify projects that will drive catalytic growth in the economy, mobilise or unlock private investments and creating jobs for the citizenry. In addition, there was a clear intent to unlock stranded capital or private-sector investments stalled due to red-tape and bureaucracy, and harness public-private partnerships (Ministry of Budget and National Planning, 2018). Initial target was to unlock at least US\$25 billion, or its equivalent in Naira in private sector investment, by 2020.

The Focus Labs were conducted in three phases: the pre-labs, main ilabs and the post-labs. The initial pre-labs phase was conducted for 7 weeks before the main lab that ran from March 12 to April 20, 2018. The post labs phase commenced on April 23, 2018 and ended on May 11, 2018,

3.6 Scope of the ERGP “Industrialisation” Focus Lab

The key objective of the industrialization lab (manufacturing and processing) was to resolve bottlenecks to investing and other policy issues presented by private-sector project owners, with the ultimate objective of increase private sector investment in:

- Selected manufacturing sub-sectors and products
- The processing of selected solid minerals in Nigeria.

Table 2: Project Clusters in the ERGP “Manufacturing and Processing” Lab

Manufacturing & Processing

EPP#1 Food Manufacturing

EPP#2 Textile, Garments & leather industry

EPP#3 Mining & Downstream Activities

EPP#4 Petrochemical Industry

EPP#5 General Manufacturing

EPP#6 Industrial Parks

Enablers

Source: ERGP Focus Labs (2018); Nigeria Economic Recovery & Growth Plan (ERGP) 2017-2020; National Bureau of Statistics (NBS) Nigeria Investment & Promotion Commission (NIPC)

The industrialisation labs was conducted by two sector ministries within the selected areas Ministry of Industry, Trade and Investment and Ministry of Mines and Steel, while the process was facilitated by the ERGP Implement Unit (ERGP-IU) which was created under The Presidency but domiciled in the Ministry of Budget and National Planning.

The Labs were therefore run along three work streams: Agriculture and Transportation, Manufacturing and Processing, Power and Gas. The Manufacturing and Processing Lab was essentially the Industrialisation Policy Lab.

During the Nigerian Labs, several industrial policy issues were raised in the “Industrialization” lab, formally called the “Manufacturing and processing” lab work stream. These policy issues include those for dairy processing, cotton and textiles processing, cassava processing and gold processing (olid minerals). While several policy reviews were done and new policies were developed for cassava dairy and cotton, this study would focus on the commodity that revealed greater attention and participant acclaim in the media: the ‘Gold processing’ or ‘Gold development policy’ (ERGP Focus Lab Newsletters, 2019).

4.0 THE GOLD POLICY

Mining has been recognized by several plan documents as an under tapped source of revenue for the government and an avenue to diversify the country's economy to be less dependent on crude oil for foreign exchange. Government statistics from the Budget Office of the Federation and the National Bureau of Statistics suggest that despite the vast solid mineral resources in Nigeria, the mining sector contributed approximately 5-6 per cent of GDP on the average per annum in the ten years from 2007-2016. Only 12.3% of mining exports are processed, with 87.7% exported as raw minerals, and the Ministry of Mines and Steel Development has set a target of 10% of GDP by 2025 in its new "Roadmap for the Growth and Development of the Nigerian Mining Industry". (Ministry of Mines and Steel Development, 2016). The new roadmap, that served as the strategy or industrial policy for the mining sector recognised over 40 minerals, seven of them listed as priority minerals, namely limestone, coal, bitumen, gold, iron ore, lead/zinc, baryte.

As at 2018 when the ERGP Focus Lab was conducted, growth of the sector continued to be hindered by the perennial issues of poor infrastructure, unstable power, and low availability of capital for small-scale miners to access leading-edge mining equipment. Despite the development of the Roadmap that detailed a clear mining framework that was comparable to some other countries, the over-riding problem remained the low perception of the policy and the enabling environment by mining sector investors (Fraser's, 2014). From the last available Fraser Institute survey of mining companies before the Focus Labs, the worldwide survey rankings administered by questionnaires to mining executives had suggested some deterioration in perception of Nigeria's mining sector with a drop from 75th of 112 in 2013 to 116th of 122 countries in 2014. Key determinants of the decline was increased "uncertainty concerning environmental regulations" (-25 points), trade barriers (-9 points), and regulatory duplication and the legal system (each -8 points).

Gold is typically found in northwest, central and southwest regions of Nigeria with an estimated holding reserve of over 600,000 ounces of high quality gold. Like some other metals, the gold value chain started from exploration to extraction, beneficiation, and refining. However, several of the gold mining concessions were still at the exploration and extraction stages, and there was no single gold refinery in Nigeria. Mining sector project owners who had registered at the ERGP Focus Lab had presented this challenge at the Labs that ran from March to May 2018. (ERGP Focus Lab Newsletter, December 2018).

The challenge for the Focus Lab was to accelerate the development of a holistic National Gold Policy that provided a clear framework for gold processing and refining in Nigeria and support the development of a gold purchase scheme for locally refined gold (Udoma, 2018). Using the 360 degree stakeholder, with the leadership of the Ministry of Mines and Steel Development (MMSD) including two Cabinet ministers responsible for oversight of the Ministry and their directors, the prioritisation of the National Gold Policy amidst other investor issues presented was achieved. Iterative brainstorming sessions were conducted followed up with bilateral solutioning sessions with the responsible directors in charge at the MMSD, and within four months, the first gold refinery licence had been issued in Nigeria.

In addition, the framework for the gold purchase scheme was being discussed with the Central Bank, and the Central Bank's readiness to purchase locally refined gold subject to some international quality standards was announced publicly by the Minister of Budget and National Planning in October 2018. By January 2019, the company that presented the gold policy issue to the ERGP Focus Lab and was awarded the first gold refinery was included in the London Stock Exchange Group "Companies to Inspire Africa 2019" List. Further publishes reports indicated that the draft gold policy was subject to finalisation as at February 2019 (ERGP Focus Lab, 2019), with background checks suggesting finalisation during the first half of 2019. With the pace of development of the gold policy, the policy development cycle would have been completed within an estimated nine to twelve months, using an open, transparent method.

The development cycle for the National Gold Policy is compared in the next section with one of the more popular industrial policies developed in Nigeria this 21st century: the Backward Integration Policy for cement.

4.1 The Cement Policy: Backward Integration Policy for Cement

In 2002, the Federal Government introduced the backward integration policy (BIP) and the import substitution policy in the cement manufacturing sector (Alayande, 2018). The strategic intent of the backward integration policy for the cement industry was to create an enabling environment to expand the cement sector to meet the national demand, and transform Nigeria into a continental hub for cement manufacturing, supply 15% of regional demand, and generate

200,000 direct jobs and over one million indirect jobs (Ohimain, 2014). In terms of production capacity, the estimate was that domestic cement production would at the minimum be septuplet within twelve years from the inception of the policy from less than 4 million metric tonnes to closer to 30 million metric tonnes. (FGN, 2009).

In the face of limited published official documents on the exact dates for the commencement of the policy design for backward integration of cement in manufacturing, this research would rely on published literature. Akinyoade and Uche (2018) and Pilling (2018)'s publications both suggest that the policy design commenced either in 1999 or early 2000. According to Pilling (2018) who interviewed the beneficial owner of the largest cement manufacturer in Nigeria, as indicated in a Financial Times article published in London,

“It happened one day not long after the election in 1999 of Olusegun Obasanjo, the former military leader who had embraced the country’s lurch to democracy by running for the presidency. Dangote contributed both to that campaign and to his subsequent re-election in 2003. “Obasanjo called me very early in the morning and said, ‘Can we meet today?’” says Dangote, recalling the presidential summons. He wanted to know why Nigeria couldn’t produce cement, instead importing it by the boatload. Dangote told him it was more profitable to trade than to produce. Only if imports were restricted would it be worthwhile. Obasanjo agreed. Obasanjo agreed. Dangote has never looked back.”

The reconstruction of the circumstances of the cement policy from the uncontroverted accounts of both Akinyoade and Uche (2018) and Pilling (2018), and from several other similar media reports suggest three facts. First, policy design was top-down with minimal consultation, and instructed by the President and Commander-in-Chief. Secondly, the reports according to Akinyoade and Uche (2018) tend to suggest a deliberate act of “picking a winner” who was favoured, or what others have described as indefensible “crony capitalism”, suggesting competitive clientelism. Third, the time elapsed for the actual policy development period could be estimated to have been from about eighteen months to thirty months.

Table 3: A summary comparison between both approaches

	CEMENT POLICY	GOLD POLICY
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<i>Estimated Duration</i>	24 months	12 months
<i>Stakeholder Consultation</i>	Top-down	Extensive. Open 360 degree approach
<i>First Beneficiary</i>	Business Oligarch	Emerging entrepreneur
<i>Mode of Industrial Policy Development</i>		Lab approach. Series of stakeholder workshops using open prioritisation

According to the Minister of State for Mines and Steel Development Hon. Abubakar Bawa Bwari, during the foundation ceremony for the refinery being developed by indigenous minerals company Kian Smith Trade & Co Ltd. (“Kian Smith”) in Ogun State, Nigeria in December 2018, “During the focus labs of the Economic Recovery and Growth Plan (ERGP) of this administration, we discovered that a well organised gold value chain can trigger an economic revolution like it did in India, South Africa, Switzerland and others” (BusinessDay, 2018). Based on media reports, the company is expected to commence production of 3 tonnes of 99.9% gold and 1 ton of 99.9% silver before the end of 2019 (Businessday, 2018).

Several media reviews and commentaries suggest several benefits from the innovative ERGP Focus Labs (Mohammed, 2018). First, was the extensive stakeholder involvement that increased participant satisfaction, as investors, financiers and government leaders were able to have open dialogues. Mohammed (2018) for instance estimated that participants representing 180 organisations were involved six-week long workshops with at least 20 syndication meetings involving senior leadership from both the government and the organised private sector. Second, was the transparent manner in which projects were rating as a basis for prioritisation. The five-star rating methodology ensured a systematic rating approach and avoided arbitrary selection of sectors or projects to prioritise.

Overall, the literature review and media reports on the subject tend to confirm a widespread acknowledgement of the Focus Lab approach’s potential to accelerating policy development and industrial production. Nonetheless, given the nascency of the Focus Lab experiment in Nigeria,

the sustainability of this approach to industrial policy development and review would only be tested over time. However, preliminary areas that may be worthy of attention before they evolve into concerns include the cost of running the Labs, and the enormous time implications of keeping several senior stakeholders together in one forum for six continuous weeks (Punch, 2017; BusinessDay, 2018). Any attempt to replicate the ERGP Focus Labs conducted in 2018 would definitely benefit by factoring any expressed concerns by the stakeholders in any subsequent effort to replicate the Labs or scale the Labs.

CONCLUSION

The public sector innovation of focus labs has proved to be a successful experiment in Nigeria with the benefit of boosting entrepreneurship and revamping the process of industrial policy formation. Specifically, the 360° approach of co-creating industrial policy in open collaboration and conjunction with all stakeholders including industrialists and private sector operators has proven to be a viable alternative to the closed, top-down approach of the early 2000s. By using two contrasting case studies, the cement industry policy developed between, 2000-2004 and the gold industry policy developed between, 2018-2019, the value benefit of the policy approach of the Focus Lab appears to have obviated any perceived criticisms of opaqueness, crony capitalism and competitive clientelism. In contrast to the top-down approach that engendered intellectual criticisms of picking winners (Akinyoade and Uche, 2018, the open lab approach was viewed as ‘participatory’ and ‘discovered’ a young thirty-six years old lady as the first beneficiary (Adelaja, 2019; London Stock Exchange Group, 2019).

Different routes to industrial policy development continue to be pursued by different countries based on their institutional context and stage of economic development. While the intent of traditional industrial policy was simply to architect or lay guidelines for the development of an industrial economy, and resolve issues as they emerge, the goal of the new or open industrial policy, as experimented by Malaysia and now Nigeria, is to identify bottlenecks *ab initio* and build a faster policy engine (Sabel and Jordan, 2015).

The rigorous prioritisation, comprehensive or ‘global opportunity scanning’, and painstaking implementation planning that accompanies this open approach appear to yield rapid benefits for countries like Nigeria in a hurry to industrialise. Alternative approaches such as the Chinese experimentation or the state-sponsored venture capital route to discovering viable ‘priority’

sectors, or the institutionalised national-level public-private Competitiveness Council, as suggested by Schneider (2013), abound.

Nonetheless, authors such as the World Bank (2017) and Sabeland Jordan (2015) contend that the recursive policy making approach of the “Lab” model, when refined in a continuous improvement mode, may be one of the Lab’s greatest strengths.

This research study however admits that the focus labs approach in Nigeria in 2018 is still in a pilot stage having been concluded only once. Second, the financial cost of conducting the focus lab at approximately half a million dollars for the industrialization work streams in consulting and facilitation fees, alone may pose a fiscal challenge in the running of subsequent labs. Notwithstanding the costs, participant feedback and media review suggest that the benefits outweigh the costs. The measurable benefits in terms of inter-agency issues resolved, new direct investment and jobs created may only be validated several years after the lab. Even if only as an initiative in public sector rejuvenation, the focus labs are a positive innovation that would have a catalytic effect on industrialist and public sector policy makers alike.

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1.0 ASSESSMENT OF GOVERNMENT POLICIES ON THE FOUNDRY INDUSTRY IN NIGERIA.

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2.0 ABSTRACT

The study identified the current government policies guiding the foundry industry in Nigeria. The level of awareness of the government policies and strategies by the stakeholders were examined, the extent of the implementation of the policies and its strategies were investigated. Also the factors influencing the performance of the foundry industry in Nigeria were assessed. This was done with a view to develop appropriate and adequate policy framework for improving the performance of the foundry industry in the country. The study area for this research covered two geo-political zones in the country. Four sets of

questionnaires were developed for this study and these were aimed at achieving the objectives of the research. Data from the survey were analysed using statistical package for social scientist (SPSS). Both descriptive and inferential statistical analysis were used. The study concluded that though majority of the stakeholders were aware of the government policies but they were not involved in the policy formulation. The extent of implementation of the policies and strategies guiding the foundry industry is low. Among the factors inhibiting the growth and development of the foundry industry include inadequate availability of raw materials, erratic power supply, inconsistency in government policies on importation of metal cast products, obsolete machineries, inadequate infrastructures, policy discontinuity and insufficient fund for R&D. The study recommends the following among others; increment in the awareness level on the government policies and strategies guiding the foundry industry in Nigeria, review of the implicit policy for foundry industry in the National Metal Policy or separate completely the policies and strategies guiding the foundry industry from the National Metal Policy and putting more efforts in place in terms of fund and infrastructure to ensure effective implementation of the policy to be able to achieve the set goals and objectives.

3.0 INTRODUCTION

Industrialization is needed for rapid growth and development of any economy therefore leading to quick structural transformation. Most developing countries have failed to achieve industrial development despite several industrial policies and reforms. Okere (2012) identified government policies as critical elements in determining the rate of economic growth, the levels of private investment and the magnitude of credit to the private sector. In Nigeria, different administrations have put in much effort to change the nation's economic policy through reforms and technology adoptions but with little positive effect. This can be attributed to the nation's heavy dependence on imports. Virtually, all products are being imported and this is not adding value to the economic situation of the country (Essien, 2011; Okereke, 2014). The dependence of Nigeria on imports for a great part of her consumption expenditure and all her capital expenditure has been total (Okigbo, 1992). Afolabi (2008) reported that Nigeria's dependence on foreign assistance has led to production of half baked graduates and technicians with little knowledge of practical application. Adenikinju and Chete (2002) expressed similar opinion that the degree of dependence on imported inputs is still high due to factors such as inadequate supply of locally available materials, unreliability of contract supplier, poor quality of what is available and failure to meet user specifications. These, coupled with poor funding of science and technology (S&T) education in the country manifest in low wages, low technology, production of light consumer goods, and resources and labour intensive industrial sector.

A survey carried out by the Manufacturing Association of Nigeria (M.A.N) in 2005/2006 showed that 10% of manufacturing industry in Nigeria operates at 48.8% of installed capacity. Results of the survey reflects that about 60% of the companies operating were barely able to cover their average variable costs while 30% had completely closed down (Okafor, 2008, Adegbamigbe, 2007 and Udaejah, 2006 cited in Udah 2010).

Foundry processes involves making the mold and the core (if required), melting and pouring the molten metal into the mold cavity, solidification and cooling, removing the cast and core from the mold and finally fettling the product. Foundry processes can be divided into two parts based on the materials being cast, that is, whether ferrous or non-ferrous foundries. It could also be classified based on products, quantity and organizational framework (Ibhadode, 1997). Foundry castings are required for a wide range of use and range in size from components weighing a few grams to castings produced for ships and offshore oil rigs, which can weigh up to 300 tonnes.

Foundry industries are developed by many industrialized economies to support their manufacturing sectors. Global production of foundry products is about 74 million metric tons in 2003, with the top 10 producing countries accounting for 82 % (60.3 MT) of output. Seven out of these 10 countries, accounts for 41% (30.4 MT) of the output.

4.0 LITERATURE, MATERIALS AND METHODS

4.1 Overview of the Foundry Industry

The contribution of the industrial sectors to national productivity in Nigeria has undergone a steady decrease, hence economic development has been very low while poverty level has increased tremendously (Elijah and Elias, 2011). The industrial sector in the country like other developing countries is dominated by manufacturing industries producing construction materials, textiles, footwear and processed foods using simple assembly process technologies (Egwaikhide, 1997). This view was also supported by Adejuyigbe (1979), who opined that, Nigeria's manufacturing industries consists largely of assembly plants with little backward linkages in the economy since most of the inputs are imported.

Casting is one of the ancient methods of metal shaping. It includes processes such as melting of metals, manufacture of moulds, solidification, shakeout and fettling of the castings (Beeley 2001). Majority of the metal scraps collected from automobile and heavy industries for recycling goes to foundries to make new products. Foundry practice is an intermediary basic industry complementing forging and machining process through which metallic raw materials like pig iron, crop ends (steel scrap) ferrous alloys could be processed, refined and shaped into new products in the form of machine components and spare parts. The advantage that foundry has over other metal shaping facilities such as rolling mills are that the capital expenditure and time for erecting foundry units are lower and castings are normally associated with high

accuracy (Agboola, 2008). Ezekwe (1995) described foundry as “the mother of all industries” because it provides components and raw materials for all other industries. This implies that all machineries and equipment needed for technological advancement have their origin from the foundry and that there will be no true industrialization without effective functioning foundry industry.

4.2 Policy

Policy is the basic principles which guide an organization. The organization could be at firm level or national level. It is also the declared objectives that a government or an organisation seeks to achieve and preserve in the interest of national community. It is typically described as a principle or rule to guide decisions and achieve rational outcome(s). Policy is not normally used to denote what is actually done. It is usually referred to as either procedure or protocol (Anderson, 2005). Ikelegbe, 2006 defined policy as a course of action of a person, group or government within a given environment providing obstacles and opportunities which the policy was proposed to utilize and overcome in an effort to reach a goal or realise an objective or a purpose. Okotoni (1996) cited in Ogunsola (1996) viewed policy as statement of goals or a course of general plan of action adopted by government, party, organisation or an individual to deal with specific problems at hand.

4.2.1 Government policies on foundry industry in Nigeria

The policies available for foundry industry can be found in The Ministry of Mines and Steel Development under the Natural Minerals and Metal Policy. The consumption rate of steel and other metals products is regarded as a major index of industrialization of a nation. By that yardstick, when compared with some developing nations, Nigeria is lagging far behind in industrial development. The Federal Government therefore established a Bank of Industry (BOI) to offer specialized services to industry. The services include provision of soft loans and advances to large, medium, small and cottage-type industries. At state level, State Investment Corporations and other agencies exist to promote industrial development.

4.3 MATERIALS AND METHOD

The study area for this research covered two geopolitical zones Southwest and Southeast in the country and the Federal capital territory (FCT). The choice of these zones is informed by the high number of foundry firms in some of the states, relevant knowledge institutions and the government policy institutions and agencies located in the area. Lagos and Oyo States were selected in the Southwest, while Anambra State was selected in the Southeast. There are about 62 foundry firms in the country and they are located in about ten states of the Federation (Atanda and Ibitoye, 2004). Forty two (67%) of the foundries are located in the South West with Lagos State having about 28 (45%) out of the 67% in the South West. South East accounts for about 9 (14%), North Central 6 (9.68%), North West 4 (6.54%), South-South 1 (1.61%) and 0 (0%) in the North East Zone.

The study population includes foundries and their product consumers in the study area, knowledge institutions and policy implementing agencies. Total number of respondents was 245. The research instruments used were questionnaire and oral interview guide. Structured and unstructured questionnaire and multiple visit approach were employed in collecting the information needed as well as secondary data. The information obtained was used to supplement the data obtained through the use of questionnaire. Information about some operations management techniques were also obtained through personal observations. Secondary data were obtained from some public institutions such as Nigeria Bureau of Statistics (NBS) and Nigeria Institute for Social and Economic Research (NISER). The data was analysed using statistical package for social scientist (SPSS). Both descriptive and inferential statistical analyses were used which include Relative Index (RI), Mean rating, Frequency count, Percentages and Analysis of variance (ANOVA).

5. RESULTS AND DISCUSSION

The stakeholders involved in designing the policies and strategies guiding the foundry industry include the implementing government agencies, the foundry entrepreneurs, knowledge institution and consumers of the products of the industry. Two departments from the Ministry of Mines and Steel Development are involved in the implementation of these policies. These are the Steel Department (ferrous and nonferrous department) and the Metallurgical Inspectorate and Raw Materials Development Department. The policies guiding the foundry industry is embedded in the National Minerals and Metals Policy. The mineral and metal act was enacted in 2007. Table 1 shows these important key players in the foundry industry using relative importance (R.I). The government representatives and foundry entrepreneurs were rated first followed by the knowledge institutions and foundry products consumers respectively. The level of awareness about the government policies, involvement in the design and development of the metal policy by the respondents from the consumers of the foundry products, the foundry entrepreneurs and the knowledge institutions respectively were shown in Table 2. Only 34%, 54.5% and 62.9% of the respondents of the respondents from the Foundry firms, knowledge institutions and consumers of the foundry products respectively were aware about the policy while just 15.6%, 14.3% and 14 % of the respondents in the same order were involved in the development of the policy. This shows that the level of awareness among the foundry respondents is quite low and the involvement in the development of the policy is low generally among all the respondents.

Table 3.0 shows mean rating of the level of awareness on the objectives of the government policies and strategies guiding the foundry industry by the foundry entrepreneurs, the knowledge institutions and the foundry product consumers. Some of the objectives include manpower development, establishing a vibrant metal industry, producing high quality foundry products and utilization of locally sourced raw materials. The foundry entrepreneurs have the

highest level of awareness of the policy objectives in terms of banning of exportation of metal scraps (2.66), producing high quality foundry product (2.57), utilization of locally sourced raw materials (2.53). The knowledge Institution were aware of utilization of locally sourced raw materials (2.71), producing high quality foundry product (2.68) and banning of exportation of metal scraps (2.66) respectively while the foundry product consumers have the highest level of awareness in terms of manpower development (2.95), production of high quality foundry product and local technology development (2.88). These results showed that the awareness levels about majority of the policy objectives and strategies guiding the foundry industry were on the average side. For all the respondents, the level of awareness on reduction of tariff on imported raw materials, increasing tariff on imported foundry products and giving incentives to the foundry industry was very low (least mean =1.40, 1.49. 1.45 respectively). This shows that there is the need to create more awareness about the policy among the stakeholders.

The extent of implementation of the policies and strategies guiding the foundry industry were considered by looking into the extent of the effectiveness of the objectives of the policy and strategies guiding the foundry industry (Table 4.0). These were analysed based on the likert scale of well effected, effected, slightly effected and not effected by respondents from the knowledge institutions and the foundry firms. Respondents from the knowledge institutions considered manpower development (2.64), creation of investment friendly environment (2.64) as policy objectives that has been implemented up to an extent. This contradicts the findings of Onipede (2010) and Jimoh (2013) which reports that shortage in manpower has remained a major setback to Nigeria's technological breakthrough. Sapru (2004) also opined that for a policy to be effectively implemented, there must be adequate personnel and the financial resources to do so. This is followed by banning exportation of metal scrap (2.60) and creation of friendly investment environment (2.60). Scrap metal industry plays an important role in the supply of feedstock to the foundry industry. Other countries like Kenya, Tanzania and Colombole have also imposed ban on exportation of metal scraps. The foundry firms considered utilisation of locally sourced material (3.25), banning of exportation of metal scraps (3.00), maintaining good environment and industrial safety measures (3.00) as the policy objectives that has been implemented up to an extent. The least implemented of the policies as rated by the respondents are reducing tariff on imported raw materials (1.63), increasing tariff on imported foundry products (1.68), air pollution, waste and emission (mean =2.04) and increasing global competitiveness (2.12) indicating that high import duty is a set back to the implementation of the policy. This is in agreement with the findings of Okorafor (2014) which states that import duty and tariff favour imported finished products over imported raw materials with which the same product could be made locally is one of the polices that has not been implemented. (Effiong 2013 and Ugwuanyi) observed that factors such as inadequate data, over ambitious policy goals, policy

instability, compromise and conflict during implementation and corruption account for part of the implementation problem in Nigeria.

Table 5.0 shows the level of agreement of the respondents on the factors influencing the implementation of the policies and strategies guiding the foundry firms. All the respondents (foundry firms, consumers and knowledge institution strongly agreed that non availability of basic infrastructure and improving the strategies in implementing the policies affected the extent of implementation. Eminue (2005) opined that Nigeria has often formulated good policies but these get bungled at the implementation stage. Both the foundry entrepreneurs and consumers also strongly agreed that the policy could be more effective if enough capital was invested for implementing the policy (mean =4.20, 4.04) respectively. This is in line with the observation of Dick (2003) and Ikelegbe (2006) that government does not budget adequately to enable the public bureaucracy to implement the formulated polices properly. Makinde (2005) also corroborate the fact that insufficient financial funds has resulted in inability to enforce laws and provision of inadequate services. The respondents from the knowledge institutions and foundry firms also agreed bank's reluctance to shift from short term loan to long term loan hindered the effectiveness of the policy implementation. However, in India and Malaysia, banks were mandated to give financial assistance to the private sectors and also render other services as need be (Bato, 2006).

Table 6.0 presents the factors affecting the production and performance of the foundry industry in Nigeria. Analysis shows that the foundry firms, knowledge institutions and the consumers considered erratic power supply, flooding market with imported foundry products as factors that were highly affecting the performance of the foundry industry This is in agreement with the findings of Nwosu *et al.*, (2006) that poor electricity supply is one the greatest infrastructure problem confronting the manufacturing sector which imposes a huge cost on the firm arising from idle production workers, spoiled materials, lost output, damaged equipment and restart costs. The consumer and implementing agencies considered obtaining local raw materials as the factor highly affecting performance. Other factors affecting performance are high cost of materials, low patronage of local products and high cost of labour which is similar to the problems facing the foundry industry in China (China Foundry Association, 2012). However studies revealed that erratic power supply and flooding market with imported goods are the ones highly affecting production and performance of foundry industry. Manufacturers' Association of Nigeria (M.A.N) reports the result of a survey carried out by the United Nations Industrial Development Organisation UNIDO in 2008 on the factors affecting the growth rate of the manufacturing industry. The result showed that lack of infrastructure, lack of access to funds and low demand for product are major factors affecting growth rate. This support the findings of Onuoha (2009) in a survey carried out on the

manufacturing firms in Abia State in 2005 that the manufacturing sector's environment in Nigeria is problematic and harsh. The findings also indicate that these problems can lead to business failure which essentially is seen as rising operational costs without increasing sales volume. Some of these factors according to respondents during interview have led to some foundries folding up totally or operating at skeletal levels and their equipment are grounded and depreciating in value. In Nigeria between 2000 and 2008, about 820 manufacturing companies have closed down or temporarily suspended production (Borodo, 2008). The findings are similar to a survey carried out by UNIDO in 2007 with a group of national and international experts in Uganda. Similar challenges are also facing the foundry industry in Ghana and this has resulted into production of low quality cast products compared to imported ones. In addition, lack of proper quality control management practices resulted into lots of reworks during the manufacturing processes of the various components (Andrews and Gikunoo, 2011). The findings of this study also support studies in Uganda that frequent breakdown lead to low capacity utilization averaging below 50%, lack of proper technical skills, no serious linkages between the foundry industry and research institutions to complement on quality and work skills and the problem of intermittent power supply that is detrimental to the continuous casting process are some of the factors affecting the performance of the foundry among the mean rating of the factors affecting the production and performance of the foundry industry.

6.0 CONCLUSION & RECOMMENDATION

It was discovered that not all the stakeholders were aware of the government policies and strategies guiding the foundry industry in Nigeria and the level of awareness is on the average. Majority of the stakeholders were not involved in the design and development of the policy. The extent of implementation of the policy objective was found to be low and that is why the foundry firms in Nigeria is lagging behind. Also, factors such as erratic power supply, inadequate raw materials, flooding market with imported goods, inadequate infrastructure and low patronage of the locally made foundry products were identified as factors affecting the performance of the foundry industry in Nigeria.

6.1 POLICY RECOMMENDATIONS EMANATING FROM THE STUDY

The following are thus recommended after the study:

- (i) Government should review the implicit policy for foundry industry in the National Metal Policy or separate completely the policies and strategies guiding the foundry industry from the National Metal Policy. This will effectively involve the stakeholders in the policy objective design and in the development of the framework for the implementation strategies.

- (ii) There should be increment in the awareness level on the government policies and strategies guiding the foundry industry in Nigeria. This can be done through the media and adverts
- (iii) More efforts should be put in place in terms of fund and infrastructure to ensure effective implementation of the policy to be able to achieve the set goals and objectives.
- (iv) Incentives should be given to the foundry entrepreneurs to encourage them.
- (v) Banning of exportation of scraps and importation of foundry products should be emphasized the more and effected.
- (vi) Factors affecting the performance of the government policies should be critically looked into and means of sustaining the foundry industry should be given prompt attention.

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TABLES & FIGURES

Table 1.0 Important key players in foundry industry

S/N	Characteristics	R.I	Rank
1.	Government representatives	1.0	1
2.	Foundry entrepreneurs		
3.	Knowledge Institution	1.0	1
4.	Foundry Product Consumer		
		0.94	3
		0.89	4

Key: R.I = Relative Index

Table 2.0 Level of awareness and development of the policies by the stakeholders

S/N	Characteristics	Consumer; Freq. (%)		F.F; Freq. (%)		K.I; Freq. (%)	
		Yes	No	Yes	No	Yes	No
1.	Awareness of Government Policies	73 (62.9)	43 (37.1)	16 (34)	31 (66)	12 (54.5)	10 (45.5)
2.	Involvement in the development of the metal policy	14 (16.9)	69 (83.1)	7 (15.6)	38 (84.4)	3 (14.3)	18 (85.7)

Key: K.I= Knowledge Institutions, F.F = Foundry Firms, Freq. =Frequency

Table 3.0: Awareness level of the policies and strategies guiding the foundry industry in Nigeria

Policy Objectives	Mean		
	Consumers	F.F	K.I
Manpower development	2.95	2.38	2.04
Producing high quality foundry products	2.88	2.57	2.68
Local technology development	2.88	2.11	2.22
Maintaining good environment and industrial safety measures	2.81	1.84	2.17
Establishing a vibrant metal industry	2.76	2.11	2.35
Utilization of locally sourced raw materials	2.68	2.53	2.71
Banning of exportation of metal scraps	2.67	2.66	2.66

Creation of investment friendly environment	2.66	2.07	2.18
Encouraging private sector participation in foundry	2.64	2.36	2.46
Employment generation	2.45	2.30	2.65
Increasing global competitiveness	2.34	2.12	2.45
Wealth creation and poverty reduction	2.26	2.36	2.85
Reducing tariff on imported raw materials	1.57	1.40	1.45
Giving incentives to foundry industry in terms of health, labour and land	1.56	1.65	1.45
Increasing tariff on imported foundry products	1.55	1.49	1.56

Key: K.I= Knowledge Institutions, F.F = Foundry Firms

Highly aware =4, Aware =3, Slightly Aware =2, Not Aware =1

Table 4.0 Extent of Effectiveness of the Implementation of Government Policy Objectives

Factors	Mean Rating	
	K.I	F.F
Manpower development	2.64	2.88
Creation of investment friendly environment	2.64	2.75
Giving incentives to foundry industry in terms of health, labour and land	2.60	3.00
Banning of exportation of metal scraps	2.60	2.00
Encouraging private sector participation in foundry	2.56	2.63
Local technology development	2.56	2.63
Maintaining good environment and industrial safety measures	2.48	3.00
Utilization of locally sourced materials	2.48	3.25
Wealth creation and poverty reduction	2.40	2.63
Increasing tariff on imported Foundry products	2.36	1.68
Production of high quality foundry products	2.36	2.50
Reducing tariff on imported raw materials	2.32	1.63
Employment generation	2.28	2.50
Increasing global competitiveness	2.12	2.00

Air pollution, waste and emission 2.04 2.33

Key: K.I= Knowledge Institutions F.F= Foundry Firms Very Effective=4, Effective= 3, Slightly Effective =2, Not Effective =1

Table 5.0: Level of Agreement with Factors Affecting Extent of Policy Implementation

Characteristics	Mean Rating		
	F.F	K.I	Consumer
Non availability of basic infrastructure is affecting the extent of policy implementation	4.78	4.20	4.45
Improving the strategies used in implementing the policy	4.78	4.20	4.20
Poor partnership between government and private sector is affecting the implementation	4.12	4.53	3.65
Enough capital was not invested into the policy	4.20	4.00	4.04
Lack of skill and manpower affected the policy implementation	3.57	4.12	4.02
Banks reluctance to shift from short term finance to long term finance is affecting the policy implementation	4.51	4.32	3.98
Involvement of stakeholders added value to the policy	2.66	3.08	2.80
The strategies used in implementing the policy	3.09	2.08	2.50
Increment in the level of awareness of the policy guiding the foundry industry	3.13	2.56	2.33
Government support for the policy guiding the foundry industry has increased implementation	2.52	2.20	1.94

Key: K.I= Knowledge Institution, F.F = Foundry Firms Strongly Agreed=5, Agreed=4, Strongly Disagreed=3, Disagree=2, Not sure=1

Table 6.0: Factors Affecting Production and Performance of the Foundry Industry

Factors	Mean			
	Consumer	K.I	I.A	F.F
Erratic power supply	3.65	4.00	3.00	3.72
Flooding market with imported goods	3.60	4.00	3.50	3.72
Obtaining local raw materials	3.8	3.12	3.75	3.54

High cost of raw materials	3.57	3.56	3.63	3.76
Low patronage of local products	3.45	3.80	3.63	3.40
High cost of labour	3.52	3.24	3.88	3.04
Cost of other source of power	3.25	3.56	3.00	3.72
Inadequate man power	3.14	3.72	3.00	3.14
Technology transfer	3.14	3.48	3.13	3.10
Inexperienced labour/human resources	3.05	3.68	2.88	3.14
Usage of obsolete equipment	3.02	3.52	3.13	2.93
Delivery time	3.10	3.44	3.63	2.54
Transportation	2.98	3.20	3.00	2.98
Lack of innovation	2.89	3.44	2.75	2.91
High exchange rate	2.54	3.64	3.50	2.53
High import duty	2.48	3.64	3.25	2.40
Obtaining imported materials	2.25	3.44	3.00	2.52

Key: K.I= Knowledge Institutions, I.A=Policy Implementing Agencies, F.F = Foundry Firms

Highly Affected =4, Affected = 3, Slightly Affected =2, Not affected =1

THE FUTURE OF EDUCATION: A DISRUPTIVE FRAMEWORK THAT BRIDGES POLICIES AND QUALITY EDUCATION

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Abstract

The world as we used to know it, is not on the same level again. Consequently, the level and type of education dished out to students need to be reviewed from time to time. The level of innovation and skill required in industries need to be disruptive to serve the students of the future. The study examined the future of education using disruptive frameworks that bridges policies and quality education. There is need for intentional reviews of institutional policies and technical frameworks in the educational sector that meets the demand of the fast-paced world of work. It may be precisely impossible to predict the future of education, but it is certain that education will become simpler as a result of technology and the need for simplicity in various approaches to deliver products and services. The inquisitiveness of students will make them and their sponsors question the current model of formal education, particularly when they compare what they are paying for with the free access they already have to knowledge. Educators need to focus on making learning interesting for learners and helping student learn

how to learn. The consistency of this will cause a shift from the idea of getting formally educated and certified to being educated for the purpose of learning. Learners will choose what they want to learn, where they want to learn and from whom they want to learn; thus, learning will become more personalized. Technology will certainly enable education. The Nigerian educational system does not lack the required policies but the technical implementation seems laced with many hurdles. In conclusion, the Nigerian educational sector needs disruptive frameworks and technologies that guarantees the future of education.

Keywords: *Disruptive Framework, Future of Education, Industry, Policies, Universities*

INTRODUCTION

The world as we used to know it, is not on the same level again. Consequently, the level and type of education dished out to students need to be reviewed from time to time. The level of innovation and skill required in industries need to be disruptive to serve the students of the future. Kilkki *et al.* (2018) opined that disruption can be attributed to a negative occurrence, but there is need for a form of internal conflict to have innovation. The internal conflict means that some things will suffer while some part will benefit. To achieve the quality education desired for now and meet the needs of the future, the point of comfort must be left by education stakeholders. A disruptive education should be one that out-performs the present education and its delivery system. In the present Nigerian educational system, Anyadike *et al.* (2012) and Afolabi and Oyeyipo (2017) argued with over 200 tertiary institutions, the products are most times unemployable. They attributed this to the outdated school curricula and lack of employable skills. Uwaifo (2009) argued that the educational system must move away from the era of chalk and talk, rather focus on the industry needs to build employable graduates. Researchers such as Kakwagh and Ikwuba (2010) and Olokundun *et al.* (2014) noted that unemployment has been the most socio-economic challenge gripping developing nations such as Nigeria. This most times is linked to curricula of higher institutions. The curriculum should be such that help graduates to fit into the world of work or be creators of jobs (Afolabi *et al.*, 2017). Rather than waiting on the government in developing countries, the onus is on schools of higher learning to re-strategize on how to ensure that their graduates are employable and also create employment for others. Studies have pointed out the need to integrate innovative aspects that can make the curriculum sustainable such as Entrepreneurship course, Computing courses and so on (Afolabi *et al.*, 2017; Oluwatobi *et al.*, 2018; Oluwatobi *et al.*, 2019). In developed countries, the higher institutions have deeply taken initiatives to create graduates that are ready for the workplace as a result of listening to the needs of industries (Jackson, 2013). Adeyemo *et al.* (2010) opined university researchers in developed countries are able to observe the need trends of industries and examine their importance in improving the state of the nation's economy and technological advancements. Nigeria's education system should not be left behind. The OECD (2018) predicts that students in the future of education would need to develop new skills, attitude and values in order to survive and contribute to the world's future.

These set of students are termed “change agent”. The future is laced with so many uncertainty, therefore students should be prepared for deep thinking, motivated, focused and able to make well-informed choices (OECD, 2018). Education needs to go from preparing students for the industry but rather equipped individuals that become responsible for the world’s ecosystem and engaged citizens. This study aims to examine the future of education by using a disruptive framework that bridges policies and quality education. In this study, the future of education in terms of what educators need to know, the classroom of the future, gaming as a tool for education and the role of policy makers in the future of education is discussed.

The Future of Education: What Educators need to know

Educators preparing for the future of education need to be proactive rather than reactionary. The future of education may not be such that can be predicted, but educators can prepare for it. The Nigerian educational system needs to move away from the “fire brigade approach” and determine what future students, future classroom and future educational materials need to look like. Sadly, there are very few schools that are thinking in this disruptive manner. Educators that want to prepare for the future of education need to find solutions and explore the challenges facing the Nigerian educational system and its students. For instance, the present student in the Nigerian educational system has a high degree fluency in the use of technology. Okebukola (2018) reported that 68 percent of secondary school students in Lagos and Rivers States have smart phones. In the study by Nwachukwu and Onyenankeya (2017), they found out that more than 38 percent of the students spent 1 to 5 hours on their smart phones. Their study noted that 75 percent of the secondary school students engaged the smart phones for social networking rather than for academic activities. This aligns with Okebukola (2018) assertion that 73 percent of university students in Nigeria will rather be on Facebook than facing their books. This is an issue educators that want to prepare for the future of education need to deal with. The number of mobile subscribers in Nigeria has risen to 150 million, while 97.2million out of them are connected to the internet (Jumia Mobile Report, 2018). The projection will continue to increase due to cheaper smart phones and reduction in internet bundles due to competition. Educators need to device ways of meeting students where they most love to be – “Social media”. Educational learning materials and teaching methods that can be accessed via social media needs to be developed for the future of education to be sustainable. In addition, it would be risky having educators that are technology illiterates trying to teach the students of the future.

The effect of the social media distraction can be felt in the poor reading culture among Nigerian students. This has become worrisome to educators and academic scholars who seem to be deliberating on active solutions to the poor trend. Oyewole (2017) asserted that most second school students in Nigeria only read when examinations are approaching and dump the textbooks when they are through with the exam process. The statistics on the senior school

leaving certificate examination popularly called WASSCE is instructive with credit pass rate of 26 percent and 17.13 percent in 2017 and 2018 respectively in five subjects which include core subjects of English Language and Mathematics. Among adults, the literacy rate according to the Human Development indices shows a dwindling literacy rate of 59.6 percent in 2016 to 51.1 percent in 2017. The onus is on Educators to utilize the space of technologies to improve reading experience among students. Educators need to focus on making learning interesting for learners and helping student learn how to learn. The reality is that a disruptive framework for using technology to attract students to begin to read more and learn more would cost “money”. With government struggling to pay and increase teachers’ salaries and low investment in the education sector with a meagre 7 percent of budget in 2018 for the education sector in Nigeria, educators must think of innovative ways of raising funds for the required quality education of the future. It is certain that the Nigerian society would demand more from the future school system and there is need to invest to get the right result. In preparing for the future of education, Okebukola (2018) summarized that educators need to be aware that;

- Students would become more inquisitive.
- Students would have greater interest in electronic gadgets to support their social media interaction.
- Students would be more interested in non-educational tasks.
- Students would have shorter attention span with poorer reading culture.

This is well illustrated in Figure 1 which showed the areas where educators need to be aware of and prepare for in order to deliver the quality education for the future students.

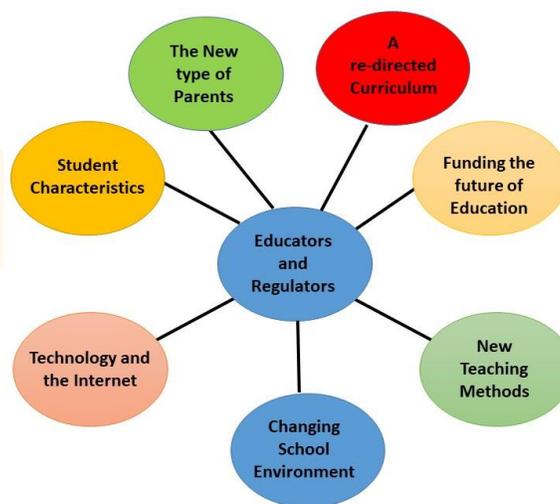


Figure 1. Awareness illustration for Educators in the future of education

Classroom of the Future

Technology is playing a crucial role in modelling the classroom of the future. Presently with the power of artificial intelligence (AI) and other intelligent software, the physical and emotional state of students in a learning environment are being measured to detail students' understanding and performance (Okebukola, 2018). The AI is able to measure facial expression, heart rate, skin moisture and even odour and report in real time to educators. Also used in the present classrooms are smart boards, virtual reality (VR) and augmented reality (AR) to aid teaching. With the dwindling rate in the number of educators, developed countries are deploying the use of robotics to teach students. The disruptive nature of technology in education would be such that classrooms may not exist in the physical form as it is experienced today. Technology would create networks that would break geographical boundaries. The place of a disruptive technology in education would ensure that learners will choose what they want to learn, where they want to learn and from whom they want to learn; thus, learning will become more personalized. In preparing the Nigerian educational system for the future of education it is important to consider the peculiar challenges of the system. The present state is that there are very few schools for the teeming Nigerian population. It is recorded that about 2million students apply for Joint admission matriculation board examinations annually and only a quarter get to be offered admission. In addition, at the grassroots, there are over 10.5million out-of-school children in Nigeria and yet less classrooms to take them. It becomes more worrisome if the statistics remains the same with a growing population of over 200 million at a growth rate of 3 percent annually. In order to address this, classrooms of the future need to be flexible. New learning agents need to emerge while networks play a major role. Adedeji (2018) opined that new ideas and ideologies must drive the future of classroom. Education must disrupt itself and allow technology to play a leading role. Presently, some schools in Nigeria have started Massive Open Online Courses (MOOCs) in the educational space which require no classrooms. Using module platforms, educators and students do not have to be in same physical classroom space. They are taught, graded and guided in an online network space.

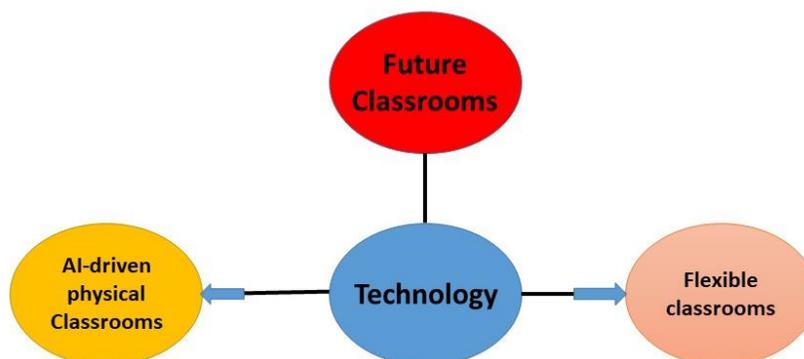


Figure 2. Classroom of the Future driven by technology

Gaming as a tool for Education

Apart from technology playing a crucial role in modelling the future classrooms and the delivery of learning, games can be incorporated in the classrooms of the future to derive several benefits. Figure 3 showed some selected games that can be used as a tool for education for students in a classroom setting. In a presentation by Akinkugbe (2018), it was recorded that board games engenders patience through the process of taking turns, problem solving skills, enhances social interaction and communication skills through the face to face interaction, increases vocabulary through speech improvement, increased focusing range, improve cognitive thinking and confidence building. In this age of technological distraction, gaming ensures that communication is increased, listening skills are improved and teamwork skills are practiced. The present set of students and children are drawn to non-educational tasks such as gaming and take games seriously. They all want to be winners but do not always know how to handle losing (Akinkugbe, 2008). By using games as an educational tool, students are to learn how to lose gracefully, how to joke around and how to celebrate wins. This is a wonderful opportunity for them to learn good sportsmanship skills (Akinkugbe, 2008). Educators need to focus on making learning interesting for learners. A classic example of a game that can be used by educators in a classroom setting in the future of education include the use of Monopoly board games. Although, these games are moving to online space in order to continually attract the tech-savvy children of nowadays. In the Monopoly game, money management strategies are taught to players/students. Monopoly teaches players the importance of having an “emergency fund” to take care of unexpected events. This is perhaps the most important lesson in both the game and the real world. The game teaches risk management, cash flow in terms of savings and investment and strategic management.

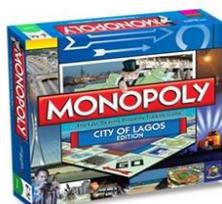


Figure 3. Selected games as tools for education

Source: Akinkugbe (2018)

Akinkugbe (2018) stated that the Monopoly game promotes positive change in the society by teaching values, rewarding ethical behavior, highlighting state laws, educating players about personal finance while re-iterating these lessons in a fun and engaging way. Players are required to pay income tax, pay rent to other players and pay utility bills, and protect the environment. The game promotes a sense of integrity among players by discouraging negative behaviour and rewarding positive behaviour in an engaging but symbolic way.

The role of Policy Makers in the Future of Education

Policies are deliberate actions that act as a map in decision making in order to achieve documented goals and objectives. Quality education is practically impossible with a sound policy in place to drive it. Educational stakeholders too are incapacitated without a goal in place to arrive at the desired destination of “quality education”. In preparing for the future of education, it is important to take a look at the past and present policies that have shaped the education system. Nigeria has operated under three (3) main era of pre-colonial, colonial and the 6-3-3-4 system. The latter educational system was introduced in the early 1980s to cater for the technological advancement of the 21st century and produce the complete graduate. Under the Universal Basic Education it has been reformed to a 9-3-4 system. However, all these systems in most cases have not delivered the required result of creating employable graduates and thinkers for job creation. The national educational goals are centred on philosophies revolving around the nation, the individual, the state of the world and capacity building. Policy formulation for Nigeria’s educational sector is formulated, co-ordinated and monitored by the Federal Government of Nigeria (FGN). Therefore, through the parastatal of the Nigerian Federal Ministry of Education the quality of education is monitored and co-ordinated. Oyedeki (2015) opined that a major lapse in the policy formulation in the Nigerian education space is the non-involvement of teachers in the policy formulation. It is only the ministers/commissioners of education and the professional officers of the Federal and State Ministries of Education that formulate the educational policy for the country (Oyedeki, 2015). A disruptive policy framework would be such that makes the teacher the central part of policy formulation in the Nigerian education system. How do you make a teachers transmit the idea of the Ministry without their involvement in the formulation of the idea? There is a disconnect in the Nigerian education policies which a disruptive policy framework can help address.

Due to lack of funding for the public schools right from the primary section to the tertiary level, the involvement of the private schools have helped to increase the quality of education in the nation. Most scholars believe that the curriculum has it has been centred on the 6-3-3-4 system, has not been able to solve the 21st century challenges pervading the nation. According to UNESCO (2008), the curriculum should be so robust so as to prepare the young ones to be

able to handle the explosion of new knowledge in technology and science-oriented world. UNICEF (2000) noted that a sound educational policy should involve the students, content, process, environment and the expected learning outcomes. Njoku (2016) argued that the bane of Nigeria's education policies has been lack of implementation. This has not allowed the goals of the 6-3-3-4 system to be realised in the classroom and in the students. The unsuccessful role of educational policies is reflective of the state of infrastructure, manufacturing and economic state within the country. There are many challenges the Nigerian education sector has to deal with, many of which can be address through a continuous and conscious implementation of the right policies. A nation can only develop as much as the quality of its education sector. Policy makers have a crucial role to play in determining the future of education in Nigeria. Much has been said about the role of the industry. The industry may want to take part in the grooming of quality education of students but without policies in place, it becomes a herculean task. Universities and the industry cannot work in isolation to breed quality graduates. Both have to work together to create the right applicable content in ways that cultivate the right sets of graduates. Figure 4 showed an approach to use policies to prepare for the future of education in Nigeria. In Figure 4, quality teachers are the core of policy making in the future of education not politically appointed personnel. Quality teachers can only be obtained through proper funding to train, retrain and motivate them. The funding is also required for the proper equipment and design of a conducive teaching and learning environment. In obtaining adequate funding for Nigeria's educational system, the government cannot do it all. The private sector must contribute to the funding of the educational sector in order to get a robust and sustainable workforce to drive the technological revolution in the industries. Quality teachers should be at the core of creating curriculum that means the needs of the industry and future aspirations. In all there is need for uniformity in standards. This is where non-governmental organizations and the ministry of education comes in. They are guides to provide quality controls and quality assurance to the process, content and environment for quality education.



Figure 4. Teachers at the core of Policy Making in the Future of Education

CONCLUSION AND RECOMMENDATION

The study examined the future of education using disruptive frameworks that bridges policies and quality education. Educators preparing for the future of education need to be aware that students' characteristics is evolving, technology and internet diffusion among students is increasing, the type/requirement of parents are changing, innovative funding strategies must be identified, a sustainable curriculum must be developed and new teaching methods must be mastered. The study noted that the classroom of the future would be largely driven by disruptive technologies. Either that the disruptive technologies would facilitate easier teaching and assessment of students' performance or there will be no classrooms at all (no geographical boundaries). In developing new teaching strategies, educators should not ignore gaming as a tool for educating students now and in the future of education. The study noted that policy makers are crucial in the future of education. Quality teachers are at the core of sound policy formulations, as their involvement would ensure a more robust and sustainable education system. The Nigerian educational system does not lack the required policies but the technical implementation seems laced with many hurdles. In conclusion, the Nigerian educational sector needs disruptive frameworks and technologies that guarantees the future of education.

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**CREATIVITY AND INNOVATION IN GOVERNANCE:
AN APPRAISAL OF PUBLIC PERCEPTION AND
ADOPTION OF (TSA)**

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Abstract

This study is an examination of public awareness, perception and adoption of the technologically innovative tools in the management of the economy. The introduction of Treasury Single Account (TSA), Bank Verification Number, (BVN) and Voluntary Assets and Income Declaration Scheme (VAIDS) are some of the technologically driven innovations which the government believed would assist in driving the war against corruption in Nigeria and also improve transparency in the governance process. While effort is expended in the introduction

and pushing of the innovation through the system, not much is known about the rate of public's awareness, perception and adoption of the innovation in the country, factors that are considerably important in its success. The objective of this study, therefore, is to find out how well Nigerians knew about the TSA during the introductory stage, as well as determine what was people's perception of the new idea and the level of acceptance within the society. Anchored on the Diffusion of innovation and the public sphere theories, the study adopted a mix of discourse analysis and survey of 115 persons for their views on the subject matter. Situated within the public sphere theories, the study examines opinion leaders' assessment as well as the roles of the media in the society as agents of change and influence in relation to the discussions following the introduction and adoption of these innovative techniques of governance.

Keywords

Awareness, Bank Verification Number, Innovation in governance, Media, Treasury Single Account (TSA), Voluntary Assets and Income Declaration Scheme (VAIDS)

Introduction

Mismanagement of resources, corruption and indiscipline among others, rank high among factors said to be causing wastage of resources and robbing Nigeria of development. Successive regimes from 1966 up to 1999 through to the present have identified corruption and indiscipline as recurrent features in governance and social life. Nevertheless some efforts to solve them have also been canvassed and implemented with each measure meeting with some form of opposition. However, many of these options were not technologically driven, creating room for abuse and hence achieving little success. Consequently, the present government activated the technology-driven TSA hitherto kept in the coolers, in order to digitally manage and control excessive corruption in the system.

As Anya (2002); Agbo (2002: 270) and Adegbite (1991: 85) indicate, 'the issue of corruption, mismanagement and underutilization of public enterprises had resulted in huge losses in resources and manpower potentials, hence the government's decision to opt for technology-driven and dependable ways to solve the problems.' By applying creative and innovative approaches to a known problem, the government opened the floodgate of discussions on a theme that is germane to the country's survival and future greatness. Consequently, the mass media, public opinion leaders, political actors, professionals of all hues, all come to the public sphere to share their views about this new idea.

Expectedly, the media as the public sphere is adept at setting the agenda of debate on this public issue and they provided needed platform for opinion leaders, political actors and other important social commentators to make their opinion known to Nigerians in their assessment and acceptance of the innovations. As the media provide platform for all to express their views on certain issues, the public sphere, exists as a means of public discourse and as a veritable aspect of transmitting democratic principles and governance (Habermas, 1962).

How well the media and social commentators have been able to discuss the introduction, perception and acceptance of these initiatives, as well as the extent to which the citizens embraced them are important factors for study. A study of the public sphere in Nigeria will significantly add to extant public knowledge and also advance the frontiers of social research in public discourse and political governance. Furthermore, it hopes to provide framework and foundation upon which future research work in public discourse analysis and dynamics of the public sphere can be pursued.

Statement of the Research Problem

Government's introduction of Treasury Single Account (TSA) as a technologically-driven innovation was believed to assist in driving the war against corruption in Nigeria and also improve transparency in the governance process. While effort was expended in pushing the innovation through the social system, not much was known about how adequately the relevant public was informed about it; their perception of the innovation and their acceptance/adoption of same – factors that are imperative to its success. The problem therefore is that without adequate public awareness of the new initiative and considerable adoption of same by the people, the purpose may not be fully realised. The study therefore explores public perception, understanding, and acceptance of the initiative as a creative measure to curb corruption in the country.

Objectives of the Research

The specific objectives of the research are:

4. To determine the perception of the public towards the TSA innovation
5. To determine level of adoption/acceptance by the general public
6. To determine dominant information source by the general public

The Research questions

The research questions for this study are:

4. What is the perception of the public towards the TSA?
5. To what extent did the general public adopt/accept the innovation?
6. Through what medium did the public gain knowledge of the TSA?

Theoretical Framework

The work is anchored on the framework of the public sphere and the Diffusion of Innovation theories. The public sphere is understood in relation to the mass media's role in the society as espoused in Habermas' 1962 work, "The Structural Transformation of the Public Space." The notion of this theory is that it would help to inform scholarship on problems of the relationship of state and civil society, the origins and prospects for democracy and the impact of the media, Calhoun, (1992:vii) Habermas made the point that an informed, knowledgeable public should dictate democratic politics in the public arena, against the secrecy characterizing autocratic regimes. Consequently, he suggests that the private political opinions of individuals and other pressure groups should become the public opinion (formed in the public sphere) of the people as a whole which then could be construed as advice to existing political authority.

The study examined how the public sphere offered platform to various elements in the society – political actors, commentators, opinion leaders, etc. – to analyse and dissect the introduction and adoption of TSA as a governance instrument. The analysis is along their understanding, adoption and perception of these government’s principles. The second relevant theory in this discourse is the Diffusion of Innovation theory. This theory was first discussed in 1903 by Gabriel Tarde (Toews, 2003), who plotted the original S-shaped diffusion curve. This was followed by Ryan and Gross (1943) who introduced the adopter categories that were later used in the theory presently popularized by Everett Rogers in his 1962 book, *Diffusion of Innovations*. Rogers listed categories of adopters to include innovators, early adopters, early majority, late majority, and laggards (Rogers, 1962, p. 150).

This work assesses the significance of this theory to the attitudes of the relevant stakeholders to the innovative techniques in financial administration in Nigeria by considering the various levels or components of diffusion of innovation as enumerated above. Early adopters are extremely critical to innovation. Innovators are found to be in the smallest percentage, (12.5%); the early majority and late majority occupy the largest share of the spectrum with (34%) each; while laggards (16%) and early adopters (13.5%) follow in that order. This identified order is significant for both manufacturers to focus their research efforts, and for Management, such as Nigerian government through the CBN not to be discouraged that the relevant persons are not adopting new innovations as much as desired within a short time.

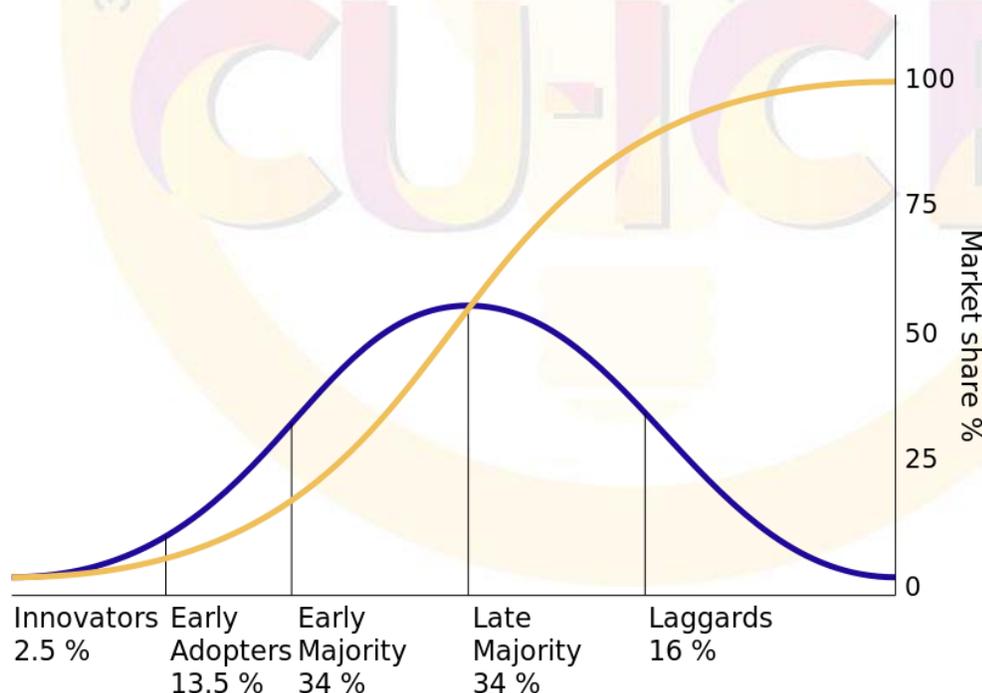


Fig. 1.1

A typical graph showing innovation adoption framework, adapted from Scott Bales, (2014). The graph above shows five categories of the adopters: innovators, early adopters, early majority, late majority, and laggards.

Literature Review

In their work, 'An Empirical Study of Social Networking Behaviour Using Diffusion of Innovation Theory, Odundo, 2003; Zeeb, (2004), cited in Odiegwu-Enwerem (2014), found that compatibility, complexity, trialability, and relative advantage were all significant factors influencing the use of social networking. The growth in social networking use by students was said to have been fuelled by a social circle incentive. Those in the group have more social interaction and pressure exists to belong to this communication circle. John MCwhorter's study, titled, A Study of Early Adopters of Innovation, identified both organizational and environmental factors as statistically significant.

Organizational influences were stronger than environmental influences in determining the rate of adoption of innovation in hospitals and organizational influences were statistically significant and present among early adopters of magnet programs in hospitals. Organizational complexity, size, slack resources, control of domain, and the presence of a competitor with magnet designation were the factors associated with the rate of innovation among hospitals and specifically influencing the early adoption of innovation among hospitals. The combination of both organizational and environmental factors had a significant influence on the rate of early adoption of nurse magnet programs within hospitals.

Similarly, Scott Bales (2016) conceptualizes an early adopter as "a person who embraces new technology or innovation before most people do, contending that early adopters tend to buy or try out new hardware items and programs, and new versions of existing programs, sooner than most of their peers.

Method of Study

The study adopted discourse of media and commentaries on the fallout of the introduction and operation of the innovation and survey to gather data from a convenient sample purposively selected from among staff of University of Lagos, Akoka, Nigeria. Using discourse analysis, the paper considered the opinion of knowledgeable financial analysts and social commentators on the subject matter. The questionnaire, as a survey instrument, was developed and used to obtain information from the respondents and the unit of analysis was each of the respondent staff members to whom the questionnaire was administered. All together 115 copies of questionnaire were analysed using Google form, an analytical research tool developed by Google Incorporated, which was used to create the questionnaire template as well as achieve accurate analysis thereafter.

The key items on the research questionnaire which the researcher sought answers to include: to find out the period of awareness of the TSA innovation in banking transaction among Nigerians; secondly to find out their source of information on the innovation; thirdly, the respondents' main source of information on the new idea.

Data Presentation and Analysis

Table 1: Time when people became aware of TSA

S/N	Time Period	Frequency	Percentage
1	First Month of the introduction	5.74	5.
2	Second Month of the introduction	31.05	27
3	Third Month	78.2	68
4	Total	115	100

The majority of the respondents (68 percent) said that they became aware of Bank Verification Number idea in the third month. Only 27 percent said they were aware in the second month while 5 percent knew about it in the first month of the introduction.

The attitude of the respondents towards the innovation was another item of study. The majority of the respondents indicated that they were positively disposed to the idea; they discussed it among work colleagues and got positive feedback which also encouraged them to go ahead with the new idea. This trend is consistent with the tenets of the diffusion and innovation theory. In this regard, awareness of the new technology, as well as influence of opinion leaders, including peers, are considered to be key factors in its adoption.

Table 3: Level of acceptance/adoption by citizens

S/N	Attitude of respondents	Frequency	Percentage
1	Positively disposed and adopted	60	52.17
2	Negatively disposed, not adopted	41	35.65
3	Neutral about the innovation	14	12.17
	Total	115	100

The above table shows that within the period under focus, 52.17 per cent of the respondents indicated that they welcomed the new idea; 35, 65 percent were negatively disposed while about 12.17 percent remained neutral.

Table 4: Key sources of information to the public

S/N	Source of information	Frequency	Percentage
1	Newspaper	25	21.73
2.	Radio	28	24.34
3	Television	35	30.43
4	Magazine	5	4.34
5	Internet	12	10.43
6	Other	10	8.69

Total

115

100

The next question was to know what their source of information was: “From which source did you hear about it?” Out of six options/categories, (30.43 %) indicated television as their major source; 24.34% said radio while another 10.43% said they got their information from the Internet concerning the introduction of the innovative products.

Discussion of findings

Survey approach

Research objective 1 sought to find out the level of awareness of the innovative instruments among the respondents. The finding showed that the majority of the respondents were aware of the introduction of the TSA and BVN in the third month as indicated in table 1 where 68% confirmed that position; 27% got to know in the second month while 5% was aware in the first month. This can be assumed to mean that the process of awareness creation occurs progressively and builds up in the third month of a new innovation. This however, depends to an extent, on the level of publicity deployed to drive the initiative. Given the level of discussions and commentaries that greeted the two initiatives, it is most likely that the government deployed a reasonable amount of publicity to support the innovation

Research question 2 examined respondents’ level of adoption of the instruments and found from table 3 that 52.17% were positively disposed to it; 35.65 were negative while 12.17 % were indifferent. There is a causal relationship between positive attitude to an innovation and its adoption. It is therefore to be expected that the full adoption of the innovation was a function of the citizens’ positive disposition towards it, indicating that they were receptive to the idea. This finding reminds us of the need to create a positive aura around any prospective idea before it may be introduced to the people if we hope to achieve high degree of acceptance. Unfortunately, the common practice, especially among governments is to push ideas unto people’s faces without the preliminary effort to curry people’s understanding and buy in. This is part of the reasons some government policies and programmes tend to fail.

Table 4 helps to answer the research question 4 which is concerned about the respondents’ key sources of information. Television ranked highest with 30.43%; followed by radio with 24.34% and newspaper 21.73 percent. Internet trailed behind with 1.43% as the sources of media information on the initiatives while other sources accounted for 8.69%.

The study shows that the introduction of the TSA and BVN in the Nigerian banking system was understandably an innovative, technology-driven initiative for the government as it achieved a number of set goals, considered to be gains by the administration and other knowledgeable personalities within the economy. As a new innovation, there were doubts about its usefulness and effectiveness; however, these doubts soon gave way to fear of loss of business and deposits especially by the commercial banks who had for long benefited from the previously unregulated process.

It is unarguable that the various discussions, commentaries and media portrayals must have enhanced people's understanding, acceptance and participation in the government initiative, hence justifying the need for adequate promotion and publicity for good ideas to flourish.

Discourse Analysis Approach

The overall thinking among commentators was that prior to the full introduction/implementation of the TSA in September 2015, commercial banks in Nigeria were said to be regularly liquid. This means that Ministries, Departments and Agencies (MDAs) kept their funds (which were meant for their daily operations) in those banks as working capital. However, it was discovered that all the funds was not in one single account but found to be in 17, 000 different accounts scattered across Nigeria and overseas (www.thecable.ng). With such dispersal of funds, government found it difficult to keep track of and protect the funds from being abused.

Typically, government funds could be mismanaged by MDAs through illegal lodgements in banks with little or no interests accruing to the government. There is also the understanding that many MDAs opened several bank accounts through which public funds were siphoned illegally, thus justifying the coming of Treasury Single Account to plug these holes. The Managing Director of SystemSpecs, the company that deployed the software for the TSA, Mr John Obaro, said that TSA has reduced government's debt-servicing costs, lowered liquidity and boosted effective use of surplus cash.

Some people, however, claim that the TSA brought much hardship to Nigerians, alluding to the "probable negative consequences of policies that do not pass through the crucible of critical thinking." According to the Managing Director, Wema Bank, Plc. Segun Olokotuyi, concerning banks' profitability after TSA implementation, over 2 trillion Naira left the banking system for the CBN while Wema Bank 'lost' almost 50 billion Naira to the innovation. In response, the Director of Banking Supervision in the Central Bank, Mrs Tokunbo Martins confirmed that the TSA regime actually precipitated unintended consequences on the commercial banks. She revealed that from inception of the TSA till March, 2016, the sum of N2.67 trillion had been transferred from commercial banks to the CBN and that amount represents 15.14 per cent of total bank deposits of 17.65 trillion within the period under study.

All this suggests that the idea of TSA may not have been properly discussed before implementation by the government. They further argued that warehousing money in one place, (through TSA) is one thing, but utilising it for the general good is yet another; they urge government to ensure that the bulk of the money realised should be released to the economy to work for the people. According to Professor Ocheni of Kogi State University, in a paper he presented at a workshop, said that TSA facilitates better fiscal and monetary policy coordination and better reconciliation of funds and banking data which in turn improves the quality of fiscal information; it also eradicates financial misappropriation in the public sector. Again, it is argued that beyond transparency and accountability, the TSA introduces economy and efficiency into overall management of public finances which in the long run would lead to effectiveness in government spending.

Conclusion and Recommendation

Based on the findings of this work, it is hereby concluded that the introduction of the governance instruments was gradually but steadily learnt of by citizens within the first three months. This awareness also determined people's capacity to accept or reject the idea based on what they perceive of the initiative. Consequently, the paper also concludes that there was a general acceptance of the idea by citizens which also most probably led to its in line with Roger's concept. The paper also concluded that the media were instrumental to awareness and acceptance of the idea; this position is anchored on the finding which showed that television and radio as well as Internet played significant roles in disseminating the information, much more than newspaper and magazine or other channels.

Based on the findings and conclusion, the paper recommends that:

4. Introduction of new ideas into governance, particularly technologically driven initiatives, need to be adequately publicised through the media to enable a good majority of the citizens to understand and buy into it.
5. Following the above recommendation, it is hereby recommended that citizens' acceptance and adoption should be made paramount even as the innovations are driven through the social system. Failure to do this may affect the success of the initiatives.
6. Finally, important programmes of government must be adequately publicised through the media channels that have been identified by the people as their primary and reliable sources of information. These include: the television, radio, newspaper and the Internet. Despite the seeming popularity of the social media, it appears that the majority of the people still rely on the traditional media for sourcing important national news.

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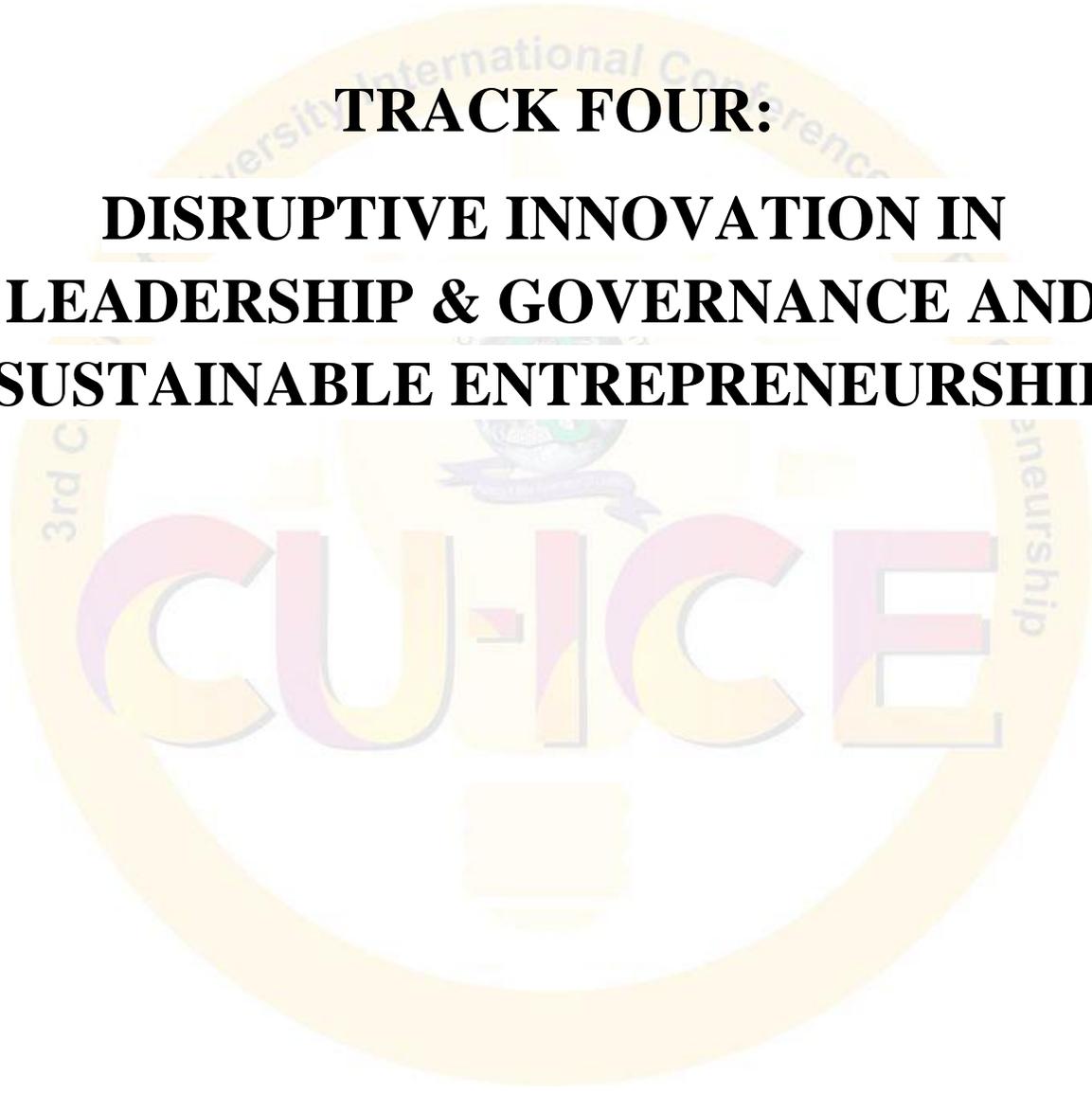
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TRACK FOUR:
**DISRUPTIVE INNOVATION IN
LEADERSHIP & GOVERNANCE AND
SUSTAINABLE ENTREPRENEURSHIP**

INDUSTRY 4.0 AS A DISRUPTIVE AGENT TO TECHNOLOGY EDUCATION BODY OF KNOWLEDGE

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Abstract:

Technology education is a resource intensive body of knowledge which is necessary tools for development of any nation. This body of knowledge has metamorphosed from manual based to mechanical and later automation as a result of series of industrial transformations. Similarly, it is currently facing a serious revolution due to proliferation and diffusion of information and communication technology. The contemporary revolution is changing the way users and machines communicates in work environment. To accommodate the revolution, nations are changing their curriculum and pedagogy to digital orientation. However, many studies have shown that, technology education is bedeviled by multiple shortcomings ranging from lack of facilities, unqualified manpower etc. Therefore, the main aim of this paper is to appraise industry 4.0 scenario in relation to contemporary status of technology education and propose possible measures to mitigate effects of the challenges on Nigeria educational objectives.

Keywords: Industry 4.0, Technology education, Transformation of Technology,

Introduction

Industry 4.0 simply refers to "fourth industrial revolution" which in other hand means integrated automation and data that is used for optimization of production, enhanced flexibility and efficiency within a smart factory environment (M.A. K. Bahrin, M F Othman, 2016). This revolution is driven by artificial intelligence, automation, ubiquitous mobile supercomputing, intelligent robots, self-driving cars, neuro-technological brain enhancements, genetic editing etc; the evidence of dramatic change is all around us and it's happening at exponential speed. Historically, steam-powered mechanical systems in the first industrial revolution have been transformed into a structure in which cyber-physical systems take place in a very short time (M.T. Dewa, D Q Adams, 2018) In the first industrial revolution, mechanical production systems emerged by using water and steam power. In the ongoing process, mass-producing technologies have emerged using electric energy and this is called the second industrial revolution (Rennung, Luminosu, & Draghici, 2016) . At the beginning of the 1970s, the automation of production processes, along with the intensive use of electronic technology, led to digital transformation, making the production processes in the industry faster (Stock & Seliger,) . The industrial revolutions can be described as follows: production with the help of machines, serialization of production, automation of production, and finally the 4th industrial revolution, adaptation to the production systems of information and communication technologies (M.A. K. Bahrin, M F Othman, 2016) In summary, these processes led to a shift from muscle strength to mechanical strength. We can define the fourth industrial revolution as the digitalization of the industry by communicating all the structures within the production systems (M.T. Dewa, D Q Adams, 2018) This revolution, which accelerates the production processes by making all the units in the production systems communicate with each other over the internet, promises that intelligent systems will be in all areas.

Brief History of Fourth Industrial Revolution (IR 4.0)

The first Industrial Revolution, the Industry 1.0, that started in the 1760s and lasted into 1830s, the production evolved from physical strength to machine power. Increasing in quantity and improving in quality, the machines used steam power. After production was mechanized during the First Industrial Revolution, the "Second Industrial Revolution" was triggered, along with the development of technology.

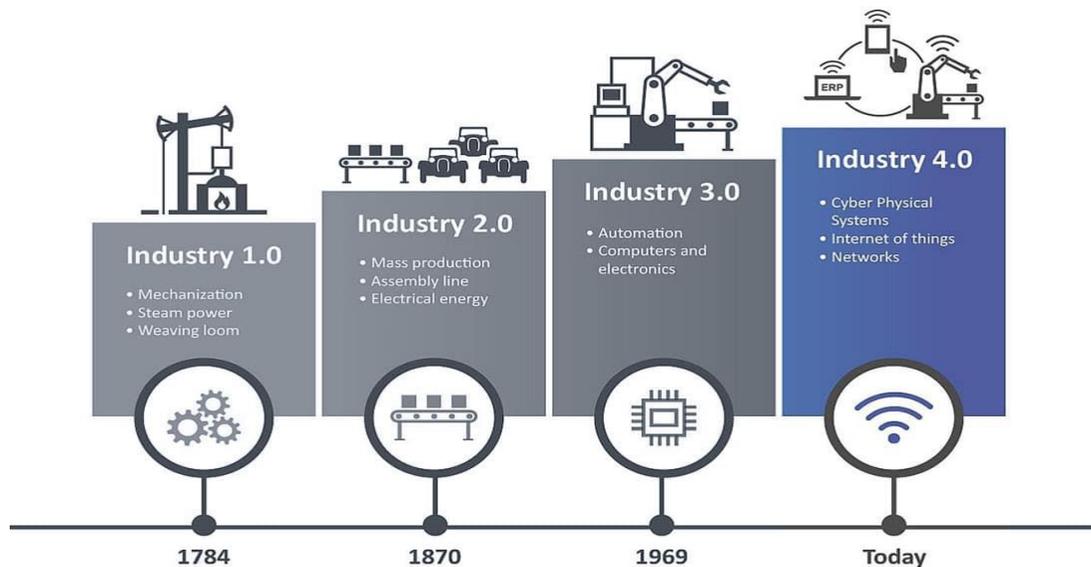
The period between 1840 and 1870 is called Industry 2.0 and also known as technological Revolution. Industry 2.0 was all about the Mass Production first powered by electricity, then kept moving by oil. This new technology superior to steam power ensured that the machines are further advanced and the production increased greatly. With

the mass production, iron and steel raw materials have become widespread and allowed the heavy industry to develop. The term “automation” was first used in the middle of Industry 2.0. Delmar Harder, Ford’s vice president of production, first described what we described as factory automation in 1947. During the first half of the 20th century, two Big World Wars had started one after the other and country borders had been shattered. Negative economic developments such as the Global Crisis in 1929 slowed the pace of industrialization of all countries.

After the effects of the World Wars, beginning in the late 1960s, Industry 3.0 started to support electrical mechanization with the power of computers. The computers that mentioned, are called the Programmable Logic Controllers (PLCs). These controllers can automate a specific process, machine function, or even an entire production line.

Another important progress during the Third Industrial Revolution was the development of communication technologies along with the supercomputer. The most important innovation that has influenced the development of technology was the discovery of the internet. It has changed everything. The internet connected PLCs, computers, sensors, robots, mainframes, and people all over the world enabled businesses to do things even more intelligently and efficiently.

In the Fourth Industrial Revolution, the machines began to manage themselves and the production process, so they no longer needed manpower. Figure 1 shows the graphical representation of how industrial revolution metamorphose from stem engines to contemporary smart driven systems



Source: D Zone

Factors Driving Industry 4.0

The manufacturing industry is increasingly shifting towards producing more technologically-complex products. It is no longer enough for the manufacturing industry to make better things – creating innovative products and services that will meet customer needs - but also to make things better - facilitating the design engineering, service planning and execution as well as improving the management and production processes. Furthermore, despite steady improvements in the manufacturing output and employment in the sector, renewed investments will be needed to build the necessary infrastructure and increase resources to support the continuous growth. This emphasis on “making better things while making things better” is driven by the following factors (M.A. K. Bahrin, M F Othman, 2016) :

- i. Rate of technology advancement and its convergence - technology changes driven by applications of these technology in the manufacturing industry such as but not limited to Big Data, the Internet of Things, and cloud computing;
- ii. Shifts in the global economic order; economic realignment due to changes in the developed world, and the rise of fast-growth emerging economies;
- iii. Knowledge & Skills for the future in retaining talent and producing future workforce by taking advantage of the opportunities of this transformation;
- iv. Competitiveness of nations and firms - greater global competition as firms must defend their domestic markets while simultaneously tapping new market segments for long-term growth;
- v. Changing customer behaviour – influenced by values, personalization and customization and the emergence of new products and new services attributes that are forcing manufacturing firms to reassess their manufacturing systems of production.
- vi. Increased regulations - environmental concerns and standards-based factors like ISO compliance that apply across an increasingly interconnected world.

Considering the above factors, economists, futurists and other experts have been good at predicting the demise of jobs they haven't been great at pointing to the new jobs that will emerge, whether people will be equipped to do them and whether they'll produce adequate income. But things don't need to be so bleak or dystopian (Stock & Seliger,). The reality is that the jobs of the future will be the ones that machines can't do and it's fair to say anything that can be measured or is based on rules will be automated. This is great news because it means we can automate the work and humanize the jobs. On this note therefore, the only safe harbor for future technology education body of knowledge are the following (Ministry of International Trade and Industry, 2017) ;

- **creative endeavors**, everything from scientific discovery to creative writing and entrepreneurship
- **social interaction**, robots just don't have the kind of emotional intelligence that humans do
- **physical dexterity and mobility**, millennia of hiking mountains, swimming lakes and dancing practice gives humans extraordinary agility and physical dexterity.

The Global Efforts on Industry 4.0

- i. Since 2011 the United States (US) government began a series of national-level discussions, actions and recommendations, titled 'Advanced Manufacturing Partnership (AMP)', to ensure the US to be prepared to lead the next generation of manufacturing (R. Rafael, 2014) (Rafael, Jackson Shirley, and Liveris 2014).
- ii. In 2012, the German government passed the 'High-Tech Strategy 2020' action plan, which annually sets billions of euros aside for the development of cutting-edge technologies. As one of the ten future projects in this plan, the 'Industrie 4.0' represents the German ambitions in the manufacturing sector (S, 2017).
- iii. The French government initiated a strategic review in 2013, named the 'La Nouvelle France Industrielle', in which 34 sector-based initiatives are defined as France's industrial policy priorities.
- iv. In 2013, the United Kingdom (UK) government presented a long-term picture for its manufacturing sector until the year of 2050, called the 'Future of Manufacturing'. It aims to provide a refocused and rebalanced policy for supporting the growth and resilience of UK manufacturing over the coming decades.
- v. The European Commission launched the new contractual Public-Private Partnership (PPP) on 'Factories of the Future (FoF)' in 2014. It is under the Horizon 2020 programme that plans to provide nearly 80 billion euros of available funding over 7 years (from 2014 to 2020) (European Commission 2016).
- vi. In 2014, the South Korea government announced the 'Innovation in Manufacturing 3.0' that emphasized four propulsion strategies and assignments for a new leap of Korean manufacturing

- vii. The Chinese government issued the ‘Made in China 2025’ strategy alongside the ‘Internet Plus’ plan in 2015. It prioritizes ten fields in the manufacturing sector to accelerate the informatization and industrialization in China.
- viii. In 2015, the Japanese government adopted the 5th Science and Technology Basic Plan, where particular attentions have been paid to the manufacturing sector for realizing its world-leading ‘Super Smart Society’
- ix. The Singapore government has committed \$19 billion to its RIE 2020 Plan (Research, Innovation and Enterprise) in 2016. Eight key industry verticals have been identified within the advanced manufacturing and engineering domain (National Research Foundation 2016).
- x. In 2017, Ministry of International Trade and Industry of Malaysia, developed a draft National Industry 4.0 Policy Framework. This document targets a range of stakeholders, with the aim of encouraging manufacturing firms to work with the entire manufacturing ecosystem to address the challenges and act on the identified enablers. The topics covered are linked to Malaysia’s business and competitive advantages and the drivers, potential disruptors and technology developments in the manufacturing industry (Ministry of International Trade and Industry, 2017) .

Challenges of industry 4.0 to TVET Body of Knowledge

Like the revolutions that preceded it, the Fourth Industrial Revolution (Industry 4.0) has the potential to raise global income levels and improve the quality of life for populations around the world. To date, those who have gained the most from it have been consumers able to afford and access the digital world; technology has made possible new products and services that increase the efficiency and pleasure of our personal lives. Ordering a cab, booking a flight, buying a product, making a payment, listening to music, watching a film, or playing a game—any of these can now be done remotely. In the future, technological innovation will also lead to a supply-side miracle, with long-term gains in efficiency and productivity. Transportation and communication costs will drop, logistics and global supply chains will become more effective, and the cost of trade will diminish, all of which will open new markets and drive economic growth.

This revolution brings with it, an exciting possibility, new solutions to global challenges, and employment opportunities for jobs that have yet to be invented. At the same time, it comes with the potential for technological unemployment that drives downward pressure on income security and social agency while society adapts to the new normal. Combined with climate change and rapid global population growth this century is the most challenging that our species has ever faced. Governments, educators and parents alike must ask the question about how they can prepare present and future generations to thrive in this transforming world.

At the same time, as the economists Erik Brynjolfsson and Andrew McAfee have pointed out, the revolution could yield greater inequality, particularly in its potential to disrupt labor markets. As automation substitutes for labor across the entire economy, the net displacement of workers by machines might exacerbate the gap between returns to capital and returns to labor. On the other hand, it is also possible that the displacement of workers by technology will, in aggregate, result in a net increase in safe and rewarding jobs.

- The current industrial revolution is based on cyber-physical systems. The networked machines and human beings now cooperate in decision making. It should be noted that Industry 4.0 brings with it a new situation for employees.
- In this new situation, there are more flexible production systems, with shorter cycles, shorter delivery times, optimized management of stocks, more flexible working times and more flexible tasks.
- Moreover, Industry 4.0 means that “Human intervention is no longer necessary”, it was highlighted in the presentation, while there is also improve co-decision of skilled workers regarding their own working times.

- Industry 4.0 also means masses of data, the handling of data, and complete control of processes, while it also means a dissolution of work boundaries and that working time is simply a variable within the complex optimization plan of a factory.
- Today's intelligent information systems and computers are capable of making decisions independently, and this leads to a new quality in the division of labour between man and machine.

With these challenges, there are three questions that highly relevant: (1) How much technology is adequate? (2) How much Human involvement may (still) remain? (3) How can the three dimensions of sustainability be secured?

In addition to being a key economic concern, inequality represents the greatest societal concern associated with the Fourth Industrial Revolution. The largest beneficiaries of innovation tend to be the providers of intellectual and physical capital—the innovators, shareholders, and investors—which explains the rising gap in wealth between those dependent on capital versus labor. Technology is therefore one of the main reasons why incomes have stagnated, or even decreased, for a majority of the population in high-income countries: the demand for highly skilled workers has increased while the demand for workers with less education and lower skills has decreased. The result is a job market with a strong demand at the high and low ends, but a hollowing out of the middle. Discontent can also be fueled by the pervasiveness of digital technologies and the dynamics of information sharing typified by social media. More than 30 percent of the global population now uses social media platforms to connect, learn, and share information. In an ideal world, these interactions would provide an opportunity for cross-cultural understanding and cohesion. However, they can also create and propagate unrealistic expectations as to what constitutes success for an individual or a group, as well as offer opportunities for extreme ideas and ideologies to spread. In extension, Industry 4.0 will affect TVET body of knowledge in the many ways such as;

Industry 4.0 and the Technology Education Body of Knowledge

1. **Diverse time and place.**

Students will have more opportunities to learn at different times in different places. eLearning tools facilitate opportunities for remote, self-paced learning. Classrooms will be flipped, which means the theoretical part is learned outside the classroom, whereas the practical part shall be taught face to face, interactively U.Musa, R. M. (2018). A review of obstacles of ICT usage in nigerian tertiary educational institutions. *International Journal of Human Resource Studies*, 8(4), 169-179. . Relatively, apps and highly sophisticated software will serve as laboratory to some extents.

2. **Free choice.**

Though every subject that is taught aims for the same destination, the road leading towards that destination can vary per student. Similarly, to the personalized learning experience, students will be able to modify their learning process with tools they feel are necessary for them. Students will learn with different devices, different programs and techniques based on their own preference. Blended learning, flipped classrooms and BYOD (Bring Your Own Device) form important terminology within this change (Pettinger, 2016a) .

3. **Project based.**

As careers are adapting to the future freelance economy, Technology students of today will adapt to project-based learning and working. This means they have to learn how to apply their skills in shorter terms to a variety of situations. Students should already get acquainted with project-based learning in high school. This is when organizational, collaborative, and time management skills can be taught as basics that every student can use in their further academic career (Pettinger, 2016)

4. **Field experience.**

Because technology can facilitate more efficiency in certain domains, curricula will make room for skills that solely require human knowledge and face-to-face interaction. Thus, experience in 'the field' will be emphasized within courses. Schools will provide more opportunities for students to obtain real-world skills that are representative to their jobs. This means curricula will create more room for students to fulfill internships, mentoring projects and collaboration projects etc (S, 2017)

5. **Data interpretation.**

Though mathematics is considered one of three literacies, it is without a doubt that the manual part of this literacy will become irrelevant in the near future. Computers will soon take care of every statistical analysis, and describe and analyses data and predict future trends. Therefore, the human interpretation of these data will become a much more important part of the future curricula of technology education. Applying the theoretical knowledge to numbers, and using human reasoning to infer logic and trends from these data will become a fundamental new aspect of this literacy (Pettinger, 2016b)

Conclusion

Industry 4.0 has come and will certainly affect manufacturing and in extension affects technical skillset and the way the skills are learnt and practice. In automated processes, technology learning needs to be structured differently. Errors and stoppages pose too much of a risk. More of the learning must therefore be organized in separate spaces, e.g. in virtual learning environments. As a corollary, the corresponding learning opportunities need to be borne in mind at an early stage when production facilities are being designed. Technology education and training must be involved in future. Even today, companies are cooperating more with partners in the higher education sector to train the next generation of skilled workers. But Technology education and training must not leave this field to the higher education establishments alone, particularly as no uniform standards exist as yet. On the contrary, it must develop its own concepts for Technology Education & Training “4.0”. These include new partnerships between learning venues and hybrid qualification routes in collaboration with higher education establishments, e.g. in the context of advanced vocational qualifications. Enabling employees to gain qualifications must be integrated into the implementation of Industry 4.0 from the very start. For it is also important to shape the world of work to meet human needs.

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**EFFECT OF COMPUTER-ASSISTED INSTRUCTION ON TEACHING OF
SELF –RELIANCE SKILLS FOR SUSTAINABLE ENTREPRENEURSHIP
DEVELOPMENT AMONG UNDERGRADUATE SOCIAL STUDIES
STUDENTS IN KADUNA STATE**

BY

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Being a paper presented at 3rd CU-ICE Conference, Covenant University International Conference on Entrepreneurship

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ABSTRACT

This study explored the effect of Computer-Assisted Instruction on teaching of self –reliance skills for sustainable entrepreneurship development among undergraduate Social Studies students in Kaduna state. Three (3) research objectives, questions and null hypotheses guided the study. Quasi-experimental design was used employed and the target population was all undergraduate Social Studies 300 level students in F.C.E., Zaria and KSCOE, Gidan-Waya totalling one hundred and twenty-three (123)

out of which a sample of eighty (80) was selected. Self Reliance Skills Performance Test (SERSIP) was used as instrument for data collection. Mean and standard deviation were used to answer the research questions, while t- test and two-way ANOVA statistics were used to test the null hypotheses. The findings revealed that, there was significant difference between the mean academic performance scores of undergraduate students taught self-reliance skills using computer-assisted instruction and those taught with conventional method; no significant difference was found between the mean academic performance scores of undergraduate Social Studies students taught Self reliance skills using computer-assisted instruction in relation to gender and ownership. Also, significant difference was found between the mean retention scores of undergraduate Social Studies students taught self reliance skills using computer-assisted instruction and those taught with conventional method. Based on the findings, it was recommended among others that, Curriculum review by the Nigerian Educational Research and Development Council (NERDC) should be made to accommodate the dynamism of computer-assisted instruction in all levels. This will promote student-centred instructional approach, students' autonomy to knowledge acquisition, and student self-discovery learning in order to ensure sustainable entrepreneurship development in Kaduna state; Social Studies lecturers should be given training by federal/state government and non government organisations on the basic skills of applying CAI. This will help to enhance students' academic performance and self-reliance skills for entrepreneurship development irrespective of gender and ownership in institutions of higher learning in Kaduna state and the country at large.

Keywords: Computer-Assisted Instruction, Self-Reliance Skills, Retention, Academic Performance and Sustainable Entrepreneurship

Introduction

The national policy on education makes it clear that the three main purposes of university education are (i) to train the minds of young people (ii) for research activities and (iii) to recognize achievement (Federal Republic of Nigeria, [FRN], 2014). This means that the social expectation and skills needed within the world of work should be achieved through the teaching and learning paradigm using modern technology such as Computer Assisted Instruction [CAI] (Ezeugbor & Nwachukwu, 2009). Yet the potential of higher education systems in Nigeria to fulfil this responsibility is frequently thwarted by long-standing problems of finance, efficiency, equity, quality and unemployment.

The consequences of unemployment in Nigeria, like most other sub-Saharan African countries is very severe and threatening to the citizenry and the economy as a whole. The accelerated level of crimes in form of terror attack, murder, political assassin, prostitution, yahoo fraud, armed robbery, rape,

kidnapping, and all facets of violence in the society were attributed to incidence of lack of job and skill to be self-employed (Nwangwu, 2006). The problem is heightened by the fact that a large number of job seekers lack practical skills to be self-employed. That is why rather than providing job for others, these people keep depending on the government and other non-vibrant private sectors for job offers (Bello, 2003). Regrettably, Nigeria educational system fails to take cognizance of the dynamics of labour market and as such produced a large army of graduates who are confronted with unemployment and lack of skills for self-reliance among most undergraduate Social Studies Students in Nigeria and Kaduna state in particular (Nwangwu, 2006).

However, the need to aptly address this ugly development led the Nigerian government under the former leadership of President Olusegun Obasanjo to approach UNESCO for assistance in the reform of Nigerian' science and technology and innovation system. Ogunleye, et al (2008) observed that the principal component of this reform is the promotion of entrepreneurship in Nigerian Post Basic Education sector. Further to this, the Nigerian government made it a policy issue when it states that "the national educational goals should include the acquisition of appropriate skills and the development of mental, physical and social abilities and competencies as equipment for individuals to live and contribute to the development of the society (FRN, 2014).

The above thoughts gave birth to the introduction of entrepreneurship education in Nigerian universities by the National Universities Commission, (Nwangwu, 2006). This informs the most current need of University education to educate Social Studies students to become well informed and deeply motivated citizens, who can think critically, analyze problems of society, look for solutions to the problems of society, apply them and accept social responsibility. Presently, the emphasis is on producing Social Studies students who will not only stand on their own but also create jobs for others.

To realize this goal, the instructional/learning process must be able to stand the test of time. One of those ways to get this done is the use of the 21st century innovative teaching and learning strategies that meets the global education best practices such as the use of Computer Assisted Instruction (CAI) (Amosa, Adelani & Adebola, 2015; Ngwu, 2015). Unlike the traditional education, in which the philosophy of learning that is far from questioning is dominant, Computer Assisted Instruction (CAI), in the simplest terms, is the process in which learners “learn to fish,” and it enables learners to have opportunities such as researching, planning, discovering, interpreting and inculcating skills, which are indications of active participation which can help increase undergraduate Social Studies students retention level of self –reliance skills for sustainable entrepreneurship development .

Computer Assisted Instruction (CAI) encompasses activities that are interactive and flexible and assist learners with their knowledge construction, active learning and retention. Computer-assisted instruction (CAI) is an instructional approach where a computer is used to communicate the instructional materials and evaluate the learning outcomes. It uses a blend of graphs, texts, sounds and videos for learning process (Onasanya, Daramola, & Asuquo, 2006; Suleman, Hussain, Ud-Din & Iqbal, 2017). CAI refers to virtually any sort of computer application in instructional settings comprising of drill and practice, simulations, instructional exercises, supplementary exercises, instructional management, database development, programming, composing using word processors, and other different applications (Cotton, 2001; Gana, 2013). These types of activities are often associated with quality learning experiences, retention level and academic performance. (Koksal, Yagisan, & Aksoy, 2013). Also, it has been established through research that, CAI is successful and beneficial instructional approach for boosting interest, skills, uplifting mentality, building up students' retention capacity and boosting the students' academic performance (Osemwinyen, 2009; Suleman, Hussain, Ud-Din & Iqbal, 2017).

Retention has been defined as a direct correlates of positive transfer of learning which the primary essence of education is. Retention means storage of information over some period of time; this time period is called retention interval (Bichi, 2002). Thus, the ability to retain what one has learnt is necessary in education in order to achieve the positive transfer of skills and knowledge (Ezeh, 2009). According to Baker in Bhalla (2013) Computer Assisted Instruction (CAI) enhances students' retention. He noted that students retain 30 percent of what they read in textbooks, 40 percent of teachers' lectures and 80-90 percent of computer learning. Also the Digital Equipment Cooperation in Ezeh (2009) contended that people remember 25% of what they hear, 45% of what they hear and see and 70% of what they hear, see and do. What CAI does is the integration of hearing/seeing/doing for a better retention and a deeper understanding and better academic performance.

Academic performance encompasses students' ability and performance; it is multi-dimensional; it is intricately related to human growth and cognitive, emotional and social physical development; it reflects the whole student; it is not related to a single instance, but occurs across time and levels, through a student's life in school and working life (Steinberger, 2005). Academic performance refers to how well a student is accomplishing his tasks and studies. In this study, academic performance refers to all learning outcome which includes the knowledge, skills and ideas, acquired and obtained through the course of study within and outside the classroom situation that can help to enhance self reliance skills and retention amongst undergraduate Social Studies students.

The objectives of Social Studies education in Nigeria aim to help learners to develop capacity to learn and to acquire skills essentials to the formation of self reliance skills and attitudes for satisfactory professional life (that is, pride in the job and sound judgement) (Lawal & Muhammad, 2014). This forms part of the teaching of Social Studies at all level of the educational system in the country. Utulu (2007) noted that education is the key by which a country can unlock the padlock to economic freedom and

self-reliance. It is a key to open the door of political independence and sovereign nation, as such; Social Studies education becomes very relevant here because its curriculum is well-planned to equip learners with opportunities that can make them self-reliant skills.

The concept of self-reliance hinges on collective and individual feelings or the urge for self-preservation through the indebt use of available human and material resources to meet individual and group needs,(Ogundowole in Nwangwu, 2006). Self-reliance can be seen as the ability of an individual to be self- employed-and productive, and for a country to be productive and not consumer or dependent on other countries (Muhammad, 2014). Also, Lawal and Muhammad (2014) see self -reliance in its general sense to mean the “right and ability to set one’s own goal realizing as much as possible through one’s own effort using one’s own factors”. They further maintained that, self reliance does not imply a loss of interest in international cooperation, but desire to make a relation between industrialized and developing countries to reflect genuine interdependence and complete international economic justice. The National Policy on Education, FRN (2014) buttress this, by referring to self reliance as “the shaping of her destiny with her own hands”. The Section (I) Sub-section (iii) which is the five main national goals, the (c) part of it states that one of the goals is the building of “a United, strong and self-reliant nation”. This necessitate of the reasons for the introduction of entrepreneurship education at undergraduate level in Nigeria.

The Consortium for Entrepreneurship Education (2003) defines entrepreneurship education as one that seeks to prepare people, especially youth, to be responsible, enterprising individuals who become entrepreneurs or entrepreneurial thinkers and who contribute to economic development and sustainable communities. It is not just based on text book courses; instead students are immersed in real life learning experiences where they have an opportunity to take risk, manage the results, and learn

from the outcomes. The implication, therefore, lies on the premium that entrepreneurship education in the universities is expected to inspire and motivate students to achieve while in school and use their knowledge in a real world setting. Much also lies on its ability to build a pipeline that creates productive and thoughtful citizens who contribute to local, regional and national competitiveness. Students irrespective of their gender and location of institutions who have acquired all these through entrepreneurship education are likely to be positioned not only for self-reliance but also to create job for others.

Previous studies have established that, Computer Assisted Instruction has positive significant effect on teaching of self-reliance skills, academic performance and retention of students at different level of educational system across the globe. For instance, Zarie-Zavaraki and Rezaei (2011); Tegegne (2014); Zare, Sarikhani, Sarikhani and Babazadeh (2015); Wong, and Ng (2016); Zare, Sarikhani, Salari and Mansouri (2016) which revealed that CAI had significantly different results compared to traditional learners. Thus, Information and Communication Technology is transforming the way of providing education and e-learning becomes a viable alternative to the traditional classroom teaching and learning process. However, the studies of Sibanda and Donnelly (2014) Tegegne (2014) which showed no difference between the conventional and ICT supported learning on student performance with all pros and cons occurred during the experimenting time.

Furthermore, Chen, Lambert and Guidry (2010); Alokun and Arijesuyo (2013); Naqvi and Naqvi (2017) revealed no significant difference in the academic performance of students in relation to gender and ownership of schools. On the contrary, the study disconfirm the result of Ngwu (2015); Opoku-Asare and Siaw (2015) and Akinwumi (2017) that students in boys alone school have higher mean performance than those of girls' alone school.

In studies conducted by Samuel and Peter (2013); Al-Qahtani and Higgins (2013); Giannousi, Vernadakis, Derri, Antoniou, and Kioumourtzoglou (2014); Giovengo (2014); Sisco, Woodcock, and Eady (2015); Banditvilai (2016); Gambari, Shittu, Ogunlade and Osunlade (2017) also revealed significant difference in the retention score of students taught using CAI and those taught using conventional methods. Though,

the findings of Mooneyhan (2012); Elmer, Carter, Armga, and Carter (2016) revealed no significant difference in retention level of students taught using CAI and those taught using traditional method.

Going by the empirical studies reviewed on Computer Assisted Instruction, it is apparent that, CAI as technological approach to teaching enhances retention and academic performance of students. However, no empirical studies have proven its effect on teaching of self-reliance skills for sustainable entrepreneurship education among undergraduate Social Studies students in Kaduna state, Nigeria. Thus, study sought to fill this vacuum.

Statement of the Problem

Despite the introduction of entrepreneurship education, it is obvious that up till today thousands of undergraduate students still lack skills for self reliance. This situation calls for concern and attention. Certainly, institutions of higher learning are expected to produce graduates with physical and intellectual skills which will enable individuals to be self reliant and useful members of the society. It is against the backdrop that, this study explored the effect of Computer-Assisted Instruction (CAI) on teaching of self –reliance skills for sustainable entrepreneurship development among undergraduate Social Studies students in Kaduna state. To address the issue, three research objectives, questions and hypotheses were raised.

Research Objectives

The study objectives were to:

- i. explore the academic performance of undergraduate students taught self-reliance skills using Computer-Assisted Instruction and those taught with conventional method.
- ii. find out the effect of Computer-Assisted Instruction on academic performance and retention scores of undergraduate Social Studies students taught Self reliance skills in relation to gender and ownership.

- iii. find out whether difference exist between the retention scores of undergraduate Social Studies students taught self reliance skills using Computer-Assisted Instruction and those taught with conventional method.

Research Questions

The following research questions guided the study:

- i. What is the academic performance of undergraduate Social Studies students taught self-reliance skills using Computer Assisted Instruction and those taught with conventional method?
- ii. What is the effect of Computer-Assisted Instruction on academic performance of undergraduate Social Studies students taught Self reliance skills in relation to gender and ownership?
- iii. What is the difference between the mean retention scores of undergraduate Social Studies students taught self reliance skills using Computer-Assisted Instruction and those taught with conventional method?

Null Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

HO₁ There is no significant difference between the mean academic performance scores of undergraduate students taught self-reliance skills using Computer-Assisted Instruction and those taught with conventional method.

HO₂.There is no significant difference between found between the mean academic performance scores of undergraduate Social Studies students taught Self reliance skills using Computer-Assisted Instruction in relation to gender and ownership.

HO₃.There is no significant difference was between the mean retention scores of undergraduate Social Studies students taught self reliance skills using Computer-Assisted Instruction and those taught with conventional method.

Methods and Materials

Quasi-experimental design using pretest- post-test and post–post test was employed and the target population was all undergraduate Social Studies 300 level students in F.C.E., Zaria and KSCOE, Gidan-Waya totalling one hundred and twenty-three (123) out of which a sample of eighty (80) was selected. Self Reliance Skills Performance Test (SERSIP) was used as instrument for data collection. The instrument consisted of thirty (30) item objective questions design based on the minimum for undergraduate Social Studies programme. The instrument was validated by lecturers in the department of Arts and Social Science Education, Ahmadu Bello University, Zaria and reliability co-efficient of 0.84 was found using PPMC. Mean and standard deviation were used to answer the research questions, while t- test and two-way ANOVA statistics were used to test the null hypotheses.

Results and Discussions

The section answered the research questions, test the hypotheses and discuss the findings

Research Question One: What is the academic performance of undergraduate Social Studies students taught self-reliance skills using Computer Assisted Instruction and those taught with conventional method? This research question was answered using descriptive statistics of means and standard deviations. The result of the analysis is presented in Table 1.

Table 1: Means and Standard Deviations of Undergraduate Social Studies Students performance in CAI and conventional method

Treatment	N	Mean	SD	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Experimental	40	37.79	11.333	14.042	12.142	15.942
Control	40	23.75	9.796			
Total	80					

Table 1 presents the summary of the Means and Standard Deviations on academic performance of undergraduate students taught Social Studies using CAI and those taught with conventional method.

The mean academic performance scores of the experimental group (M=37.79, SD=11.333) is high than

that of the control group ($M=23.75$, $SD=9.796$). The mean difference is 14.042 in favour of the experimental group. The 95% confidence interval of the difference is between 12.142 to 15.942. Therefore, students that were taught social studies using CAI performed better than those taught using conventional method.

Research Question Two: What is the effect of Computer-Assisted Instruction on academic performance of undergraduate Social Studies students taught Self reliance skills in relation to gender and ownership? This research question was answered using descriptive statistics of means and standard deviations. The result of the analysis is presented in Table 2.

Table 2: Means and Standard Deviations on undergraduate students' performance in relation to gender and ownership

Sex	Ownership	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Male	Federal	40.362	.943	38.509	42.215
	State	27.461	.947	25.600	29.322
Female	Federal	35.387	.912	33.595	37.179
	State	20.336	.909	18.551	22.121

Table 2 presents the summary of the Means and Standard Deviations on academic performance of undergraduate students taught self-reliance skills using CAI in relation to gender and location. The mean academic performance scores of the male students in federal institution ($M=40.362$, $SE=0.943$) is high than that of the male students in state institution ($M=27.461$, $SE=0.947$). The 95% confidence interval of the means for male students in federal and state institution is between 38.509 to 42.215 and 25.600 to 29.322 respectively. The mean academic performance scores of the female students in federal institution ($M=35.387$, $SE=0.912$) is high than that of the female students in state institution ($M=20.336$, $SE=0.909$). The 95% confidence interval of the means for female students in federal and state is between 33.595 to 37.179 and 18.551 to 22.121 respectively. Therefore, male students that were taught social studies using CAI performed better than female taught using the same method irrespective of ownership of institutions.

Research Question Three: What is the retention level of undergraduate students taught self-reliance skills using CAI and those taught with conventional method? This research question was answered using descriptive statistics of means and standard deviations. The result of the analysis is presented in Table 3.

Table 3: Means and Standard Deviations on retention level of undergraduate Social Studies students

Treatment	N	Mean	SD	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Experimental	40	35.91	11.915	14.533	12.682	16.385
Control	40	21.38	8.433			
Total	80					

Table 3 presents the summary of the Means and Standard Deviations on retention level of undergraduate Social Studies students taught using CAI and those taught with conventional method. The mean retention scores of the experimental group (M=35.91, SD=11.915) is high than that of the control group (M=21.38, SD=8.433). The mean difference is 14.533 in favour of the experimental group. The 95% confidence interval of the difference is between 12.682 to 16.385. Therefore, students that were taught social studies using CAI retained more of self-reliance concepts than those taught using conventional method.

Null Hypotheses Testing

This section presents the analysis conducted using inferential statistics of independent samples t-test and univariate analysis of variance in order to test the null hypotheses. The following null hypotheses were stated and at $p \geq 0.05$ level of significance.

Null Hypothesis One: There is no significant difference between the mean academic performance scores of undergraduate Social Studies students taught using CAI and those taught with conventional method.

This null hypothesis was tested using an inferential statistic of independent samples t-test. The result of the analysis is presented in Table 4.

Table 4: Summary of independent samples t-test of Experimental and Control Groups

Treatment	N	Mean	SD	T	Df	P
Experimental	40	37.79	11.333	14.521	78	.000
Control	40	23.75	9.796			

Total **80**

Table 4 presents the summary of the Means and Standard Deviations on academic performance of undergraduate Social Studies students using CAI and those taught with conventional method. The mean academic performance scores of the experimental group (M=37.79, SD=11.333) is high than that of the control group (M=23.75, SD=9.796). The mean difference is 14.042 in favour of the experimental group. The 95% confidence interval of the difference is between 12.142 to 15.942. This is supported by $t(78)=14.521$, $p=0.001$; the null hypothesis which stated no significant difference was rejected. Therefore, there is a significant difference between the mean academic performance scores of undergraduate Social Studies students taught using CAI and those taught with conventional method. That is, students that were taught self-reliance skills using CAI performed better than those taught using conventional method.

Null Hypothesis Two: There is no significant difference between the mean academic performance scores of undergraduate Social Studies students taught using CAI in relation to gender and ownership. This null hypothesis was tested using an inferential statistic of univariate analysis of variance. The result of the analysis is presented in Table 5.

Table 5: Summary of Analysis of Variance on mean academic performance scores of undergraduate Social Studies students in relation to gender and ownership

Source	Type III Sum of Squares	Df	Mean Square	F	P
Corrected Model	28184.117 ^a	3	9394.706	91.057	.000
Intercept	457256.757	1	457256.757	4431.913	.000
Sex	4385.932	1	4385.932	42.510	.000
Ownership	23406.554	1	23406.554	226.866	.000
sex * ownership	138.464	1	138.464	1.342	.247
Error	49110.674	76	103.174		
Total	531780.000	80			
Corrected Total	77294.792	79			

a. R Squared = .365 (Adjusted R Squared = .361)

Table 5 presents the summary of the Means and Standard Deviations on academic performance of undergraduate Social Studies students taught using CAI in relation to gender and ownership of

institution. The mean academic performance scores of the male students in federal institution ($M=40.362$, $SE=0.943$) is high than that of the male students in state institution ($M=27.461$, $SE=0.947$). The 95% confidence interval of the means for male students in federal and state is between 38.509 to 42.215 and 25.600 to 29.322 respectively. The mean academic performance scores of the female students in federal institution ($M=35.387$, $SE=0.912$) is high than that of the female rural students ($M=20.336$, $SE=0.909$). The 95% confidence interval of the means for female students in federal and state institutions is between 33.595 to 37.179 and 18.551 to 22.121 respectively. The F-value for the gender was $F(1,476)=42.510$, $p=0.001$; the null hypothesis which stated no significant difference was rejected. For the ownership, $F(1,476)=226.866$, $p=0.001$; the null hypothesis which stated no significant difference was rejected. When gender and ownership were compared together, $F(1,476)=138.464$, $p=0.247$; the null hypothesis which stated no significant difference was retained. That is, there is no significant difference between the mean academic performance scores of undergraduate Social Studies students taught using CAI in relation to gender and location. Therefore, male students that were taught social studies using CAI did not performed better than female taught using the same method irrespective of ownership of institutions. That is gender and ownership are not determining factors to students performance when taken together as against when treated independently.

Null Hypothesis Three: There is no significant difference between the mean retention scores of undergraduate Social Studies students taught using CAI and those taught with conventional method. This null hypothesis was tested using an inferential statistic of independent samples t-test. The result of the analysis is presented in Table 6.

Table 6: Summary of independent samples t-test on mean retention scores of undergraduate Social Studies students

Treatment	N	Mean	SD	T	Df	P
Experimental	40	35.91	11.915	15.424	78	.000
Control	40	21.38	8.433			
Total	80					

Table 6 presents the summary of the Means and Standard Deviations on retention level of undergraduate Social Studies students taught using CAI and those taught with conventional method. The mean retention scores of the experimental group ($M=35.91$, $SD=11.915$) is high than that of the control group ($M=21.38$, $SD=8.433$). The mean difference is 14.533 in favour of the experimental group. The 95% confidence interval of the difference is between 12.682 to 16.385. This is supported by $t(78)=15.424$, $p=0.001$; the null hypothesis which stated no significant difference was rejected. That is, there is a significant difference between the mean retention scores of undergraduate Social Studies students taught using CAI and those taught with conventional method. Therefore, students that were taught self-reliance skills using e-learning retained more of self-reliance concepts than those taught using conventional method.

Discussions

The study revealed that, there was significant difference between the mean academic performance scores of undergraduate Social Studies students taught self-reliance skills using CAI and those taught with conventional method. This result occurred with the findings of Zari-Zavaraki and Rezaei (2011); Tegegne (2014); Zare, Sarikhani, Sarikhani and Babazadeh (2015); Wong, and Ng (2016); Zare, Sarikhani, Salari and Mansouri (2016) which revealed that CAI had significantly different results compared to traditional learners. However, the finding disagreed with results of Sibanda and Donnelly (2014) Tegegne (2014) which showed no difference between the conventional and ICT supported learning on student performance with all pros and cons occurred during the experimenting time.

The study found no significant difference between the mean academic performance scores of undergraduate Social Studies students taught using e-learning in relation to gender and ownership. The finding of this reaffirmed the results of Chen, Lambert and Guidry (2010); Alok and Arijesuyo (2013); Naqvi and Naqvi (2017) which revealed no significant difference in the academic performance of students in relation to gender and location of schools. However, the study disconfirm the result of Ngwu (2015); Opoku-Asare and Siaw (2015) and Akinwumi (2017) that students in boys alone school have higher mean performance than those of girls' alone school.

The study found significant difference between the mean retention scores of undergraduate Social Studies students taught using CAI and those taught with conventional method. This is in line with the findings of Samuel and Peter (2013); Al-Qahtani and Higgins (2013); Giannousi, Vernadakis, Derri, Antoniou, and Kioumourtzoglou (2014); Giovengo (2014); Sisco, Woodcock, and Eady (2015); Banditvilai (2016); Gambari, Shittu, Ogunlade and Osunlade (2017) which

revealed that, significant difference in the retention score of students taught using CAI and those taught using conventional methods. Though the findings of Mooneyhan (2012); Elmer, Carter, Armga, and Carter (2016) revealed no significant difference in retention level of students taught using CAI and those taught using traditional method.

Conclusion

Emanating from the findings of this study, the following conclusions are made:

- i. Undergraduate Social Studies students taught self-reliance skills using CAI performance better academically than those taught with conventional method in Kaduna state, Nigeria.
- ii. The use of CAI enables undergraduate Social Studies students taught self-reliance skills to compete favourably academically regardless of gender and ownership differences.
- iii. Retention level of students taught using CAI outweighed those taught using conventional method. Hence, CAI was found to be suitable in teaching self-reliance skills for sustainable entrepreneurship development amongst undergraduate Social Studies students in Kaduna state.

Recommendations

The following recommendations were made on the basis of the outcome of this study:

- i. Curriculum review by the Nigerian Educational Research and Development Council (NERDC) should be made to accommodate the dynamism of computer-assisted instruction in all levels. This will promote student-centred instructional approach, students' autonomy to knowledge acquisition, and student self-discovery learning in order to ensure sustainable entrepreneurship development in Kaduna state.
- ii. Social Studies lecturers should be given training by federal/state government and non government organisations on the basic skills of applying CAI. This will help to enhance students' academic performance and self-reliance skills for entrepreneurship development irrespective of gender and ownership in institutions of higher learning in Kaduna state and the country at large.

- iii. Management of Colleges of Education in Kaduna state should as a matter of fact institutionalize the use of CAI through the provision of adequate ICT faculties in higher institutions. This will help to enhance the retention ability of students as well as discovery skills for entrepreneurship development in the state.

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DISRUPTIVE INNOVATIONS AND CHALLENGES OF CONSTRUCTION INDUSTRY IN NIGERIA

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Abstract: *Although change and innovation have always been a part of the human experience, but digital technology has immensely accelerated the rate at which change occurs. Sometimes the introduction of a new product, idea, service, or technology sets off a cascade of unexpected changes that move through society like a tsunami. The introduction of a particular business product or service may create new skill sets and markets that eventually displace old skills and markets while at the same lowering prices. In this note, construction industry which is one of the biggest industries in terms of material consumption and employment of labour faces similar threat. Emergence of new technology such as building information modeling, internet of things (IoT) and Blockchain to change the face of construction industry globally. This has awakened experts in many countries to face the challenges and develops policies to live to the test of time. Despite the apparent challenges this paradigm shift possesses, countries like Nigeria pay less attention to the problem. Therefore, the objective of this paper is to review some new innovations that are gradually becoming inimical to traditional modes of construction industry and the challenges the deployments of the innovation is facing in Nigeria.*

1. Introduction

The term *disruptive innovation* is used to describe change in the business world motivated by Personal computers put an end to the typewriter and set in motion the decline of print media. Tablets and smart phones are now displacing personal computers. Smart boards are pushing away the era of black board/white boards in our classroom thereby changing the look of our classrooms. These innovations are disruptive because they unexpectedly dismantle old markets, their technologies, and their ways of operating. Construction industry exists as a distinct institutional market niche in society, so it would be presumptuous to think this sector somehow is immune to disruptive innovation and its effects.

In fact, the construction industry in the world is particularly susceptible to disruptive innovation because it is heading to rely heavily on communication and technology with emergence of new innovation such building information modeling. (Dossick, Osburn, & Neff,) who has spent more many years studying the relationships between technology, communication, and change, asserts that the interconnectivity and transcendence of time and space produced by digital culture has not only changed the way humans communicate, but also the way humans perceive reality, think, relate, and learn. Disruptive technological innovation has the power to change civilization's culture and its institutions, including higher education. As Miller observes, when technological innovation changes communication, it alters the way we perceive reality. When our perceptions change, so does the way we understand the world. When understanding changes, we begin to think differently. When thinking changes, we interact differently with others. Changes in human interactions produce changes in our relationships. When relationships change, so do the very institutions upon which society is founded. Although, change is inevitable, construction industry is one the most conservative industries that hardly accept changes. Literatures have shown that, there are many disruptive (Dossick et al.,)Hence, the objective of this paper is to outline and discuss some of the innovations and how they may likely affect the construction industry

2. INTERNET OF THINGS

Internet of Things is a smart network that can detect, control, and program objects automatically (Li, C. Z., Xue, Li, Hong, & Shen, a) The Internet of Things has come to represent electrical or electronic devices, of varying sizes and capabilities, that are connected to the Internet, but excluding those primarily involved in communications with

human beings, i.e., the traditional Internet (Li, C. Z., Xue, Li, Hong, & Shen, b). The scope of the connections is ever broadening beyond basic machine-to-machine communication. Internet of Things allows its surroundings to be connected and communicate directly and indirectly. Internet of Things generally works by connecting objects to the internet and using the connection to provide remote monitoring or control over the object. Forecasts say there are 75.44 billion devices connected to the Internet of Things by 2025 and people will experience life surrounded by networks that reach a trillion of a lifetime. This is an indication of how far the construction industry is prepared with the growth of this IoT network. Presently, Internet of things facing major challenges that different networks coexist and the big data size of the IoT (Clavero, 2018). Other current issues, such as address restriction, automatic address setup, security functions such as authentication and encryption be affected in implementing the concept of the internet of things but by ongoing in technological developments in construction industry these challenges will be overcome. The internet of things promises future new technologies when related to cloud computing and big data. By integrating them with the internet of things, application challenges in construction industry will be developed as soon (X. Jinying, 2018). As previously stated, if IoT is the connection of devices (including people), then this is already happening in construction. Many construction sites have internet connectivity to enable a connected job site. These are more than just fancy toys. Connected devices on job sites provide number benefits to the project, the companies, and most of all the employees(Clavero, 2018). Below are areas where internet of things are making significant improvement in construction process.

- I. **Improved worker safety:** Many field workers have smartphones. Frequently many job sites enforce strict rules on phone usage to maintain worker safety. However, many employees have downloaded safety apps, like a fall detector, that work in the background even when the phone is in use. This functions in the same vein as wearable device and notifies a set list of contacts in the event of fall. There are several different wearables to can improve safety. Some are separate devices that a worker wears (X. Jinying, 2018) . While some are embedded in personal protective equipment such as vests, helmets, and boots. They all function in the same way to monitor a worker’s vitals to prevent accidents before they happen.
- II. **Real-time reporting:** With the data captured on the job site, everyone in the office benefits with real-time progress reporting. Some of the ways that stakeholders receive progress reports include electronic daily reports, data reported directly to the BIM, drone footage, or internet connected video cameras (Dave, Buda, Nurminen, & Främling,). There are a plethora of internet-connected devices on the job site to feed data back to the office in real-time. The real-time reporting allows stakeholders to gauge where the project is at and make any adjustments to keep the project on track.
- III. **Automated workflows:** Sensors and RFID tags on materials and equipment can help in proactive ordering materials and servicing equipment. When an employee checks out or ships material to a job site, he scans the item. The system detects low inventory and notifies an employee to place an order for more material. Similarly, sensors on equipment monitor usage levels to flag potential issues for preventive maintenance. Previously running out of materials or equipment maintenance would cause delays. However, IoT in construction delivers automated workflows to minimize delays and keep projects moving forward(Dong, Mingyue, & Guoying,) .
- IV. **Improved building lifespan:** Smart thermostats, circuit breakers, and digital power meters are some of the ways building operators can monitor energy usage. If any abnormalities are seen, notifications are delivered to address quickly. With the proactive monitoring of building facilities, IoT increases the entire lifespan of the building. Now facility managers can address any issues promptly before they become more devastating and more expensive issues.
- V. **Continuous improvement:** The value of IoT is data. But what can be done with all of this data? Companies utilize this data to make continuous improvement. Data unearths that the operations team can refine certain processes to deliver projects quicker. Additionally, data uncovers that certain materials or equipment have a longer lifespan. While the materials or equipment are more expensive to purchase, it doesn’t need to be replaced as frequently. Therefore, it is less costly in the long run. The data from IoT allows companies to make continuous improvement to execute more effectively and be more profitable.

Hence, IoT is making significant advancements for contractors looking to improve processes, reducing waste, and make more money. With the other technology available in the construction industry, there is even more room for improvement. What if you were to combine IoT with artificial intelligence and machine learning? A system would capture the data, analyze, and process it automatically(Li et al., ; Li, C. Z. et al., 2017; X. Jinying, 2018). This may be possible for instance, if an HVAC system is needing maintenance, the system will proactively schedule a

maintenance technician. The technician will already know exactly what the problem is, where the problem is and know how to fix it even before he goes on site. The technology is working together seamlessly without human intervention only human notification.

3. AUGMENTED REALITY

This is another impressive technological innovations over the past few years, Augmented Reality (AR) is the process of overlaying digital information over a user's real view - often through the use of an iPad, smartphone or headset. Google Glass has offered AR for a variety of usage. AR combined with the Internet of Things network to transmit information and make it visible on Google Glass. This allows employees to receive noticeable instructions on Google Glass about what to do, danger alerts, current work productivity and more While AR has been used very effectively in industries like gaming for years, its applications in construction are also very exciting: firms can show clients what their proposed designs may look like in an existing environment. Imagine holding up your smartphone and seeing your new house superimposed onto the construction site in front of you. In the field of construction, advanced teaching techniques which can provide greater insight into the educational process are needed to enhance the educational experience of Construction Management students. This study uses a combination of Augmented Reality (AR) technology with a layer of simulated visualizations to replicate the environmental context and spatio-temporal constraints which exist during masonry, roof, and steel construction processes. The superimposition of virtual elements on real-world videos and images provides a pedagogical technique which virtually incorporates jobsite experiences in the classroom. The integration of AR allows for virtual site visits and augmented experiences that can be tailored to what is being taught in the classroom, thereby providing a more effective learning experience which is better able to reinforce classroom learning. AR provides a potential benefit for construction management students, aiding in their understanding of complex products and associated jobsite processes through the overlaying of computer-generated (virtual) content onto real world jobsite visualizations (Asgari & Rahimian,)

4. BLOCKCHAIN AND BUILDING INFORMATION MODELING

According to (Li, J. & Kassem,), [construction industry](#) is ripe for [disruption](#), greater transparency in [supply chains](#) is much needed, paperwork is still predominant, and as [building components](#) increasingly become 'intelligent' there is a need for a secure [digital](#) ledger for sensors, [owners](#) and operators (Ren, Anumba, & Tah,) . Blockchains, if implemented correctly, could improve [construction](#)'s transparency and efficiency in a number of ways. A blockchain is a decentralized, tamper-proof [digital](#) ledger of transactions. The world's first encounter with Blockchain [technology](#) was in 2009 with the launch of Bitcoin, a [digital](#) peer-to-peer cash system. Bitcoin's blockchain, among other ingredients, is the answer to a problem computer scientists had been trying to solve for years: how to create a [digital asset](#) that cannot be copied. It allows two or more parties to transfer monetary or any other representation of value, share information and run automated 'smart' [contracts](#) in a way that does not rely on a trusted [third party](#) like a bank, a notary or any private company as a trusted middleman(Dossick et al.,) The ability to create, validate, authenticate and audit [contracts](#) and [agreements](#) in [real-time](#), across borders, without third-party intervention, makes Blockchain [technology](#) appealing to many [professional services](#) organizations (Li & Kassem,). Many global financial and legal institutions are exploring and discussing the potential impacts and opportunities of Blockchain [technology](#) in their businesses(Kamble, Gunasekaran, & Arha, 2018) .

[Design](#), [engineering](#) and [construction](#) need to now examine the benefits of this [technology](#) (Kamble et al., 2018) The decentralized, [permission](#)-less and censorship-resistant approach of Blockchain [technology](#) opens up completely new ways to track the flow of [materials](#), [contracts](#) and [payments](#) in [supply chains](#). Knowing in [real time](#) which [materials](#) have arrived at a [construction site](#), who handled them and where they originate from, makes a blockchain potentially valuable to the operation of a [circular economy](#). The complex [data](#)-sets that [designers](#) and [engineers](#) produce in [Building Information Modelling](#)(BIM) software are increasingly useful to a [building](#)'s ongoing operation, and Blockchain [Technology](#) has a potential key role to play here too. This could include smart self-executing [contracts](#) between the [owner](#), operator and [component](#) or system [suppliers](#) involved. A Blockchain could also be used to verify who added which [components](#) to the [digital model](#). To this end, several uses of blockchain in construction industry in general such as maintaining records of digital property, timestamping acts or transactions, Multi-signature Transactions, Smart Contracts which are computer programs that monitor a situation and execute themselves and Smart Oracles which are real world depositories of information to be used in conjunction with smart contracts. The use of blockchain in automated dispute resolution and smart cities as well as in real estate investment has also been envisioned. The key difference between traditional blockchain applications

such as Bitcoin and blockchain for BIM is the different ratio between the number of transactions, number of participants and size of the data to be managed. Bitcoin is about billions of transactions between millions of users, about a kilobyte each. Building information blockchain is about hundreds of transactions between dozens of users up to a couple of gigabytes each. In this section, four different architectures to managing building information with blockchain is summarized.

- I. **Chained and very decentralized.** In the chained scenario building information is copied into the blockchain. Blockchain is copied across workstations of participants. An operating system plugin presents it very much like a shared Dropbox folder, the exception being that all versions of all files are preserved and that a valid “last” version of every file is maintained. Commercial systems that do roughly this exist.
- II. **Chained and slightly decentralized.** The main problem of the chained scenario is that the size of the blockchain would soon grow very, very large and would exceed the capacity of individual workstations much like the entire Bitcoin does. The solution would be to distribute the blockchain across a few key partners in the project but to offer just a “wallet software” to the clients on the workstations. It would appear to the client that a file is local while in fact it would be pulled from the blockchain and cached locally if and when needed. At least one project partner would need to host the blockchain and every project partner that would want to have it could have it (Kamble et al., 2018).
- III. **Unchained.** The unchained scenario does not store the files themselves in the blockchain but just their fingerprints and perhaps the metadata. The files are stored in the cloud or on a file management server. All members of the project could have a copy of the blockchain – proof that a certain file existed at some point; they would also have a possibility to prove that the file is the one whose fingerprint is in the blockchain. However, it would be left to other software to guarantee that all the files mentioned in the blockchain would be preserved somewhere.
- IV. **Blockchain of BIM transactions** Practically, the file is the one whose fingerprint is in the blockchain. However, it would be left to other software to guarantee that all the files mentioned in the blockchain would be preserved somewhere (Kamble et al., 2018) . This will help in providing a solution to legal area of contention among construction team as to who access the digital building model.

5. CHALLENGES OF INFORMATION DIFFUSION IN NIGERIA

There are huge challenges to posed by disruptive innovation to construction in construction industry, however, some of which will be summarized in flowing sub headings:

- I. **Internet and Electronic Security Challenge:** It is not in doubt that Nigeria has a bad reputation on internet fraud and usage, which disappointingly deter most responsible Nigerians from engaging in any electronic transaction or internet activities. This is as a result of youth joblessness which pushed most young people into cyber-crimes in order to survive. All the disruptive innovations are internet driven, Although the government is presently addressing these issues with current Central Bank of Nigeria BVN registration exercises in all banks to tackle financial fraud and creation of new job opportunities to take care of youth unemployment. However, the stigma of past experience is still in the blood stream of most responsible citizens and foreigners of which the construction industry are not an exception. This is a huge challenge to the deployment of disruptive innovation has a staunch bad reputation on Nigeria among other countries of the world. It is bad to the point that as a Nigerian once you introduce yourself abroad as a citizen of Nigeria, people will just keep you at arm’s length or usually very careful or cautious in any business dealings with you due to their notion that Nigerians are fraudsters which is not true of all Nigerians. This is a challenge innovation deployment in most.
- II. **The challenge of fear and resistance to change:** Another challenge facing deployment of innovation in Nigeria construction industry is the fear of changing from old ways of doing things to new and modern methods. This is normal in all human activities and lives processes, as people tend to be comfortable and hold on to the old ways of doing things rather than adopt new processes. Notwithstanding, changing from old practice to modern ways is challenging to any establishment, be it construction or any form of organization. It is difficult because it involves huge sums of money, planning, time, disruptions, organizational changes and downsizing or increase in personnel as the case may be. The construction industry is not left out in this traditional habit, (Robinson, Carrillo, Anumba, & Bouchlaghem, 2004). Some senior construction experts are in their mid-age and as such tend to shy

away from modern technologies, with the excuse that they are of the older generation and have no time to learn the new generation's ways of doing things.

- III. The challenge of Poor Condition of Electricity:** Modern innovations are driven by the power of electricity, sadly, in Nigeria, the biggest challenge to the growth and development of most industries is poor electricity supply. This is a huge setback to the progress of Nigeria, as it is difficult to boast of one full day without electricity interruption not to talk of a week or one Month. This is a big challenge to innovation growth and deployment in Nigeria construction industry, as indeed all industries require electricity in order to operate ICT and electronic gadgets. Some rich universities manage to provide private electricity supply for their administrative sections, while other sections of the university go without electricity supply (M.T. Dewa, D Q Adams, 2018) .

6. CONCLUSION

Although, there are many disruptive innovations that may likely change the traditional workflow in construction process, but this paper is limited to three most apparent innovation that have direct bearing on all the phase of construction delivery; design, procurement, construction and facilities management. While, internet of things has the potentials of automating the entire construction process, Augmented reality may likely play a vital role in the future design and facilities management. Whereas, Blockchain has the potential to address some issues that discourage the industry to use BIM such as confidentiality, provenance tracking, disintermediation, non-repudiation, multiparty aggregation, traceability inter-organizational recordkeeping, change tracing, data ownership, etc. We have been using generic business solutions to manage building information as files using blockchain. Because of the huge size of BIM files and poor capabilities to manage differences between versions the usability of those solutions was limited. The proper position for the integration of blockchain is between the transaction processing component of the BIM server and its storage functionality. Additionally, blockchain should be fingerprinting and/or chaining all other information exchanges and communication. The paper may wish to advocate for more efforts on rigorous training in computer programming to all students of civil engineering and built environment. Nigeria as country need a proactive response in the areas of technology acquisitions, transfer and diffusion of technologies; and securing inward investment from global original equipment manufacturers in key strategic value chains to build global competitive capabilities for instance mining and mining capital equipment; fuel cells; aerospace and defense

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INDUSTRY 4.0 AS A DISRUPTIVE AGENT TO TECHNOLOGY EDUCATION BODY OF KNOWLEDGE

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Abstract:

Technology education is a resource intensive body of knowledge which is necessary tools for development of any nation. This body of knowledge has metamorphosed from manual based to mechanical and later automation as a result of series of industrial transformations. Similarly, it is currently facing a serious revolution due to proliferation and diffusion of information and communication technology. The contemporary revolution is changing the way users and machines communicates in work environment. To accommodate the revolution, nations are changing their curriculum and pedagogy to digital orientation. However, many studies have shown that, technology education is bedeviled by multiple shortcomings ranging from lack of facilities, unqualified manpower etc. Therefore, the main aim of this paper is to appraise industry 4.0 scenario in relation to contemporary status of technology education and propose possible measures to mitigate effects of the challenges on Nigeria educational objectives.

Keywords: Industry 4.0, Technology education, Transformation of Technology,

Introduction

Industry 4.0 simply refers to "fourth industrial revolution" which in other hand means integrated automation and data that is used for optimization of production, enhanced flexibility and efficiency within a smart factory environment (M.A. K. Bahrin, M F Othman, 2016). This revolution is driven by artificial intelligence, automation, ubiquitous mobile supercomputing, intelligent robots, self-driving cars, neuro-technological brain enhancements, genetic editing etc; the evidence of dramatic change is all around us and it's happening at exponential speed. Historically, steam-powered mechanical systems in the first industrial revolution have been transformed into a structure in which cyber-physical systems take place in a very short time (M.T. Dewa, D Q Adams, 2018) In the first industrial revolution, mechanical production systems emerged by using water and steam power. In the ongoing process, mass-producing technologies have emerged using electric energy and this is called the second industrial revolution (Rennung, Luminosu, & Draghici, 2016) . At the beginning of the 1970s, the automation of production processes, along with the intensive use of electronic technology, led to digital transformation, making the production processes in the industry faster (Stock & Seliger,) . The industrial revolutions can be described as follows: production with the help of machines, serialization of production, automation of production, and finally the 4th industrial revolution, adaptation to the production systems of information and communication technologies (M.A. K. Bahrin, M F Othman, 2016) In summary, these processes led to a shift from muscle strength to mechanical strength. We can define the fourth industrial revolution as the digitalization of the industry by communicating all the structures within the production systems (M.T. Dewa, D Q Adams, 2018) This revolution, which accelerates the production processes by making all the units in the production systems communicate with each other over the internet, promises that intelligent systems will be in all areas.

Brief History of Fourth Industrial Revolution (IR 4.0)

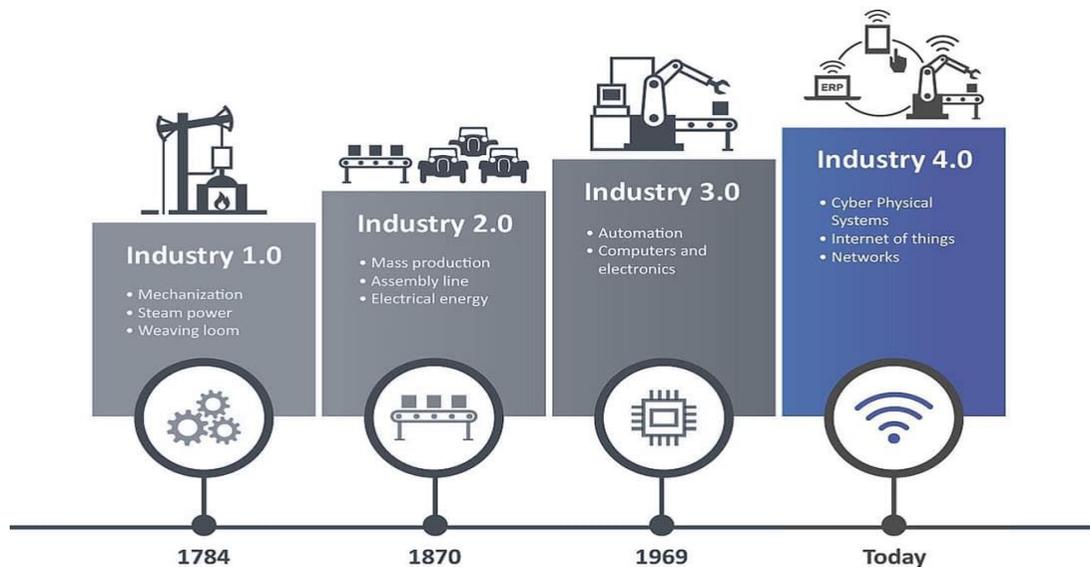
The first Industrial Revolution, the Industry 1.0, that started in the 1760s and lasted into 1830s, the production evolved from physical strength to machine power. Increasing in quantity and improving in quality, the machines used steam power. After production was mechanized during the First Industrial Revolution, the "Second Industrial Revolution" was triggered, along with the development of technology.

The period between 1840 and 1870 is called Industry 2.0 and also known as technological Revolution. Industry 2.0 was all about the Mass Production first powered by electricity, then kept moving by oil. This new technology superior to steam power ensured that the machines are further advanced and the production increased greatly. With the mass production, iron and steel raw materials have become widespread and allowed the heavy industry to develop. The term "automation" was first used in the middle of Industry 2.0. Delmar Harder, Ford's vice president of production, first described what we described as factory automation in 1947. During the first half of the 20th century, two Big World Wars had started one after the other and country borders had been shattered. Negative economic developments such as the Global Crisis in 1929 slowed the pace of industrialization of all countries.

After the effects of the World Wars, beginning in the late 1960s, Industry 3.0 started to support electrical mechanization with the power of computers. The computers that mentioned, are called the Programmable Logic Controllers (PLCs). These controllers can automate a specific process, machine function, or even an entire production line.

Another important progress during the Third Industrial Revolution was the development of communication technologies along with the supercomputer. The most important innovation that has influenced the development of technology was the discovery of the internet. It has changed everything. The internet connected PLCs, computers, sensors, robots, mainframes, and people all over the world enabled businesses to do things even more intelligently and efficiently.

In the Fourth Industrial Revolution, the machines began to manage themselves and the production process, so they no longer needed manpower. Figure 1 shows the graphical representation of how industrial revolution metamorphose from stem engines to contemporary smart driven systems



Source: D Zone

Factors Driving Industry 4.0

The manufacturing industry is increasingly shifting towards producing more technologically-complex products. It is no longer enough for the manufacturing industry to make better things – creating innovative products and services that will meet customer needs - but also to make things better - facilitating the design engineering, service planning and execution as well as improving the management and production processes. Furthermore, despite steady improvements in the manufacturing output and employment in the sector, renewed investments will be needed to build the necessary infrastructure and increase resources to support the continuous growth. This emphasis on “making better things while making things better” is driven by the following factors (M.A. K. Bahrin, M F Othman, 2016) :

- vii. Rate of technology advancement and its convergence - technology changes driven by applications of these technology in the manufacturing industry such as but not limited to Big Data, the Internet of Things, and cloud computing;
- viii. Shifts in the global economic order; economic realignment due to changes in the developed world, and the rise of fast-growth emerging economies;
- ix. Knowledge & Skills for the future in retaining talent and producing future workforce by taking advantage of the opportunities of this transformation;
- x. Competitiveness of nations and firms - greater global competition as firms must defend their domestic markets while simultaneously tapping new market segments for long-term growth;
- xi. Changing customer behaviour – influenced by values, personalization and customization and the emergence of new products and new services attributes that are forcing manufacturing firms to reassess their manufacturing systems of production.
- xii. Increased regulations - environmental concerns and standards-based factors like ISO compliance that apply across an increasingly interconnected world.

Considering the above factors, economists, futurists and other experts have been good at predicting the demise of jobs they haven't been great at pointing to the new jobs that will emerge, whether people will be equipped to do them and whether they'll produce adequate income. But things don't need to be so bleak or dystopian (Stock & Seliger,) . The reality is that the jobs of the future will be the ones that machines can't do and it's fair to say anything that can be measured or is based on rules will be automated. This is great news because it means we can automate the work and humanize the jobs. On this note therefore, the only safe harbor for future technology education body of knowledge are the following (Ministry of International Trade and Industry, 2017) ;

- **creative endeavors**, everything from scientific discovery to creative writing and entrepreneurship
- **social interaction**, robots just don't have the kind of emotional intelligence that humans do
- **physical dexterity and mobility**, millennia of hiking mountains, swimming lakes and dancing practice gives humans extraordinary agility and physical dexterity.

The Global Efforts on Industry 4.0

- xi. Since 2011 the United States (US) government began a series of national-level discussions, actions and recommendations, titled 'Advanced Manufacturing Partnership (AMP)', to ensure the US to be prepared to lead the next generation of manufacturing (R. Rafael, 2014) (Rafael, Jackson Shirley, and Liveris 2014).
- xii. In 2012, the German government passed the 'High-Tech Strategy 2020' action plan, which annually sets billions of euros aside for the development of cutting-edge technologies. As one of the ten future projects in this plan, the 'Industrie 4.0' represents the German ambitions in the manufacturing sector (S, 2017).
- xiii. The French government initiated a strategic review in 2013, named the 'La Nouvelle France Industrielle', in which 34 sector-based initiatives are defined as France's industrial policy priorities.
- xiv. In 2013, the United Kingdom (UK) government presented a long-term picture for its manufacturing sector until the year of 2050, called the 'Future of Manufacturing'. It aims to provide a refocused and rebalanced policy for supporting the growth and resilience of UK manufacturing over the coming decades.
- xv. The European Commission launched the new contractual Public-Private Partnership (PPP) on 'Factories of the Future (FoF)' in 2014. It is under the Horizon 2020 programme that plans to provide nearly 80 billion euros of available funding over 7 years (from 2014 to 2020) (European Commission 2016).
- xvi. In 2014, the South Korea government announced the 'Innovation in Manufacturing 3.0' that emphasized four propulsion strategies and assignments for a new leap of Korean manufacturing
- xvii. The Chinese government issued the 'Made in China 2025' strategy alongside the 'Internet Plus' plan in 2015. It prioritizes ten fields in the manufacturing sector to accelerate the informatization and industrialization in China.
- xviii. In 2015, the Japanese government adopted the 5th Science and Technology Basic Plan, where particular attentions have been paid to the manufacturing sector for realizing its world-leading 'Super Smart Society'
- xix. The Singapore government has committed \$19 billion to its RIE 2020 Plan (Research, Innovation and Enterprise) in 2016. Eight key industry verticals have been identified within the advanced manufacturing and engineering domain (National Research Foundation 2016).
- xx. In 2017, Ministry of International Trade and Industry of Malaysia, developed a draft National Industry 4.0 Policy Framework. This document targets a range of stakeholders, with the aim of encouraging manufacturing firms to work with the entire manufacturing ecosystem to address the challenges and act on the identified enablers. The topics covered are linked to Malaysia's business and competitive advantages and the drivers, potential disruptors and technology developments in the manufacturing industry (Ministry of International Trade and Industry, 2017) .

Challenges of industry 4.0 to TVET Body of Knowledge

Like the revolutions that preceded it, the Fourth Industrial Revolution (Industry 4.0) has the potential to raise global income levels and improve the quality of life for populations around the world. To date, those who have gained the

most from it have been consumers able to afford and access the digital world; technology has made possible new products and services that increase the efficiency and pleasure of our personal lives. Ordering a cab, booking a flight, buying a product, making a payment, listening to music, watching a film, or playing a game—any of these can now be done remotely. In the future, technological innovation will also lead to a supply-side miracle, with long-term gains in efficiency and productivity. Transportation and communication costs will drop, logistics and global supply chains will become more effective, and the cost of trade will diminish, all of which will open new markets and drive economic growth.

This revolution brings with it, an exciting possibility, new solutions to global challenges, and employment opportunities for jobs that have yet to be invented. At the same time, it comes with the potential for technological unemployment that drives downward pressure on income security and social agency while society adapts to the new normal. Combined with climate change and rapid global population growth this century is the most challenging that our species has ever faced. Governments, educators and parents alike must ask the question about how they can prepare present and future generations to thrive in this transforming world.

At the same time, as the economists Erik Brynjolfsson and Andrew McAfee have pointed out, the revolution could yield greater inequality, particularly in its potential to disrupt labor markets. As automation substitutes for labor across the entire economy, the net displacement of workers by machines might exacerbate the gap between returns to capital and returns to labor. On the other hand, it is also possible that the displacement of workers by technology will, in aggregate, result in a net increase in safe and rewarding jobs.

- The current industrial revolution is based on cyber-physical systems. The networked machines and human beings now cooperate in decision making. It should be noted that Industry 4.0 brings with it a new situation for employees.
- In this new situation, there are more flexible production systems, with shorter cycles, shorter delivery times, optimized management of stocks, more flexible working times and more flexible tasks.
- Moreover, Industry 4.0 means that “Human intervention is no longer necessary”, it was highlighted in the presentation, while there is also improve co-decision of skilled workers regarding their own working times.
- Industry 4.0 also means masses of data, the handling of data, and complete control of processes, while it also means a dissolution of work boundaries and that working time is simply a variable within the complex optimization plan of a factory.
- Today’s intelligent information systems and computers are capable of making decisions independently, and this leads to a new quality in the division of labour between man and machine.

With these challenges, there are three questions that highly relevant: (1) How much technology is adequate? (2) How much Human involvement may (still) remain? (3) How can the three dimensions of sustainability be secured?

In addition to being a key economic concern, inequality represents the greatest societal concern associated with the Fourth Industrial Revolution. The largest beneficiaries of innovation tend to be the providers of intellectual and physical capital—the innovators, shareholders, and investors—which explains the rising gap in wealth between those dependent on capital versus labor. Technology is therefore one of the main reasons why incomes have stagnated, or even decreased, for a majority of the population in high-income countries: the demand for highly skilled workers has increased while the demand for workers with less education and lower skills has decreased. The result is a job market with a strong demand at the high and low ends, but a hollowing out of the middle. Discontent can also be fueled by the pervasiveness of digital technologies and the dynamics of information sharing typified by social media. More than 30 percent of the global population now uses social media platforms to connect, learn, and share information. In an ideal world, these interactions would provide an opportunity for cross-cultural understanding and cohesion. However, they can also create and propagate unrealistic expectations as to what constitutes success for an individual or a group, as well as offer opportunities for extreme ideas and ideologies to spread. In extension, Industry 4.0 will affect TVET body of knowledge in the many ways such as;

Industry 4.0 and the Technology Education Body of Knowledge

6. **Diverse time and place.**

Students will have more opportunities to learn at different times in different places. eLearning tools facilitate opportunities for remote, self-paced learning. Classrooms will be flipped, which means the theoretical part is learned outside the classroom, whereas the practical part shall be taught face to face, interactively U.Musa, R. M. (2018). A review of obstacles of ICT usage in nigerian tertiary educational institutions. *International Journal of Human Resource Studies*, 8(4), 169-179. . Relatively, apps and highly sophisticated software will serve as laboratory to some extents.

7. **Free choice.**

Though every subject that is taught aims for the same destination, the road leading towards that destination can vary per student. Similarly, to the personalized learning experience, students will be able to modify their learning process with tools they feel are necessary for them. Students will learn with different devices, different programs and techniques based on their own preference. Blended learning, flipped classrooms and BYOD (Bring Your Own Device) form important terminology within this change (Pettinger, 2016a) .

8. **Project based.**

As careers are adapting to the future freelance economy, Technology students of today will adapt to project-based learning and working. This means they have to learn how to apply their skills in shorter terms to a variety of situations. Students should already get acquainted with project-based learning in high school. This is when organizational, collaborative, and time management skills can be taught as basics that every student can use in their further academic career (Pettinger, 2016)

9. **Field experience.**

Because technology can facilitate more efficiency in certain domains, curricula will make room for skills that solely require human knowledge and face-to-face interaction. Thus, experience in ‘the field’ will be emphasized within courses. Schools will provide more opportunities for students to obtain real-world skills that are representative to their jobs. This means curricula will create more room for students to fulfill internships, mentoring projects and collaboration projects etc (S, 2017)

10. **Data interpretation.**

Though mathematics is considered one of three literacies, it is without a doubt that the manual part of this literacy will become irrelevant in the near future. Computers will soon take care of every statistical analysis, and describe and analyses data and predict future trends. Therefore, the human interpretation of these data will become a much more important part of the future curricula of technology education. Applying the theoretical knowledge to numbers, and using human reasoning to infer logic and trends from these data will become a fundamental new aspect of this literacy(Pettinger, 2016b)

Conclusion

Industry 4.0 has come and will certainly affect manufacturing and in extension affects technical skillset and the way the skills are learnt and practice. In automated processes, technology learning needs to be structured differently. Errors and stoppages pose too much of a risk. More of the learning must therefore be organized in separate spaces, e.g. in virtual learning environments. As a corollary, the corresponding learning opportunities need to be borne in mind at an early stage when production facilities are being designed. Technology education and training must be involved in future. Even today, companies are cooperating more with partners in the higher education sector to train the next generation of skilled workers. But Technology education and training must not leave this field to the higher education establishments alone, particularly as no uniform standards exist as yet. On the contrary, it must develop its own concepts for Technology Education & Training “4.0”. These include new partnerships between learning venues and hybrid qualification routes in collaboration with higher education establishments, e.g. in the context of advanced vocational qualifications. Enabling employees to gain qualifications must be integrated into the implementation of Industry 4.0 from the very start. For it is also important to shape the world of work to meet human needs.

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TRACK FIVE:
DISRUPTIVE INNOVATION IN
MANAGEMENT SCIENCES AND
SUSTAINABLE ENTREPRENEURSHIP

SUSTAINABLE ENTREPRENEURSHIP DEVELOPMENT OF RURAL FARMERS INVOLVED IN TELFARIA CULTIVATION IN RELATION TO GENDER RELATED CONSTRAINTS IN LAGOS, NIGERIA

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ABSTRACT

The involvement of men and women in the cultivation of vegetables has brought about gender related issues and constraints which affect entrepreneurship development. This study therefore focused on sustainable entrepreneurship development of rural farmers that are involved in Telfaria cultivation in relation to gender related constraints in Lagos, Nigeria. This study was carried out in four (4) rural local government areas of Lagos State of Nigeria which are Badagry, Epe, Ikorodu, and Ibeju-lekki local government areas. A total of 166 respondents were used for the study. Well structured questionnaires were used to retrieve information. Data retrieved were analyzed using simple percentage and frequency counts. One (1) hypothesis was postulated and analyzed Pearson's Product moment Correlation (PPMC).

The results of the study indicated that majority of the respondents (41.56%) were between the ages of 26-30 years, and most of them were married (45.78%). In terms of sex, majorities (60.84%) were females, most of them (55.42%) attended higher institution, and majority (66.27%) of them engaged in other aspects of crop production. In addition majority (43.98%) of the respondents have had 11-15 years of experience while most of them (69.88%) engage in full-time production and majorly (52.41%) produce vegetables in dry season. Correlation analysis of the first hypothesis indicated that there is significant difference between men and women involvement in cultivation of Telfaria in rural areas ($r=0.382$ $p=0.23$). Conclusively, involvement of the female gender has brought about sustainable entrepreneurial propensity among rural farmers.

Keywords: *Gender, Constraints, Sustainable Entrepreneurship, Telfaria cultivation, Rural Areas.*

Introduction

Agricultural production in Nigeria is dominated by small-scale farmers who produce the bulk of the food consumed in the country. One of the major crops produced is fluted pumpkins which represent an essential vegetable among rural and urban inhabitants. Fluted pumpkin scientifically known as *Telfaria occidentalis*, and commonly referred to as *Ugwu* or *Telfaria* is one of the leading green leafy vegetables in Nigeria. The production of fluted pumpkins remains entrenched in Nigerian agriculture and forms an important condiment in the national diet (Ibekwe and Adesope, 2010). Amongst the different foods, production and consumption of fluted pumpkin is very important because of their contribution to good health by providing inexpensive sources of minerals and vitamins needed to supplement people's diet which are mainly carbohydrates (Adedoyin 2016). Fluted pumpkin, according to Abu and Asember (2011) can give high yield per unit area of land and hence generate high income for the farmers thereby making it a means of sustainable entrepreneurs. Fluted pumpkin takes a very important place in the population's diet because of its affordability and the nutrients it provides. Fluted pumpkin is often grown and consumed in rural, urban and peri-urban areas in Nigeria. Fluted pumpkin is produced mainly by small-scale farmers who earn their living from it, using limited farm inputs. Fluted pumpkin is one of the commonest, popular cut herbs grown in south-eastern Nigeria and belongs to the *cucurbitaceae* family. It is a perennial climber grown for its leaves and seeds, which are very nutritious (Schippers, 2009). Fluted pumpkin can be cultivated on the flat land or on mounds. In home gardens, they are frequently grown along a fence or next to a tree, thus allowing the fruit to hang from a branch. Fluted pumpkin does best at the lower altitudes and medium to high rainfall and will do well on sandier soil provided fertilizer is applied but has a more robust growth in rich well drained soil. When planting for leaves, the usual spacing is 50 x 50cm for a monocropping system or occasionally even closer, and some farmer's plant in the middle of a 1.20m- wide bed at 40cm intervals.

Telfaria occidentalis is one of the most important vegetables grown among the people in Southwestern Nigeria.

Despite the fact that women contribute to global food security, women farmers are still ignored and this makes women vegetable farmers constrained in several ways from meeting household food security, both within the contexts of food production and food procurement and this is due to the fact that the government still regard farmers as "Men". According to available evidence, these constraints border on land, credit, labor, improved technologies among others (Mutemba, 2012). These constraints impact on women in the following ways: i) in their status activity as female food producers, ii) in their occupational

activity as vegetables farmer and iii) in entrepreneurship sustainability. Hence this study is meant to investigate the following research questions.

- To what extent do men and women entrepreneur farmers get involved in the cultivation of *Telfaria*?
- What are the gender related constraints in sustaining entrepreneurship in the cultivation of *Telfaria*?

Research hypotheses

The following null hypothesis was developed and tested for the study

H₀₁: There is no significant difference between men and women entrepreneur's involvements in cultivation of *Telfaria* in rural areas of Lagos state.

Research Methodology

The area of study is Lagos State Nigeria; Lagos state is located in the South Western Geopolitical zone of Nigeria. It is often regarded as the economic capital of Nigeria. Lagos state is made up of 20 local Government Areas, out of which 16 are classified as urban and 4 (Badagry, Epe, Ikorodu, and Ibeju lekki) as rural area. Lagos state has 3 vegetation namely: Mangrove forest, tropical rain forest and guinea savannah. The rural natural source endowment of the region includes: Land, Water, Minerals, forest and agricultural resources, through which a wide range of agricultural and forest product are obtained.

The population for this study comprised of women and men entrepreneurs cultivating *Telfaria* in rural areas of Lagos state. The sample for this study consists of registered *Telfaria* farmers from the four rural Local government areas in Lagos state. Twenty percent (20%) of the registered farmers were sampled to arrived at fifty (50) for Epe, thirty-eight (38) for Ikorodu, thirty-five (35%) for Ibeju-Lekki and forty-three (43) for Badagry, making a total sample of one hundred and sixty-six male and female *Telfaria* farmers. The data obtained from the respondents were subjected to descriptive and inferential statistical analysis, while the hypothesis postulated was analysed with the Pearson's Product Moment Correlation (PPMC).

Results and Discussions

Demographic Characteristics of the Respondents

From the table below, out of one hundred and sixty-six respondents (166) used in the study, majority of the respondents 69(41.56%) were within the age range of 25-30years , 59(35.54%) respondents within the age range of 36-above years,38(22.90%) respondents were within the age range of 20-25years.

On marital status of the respondents, it was gathered that 67(40.36%) are single, 76(45.78%) are married while, 23(13.86%) of the respondents are divorced .This results shows that most of *Telfaria* farmers are married and can be assumed to be more responsible.

The result on educational qualification of respondents shows that 42(25.30%) have secondary education, 92(55.42%) have higher education while 32(19.28%) had no formal education. On the level of production, results shows that 110(66.27%) of the respondents are engaged in commercial production while 56(33.73%) are engaged in subsistence production. This implies that majority of the vegetable farmers establish in large scale production because they are entrepreneurs and are practicing *Telfaria* production for profit making and sustenance.

On the basis of other occupational activities, it was revealed that of the respondents 88(53.01%) are crop farmers, 19(11.45%) are livestock farmers, 6(3.61%) are processors of agricultural produce , 5(3.01%) fishermen , 21(12.65%) are distributors of agricultural produce, 7(4.22%) are artisans, 2(1.20%) are marketers, 15(9.04%) are traders while 3(1.81%) are hunters. This shows that majority of the respondents are 88(53.01%) are crop farmers which is an indication to their interest in vegetable production towards sustainable entrepreneurial development.

On the basis of years of experience, the result shows that out of the respondents, 32(19.28%) had been in *Telfaria* farming for a period of 1-5years, 45(27.10%) had been in *Telfaria* farming for a period of 6-10years ,73(43.98%) had been in *Telfaria* production for a period of 11-15years. This result shows that most of the respondents 73(43.98%) are experienced entrepreneurs and have been able to sustain this business for many years.

On production, the table shows that majority of the respondents with 116(69.88%) engage in *Telfaria* production on full-time basis while 50(30.12%) engaged in *Telfaria* production on part-time basis. This shows more farmers are sustaining this entrepreneurship in order to maximize profit

On the basis of period of production the result shows that 37(22.29%) of the respondents engage in the production during the rainy season, 87(52.41%) engage in the production during the dry season while 42(25.30%) engage in all year round production. This implies that majority 87

(52.41%) of the *Telfaria* farmers engage in the production during the dry season for a better result in terms of accruable income.

Table 1: Indicate the Demographic Characteristics of Respondents

Variable	Frequency	Percentage
AGE		
20-25		
26-30	38	22.90%
36 and above	69	41.56%
	59	35.54%
MARITAL STATUS		
Single		
Married	67	40.36%
Divorced	76	45.78%
	23	13.86%
GENDER		
Male		
Female	65	39.16%
	101	60.84%
EDUCATIONAL QUALIFICATION		
Attended Sec .school		
Attended Higher Institution	42	25.30%
No formal Education	92	55.42%
	32	19.28%
FARMING SYSTEM		
Commercial farming		
Subsistence farming	110	66.27%
	291	

OCCUPATIONAL ACTIVITIES	56	33.73%
Other crop farming		
Livestock farming	88	53.01%
Processing of agric produce	19	11.45%
Fishing	6	3.61%
Distribution of agric produce	5	3.01%
Artisan	21	12.65%
Marketing	7	4.22%
Trading	2	1.20%
Hunting	15	9.04%
YEARS OF EXPERIENCE	3	1.81%
1-5 years		
6-10 years	32	19.28%
11-15 years	45	27.10%
16 and above	73	43.98%
PRODUCTION STATUS	16	9.64%
Part time		
Full-time	50	30.12%
PERIOD OF PRODUCTION	116	69.88%
Raining season		
Dry season	37	22.29%
All year round	87	52.41%
	292	

42

25.30%

Involvement of men and women farmers in the cultivation of *Telfaria*

The table below shows that the females (women) were much more highly involved in harvesting than their males (men) counterpart with a weighed mean score of 1.97. This was ranked first (1st) in the distribution as against mean score of 1.96 from the men. This implies that the involvement of both genders in harvesting is more or less sine qua non among the various activities in *Telfaria* cultivation. This assertion is supported by (UNECA, 2015) who opined that women constitutes between 70 and 90 percent of harvesting in *Telfaria* farms.

Among the men, the other two most involved activities in *Telfaria* cultivation are fertilizer application and staking. These two were ranked 2nd and 3rd with weighed mean score of 1.93 and 1.90 respectively. Weeding (1.87), watering (1.86) and vegetable bed construction (1.81) were ranked 4th, 5th, and 6th respectively.

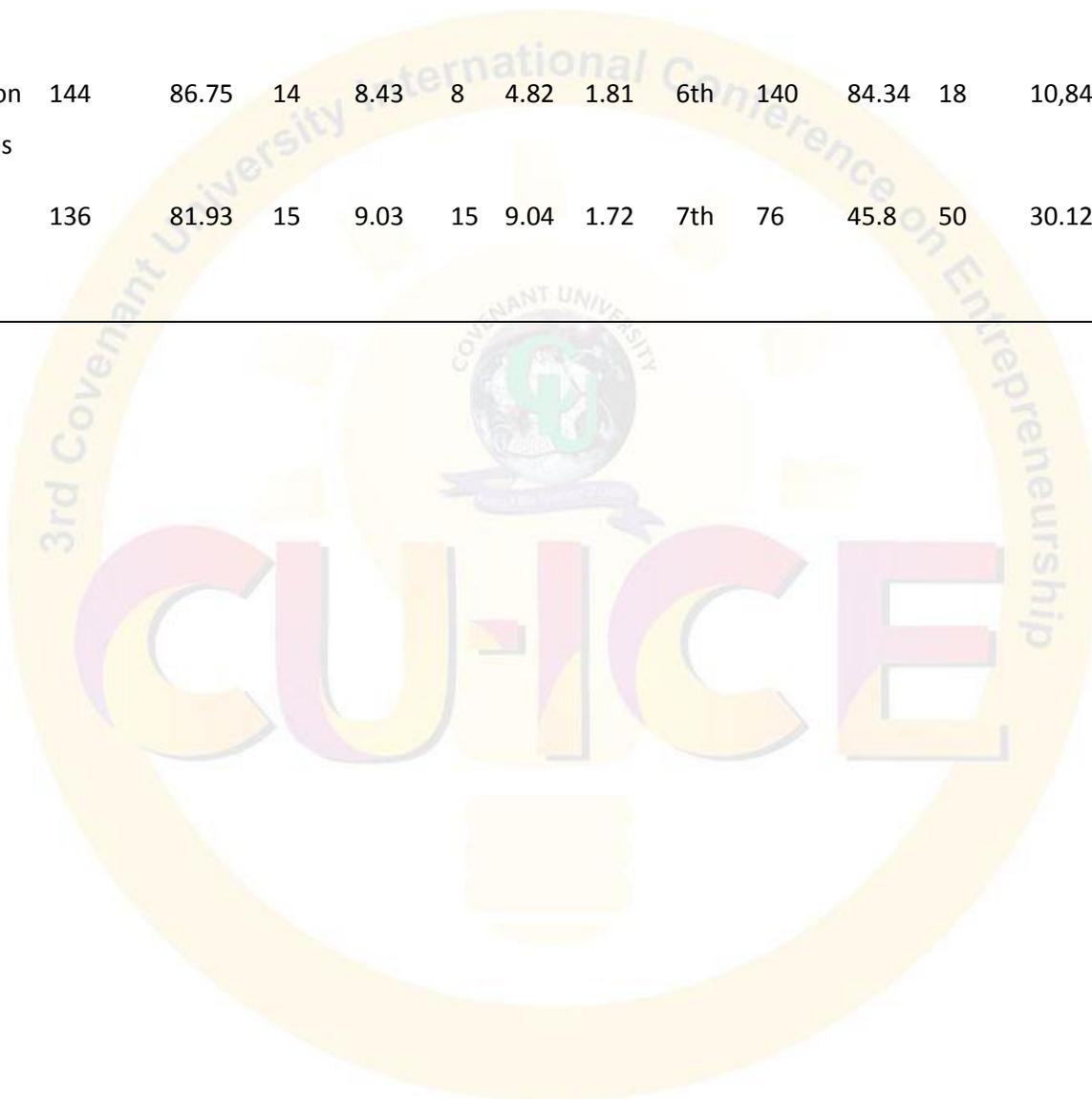
Also, within the female *Telfaria* farmers, the other two (2) most involved cultivation activities were marketing and staking. These were ranked, 2nd and 3rd respectively with average mean score of 1.95 and 1.89 respectively. Watering, construction of vegetable bed and weeding closely followed and were ranked 4th, 5th and 6th with mean score of 1.80, 1.77 and 1.68 respectively among the female *Telfaria* farmers.

Within the male respondents, clearing of land and control of pest were ranked 7th and 8th with a means score of 1.72 and 1.68 respectively. Marketing and sowing of seed were ranked 9th and 10th with mean score of 1.48 and 1.19 respectively. Within the female *Telfaria* farmers, fertilizer application, control of pest, sowing of seed and clearing of land were ranked 7th, 8th, 9th and 10th respectively with mean score of 1.44, 1.26, 1.25 and 1.21. The implication of this finding is that sowing of seeds is not popular among male farmers while land clearing is not popular among female *Telfaria* farmers.

Table 2 Involvement of men and women farmers in the cultivation of *Telfaria*

Items	Males							Females						
	HI No	HI %	MI No	MI %	NI No	NI %	WMS Rank	HI No	HI %	MI No	MI %	NI No	NI %	WMS Rank
Watering	144	86.75	22	13.25	0	0	1.86 5th	134	80.72	32	19.28	0	0	1.80 4th
Weeding	146	87.95	20	12.05	0	0	1.87 4th	120	72.3	40	24.09	6	3.61	1.68 6th
Fertilizer application	156	93.98	10	6.02	0	0	1.93 2nd	80	48.19	80	48.2	6	3.61	1.44 7th
Staking	150	90.36	16	9.64	0	0	1.90 3rd	148	89.16	18	10.84	0	0	1.89 3rd
Control of pest	130	78.31	20	12.05	16	9.64	1.68 8th	68	40.96	74	44.58	24	14.46	1.26 8th
Harvesting	160	96.39	6	3.61	0	0	1.96 1st	162	97.59	4	2.41	0	0	1.97 1st

Marketing	104	62.65	38	22.9	24	14.5	1.48	9th	158	95.18	8	4.82	0	0	1.95	2nd
Sowing of seeds	56	33.73	86	51.81	24	14.6	1.19	10th	60	36.15	88	53.01	18	10.84	1.25	9th
Construction of veg. beds	144	86.75	14	8.43	8	4.82	1.81	6th	140	84.34	18	10.84	8	4.82	1.77	5th
Clearing of land	136	81.93	15	9.03	15	9.04	1.72	7th	76	45.8	50	30.12	40	24.1	1.21	10th



HI=High involvement, MI=Minor Involvement, NI=No involvement

Distribution of Gender related constraints in the cultivation of *Telfaria*

The table below shows that 74.70% of the respondents indicated "inaccessibility to credit facilities by women farmers as a major constraints, while 23.50% indicated the problem as a minor constraint and 1.80% indicated that the problem is no constraint. This was ranked 6th with a weighted mean score of 1.72. This is in line with the study of Robert, (2013) who opined that women's lack of access to credit constraints them from being able to purchase inputs for cultivation, paid labor etc. This corroborates the study of D'silva and Raza 2007) who stated that formal agricultural credit has been noted to be less accessible to women than men farmers (UNEC 2006). Inaccessibility to credit facilities precludes women from accessing relevant and time saving inputs. For literacy as a constraint, 54.82% of the respondents indicated "low level of literacy as a major constraints, 40.36% indicated the problem as a minor constraints while 4.82% indicate it as no constraints. This was ranked 15th with a weighted mean score of 1.50. For item 3 on the table, 60.24% of the respondents indicated" inaccessibility to credit facilities by male farmers as a major constraint, 35.54% indicated the problem as a minor constraints while 4.22% indicated the problem as no constraints. This was ranked 12th with a weighted mean score of 1.56. The fourth item on the table below shows that 54.22% of the respondents indicated lack of hereditary right and other means of obtaining land by women farmers as a major constraints, 37.95% indicated that the problem as a minor constraint while 7.83% indicate the problem as no constraints, it was ranked 16th with a weighted mean score of 1.46. This is in line with a study of Saito, (2014) who argued that women have unsatisfactory right to land through their husbands, fathers, brothers, and sons due to the patriarchal structure of the societies. Item 5 of the table shows that 75.90% of the respondents indicated "lack of suitable land to increase women involvement in *Telfaria* production" is their major constraints, 19.30% indicate the problem as a minor constraints while 4.80% indicate the problem as no constraints and was ranked 8th with a weighed mean score of 1.71. Item six shows that 65.1% of the respondents attest to the fact that "high cost of land purchase or lease by male farmers as a major constraints, 28.92% indicated the problem as a minor constraints while 6.02% indicated the problem as no constraints. This was ranked 10th with a weighted mean score of 1.59. The seventh item shows that 77.71% of respondents indicated that "attitude and belief which underestimate women potential in *Telfaria* production" as a major constraints, 18.07% indicate the problem as a minor constraints while 4.22% indicated the problem as no constraints with a weighted

mean score of 1.73 and was ranked 3rd. This is in line with the study of (UNEC 2006) who stated that attitudes and beliefs which underestimate women's potential in agricultural productivity and their ability to repay loans and the habit of some credit officers and their institution to assume that the activities for which loans has been given. Item eight of the distribution revealed that 78.3% of the respondents indicates attitudes and beliefs which underestimate women to repay loans as their major constraints, 16.9% indicate the problem as a minor constraints while 4.80% indicates the problem as no constraints with a weighted mean score of 1.74 and was ranked 2nd. Item 9, revealed that 60.24% of the respondents indicated lack of training about scientific vegetable product technology on the part of the male farmers is a major constraints, 34.94% indicated the problem as a minor constraints while 4.82% indicate the problem as no constraints. It has a weighted mean score of 1.55 and was ranked 14th. Item ten (10) 34.94% of the respondents indicated the dissemination of information technologies and training mainly to male farmers with adverse effects on women farmers as a major constraints, 54.04% indicated the problem as a minor constraints while 6.02% indicate the problem as no constraints which was ranked 18th with a weighed mean score of 1.29. This is in line with a study ([Ezumah & Ezumah 2010) who opined that the dissemination of information about innovation in agriculture as well as access to training, fertilizer and other inputs, and extension services have been directed mainly to male farmers with adverse effects on women's productivity .In item 11, 80.72% of the respondents indicated women's cultural obligation to provide labor on their husbands farm limit the amount of time they can devote on their own farm as a major constraints, 9.64% indicate the problem as a minor constraints while 9.64% indicate the problem as no constraints of which was ranked 8th with a weighted mean score of 1.71. This is in line with the study (Robert 2009) who opined that woman's cultural obligations to provide labor on their husbands' farm limits the amount of time they can devote to their own farm. In item 12, 77.11% of the respondents indicate inadequacy and unavailability of subsidy affecting *Telfaria* production on the part of male farmers as a major constraints, 18.07% indicated the problems as a minor constraints while 4.82% indicate the problem as no constraints which was ranked 6th with a weighed mean score of 1.72. In item 13, (42.2%) of the respondents indicate problems of high cost of pesticides and herbicides affecting *Telfaria* production on the part of male farmers as major constraint, 53.0% indicated the problems as a minor constraints, while 4.80% indicated that the problem as no constraints which was ranked 17th with a weighed mean score of 1.37. In item 14, 78.3% of the respondent indicated bad roads is of significant effects on the marketing of *Telfaria* by rural men as a major constraints, 16.9% indicates the

problem as a minor constraint while 4.80% indicate the problems as no constraint which was ranked 3rd with a weighed mean score of 1.73. In item 15, 84.33% of the respondents indicated problems of bad road is of significant effect through marketing on the part of the rural women as a major constraints, 12.06% indicated the problem as a minor constraint while 3.61% indicated the problem as no constraint. The was ranked 1st with a weighed mean score of 1.81%. This is in line with the study of (Akpoko and (Arokoyo, 2015) who opined that lack of good access road to farmers, lack of enough vehicles for operation affects farmers' production. In item 16, (33.73%) of the respondents indicate low income status of most women cultivating *Telfaria* as a major constraints, 59.04% indicate the problems as a minor constraints while (7.23%) indicate the problem as no constraint which was ranked 20th with a weighed mean score of 1.27. In item 17, 65.1% of the respondents indicates bad effects of low income status affect male farmers involved in *Telfaria* production as a major constraint, 28.92% indicated the problem as a minor problem while 6.02% attest the problem as no constraints. This was ranked 10th with a weighed mean score of 1.69. Item 18 shows that, 34.94% of the respondents indicated inadequate knowledge about improved variety of seed on the part of the male *Telfaria* farmers as a major constraints, 59.04% indicated the problems as no constraint with a weighed mean score of 1.28 and was ranked 19th. This is in line with the study of (Mutemba, 2012) who opined that the marginalization of men and women in term of access to production input and knowledge about improved variety of seed, storage techniques etc has often resulted in the deterioration of their productive capacity. In item 19, 60.24% of the respondents indicated lack of access to improve seed by male *Telfaria* farmers as a major constraints, 34.94% of the respondents indicates the problem as a major constraints while 4.82% indicate the problem as no constraints with a weighed mean score of 1.56% and was ranked 12th. Item 20 of the table also revealed that 74.70% of the respondents believed that the proponent of government regarding farmers as "men" affect women farmers as major constraints, 23.50% indicate the problem as minor constraints while 1.81% indicated the problem as no constraints which was ranked 3rd with a weighed mean score of 1.73.

Table 3. Distribution of Gender related constraints in the cultivation of *Telfaria*

	Major constraint	Minor constraint	No constraint
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S/N	Constraints	No	%	No	%	No	%	WMS	Rank
1.	Inaccessibility to credit facilities by women farmers	124	74.70	39	23.50	3	1.80	1.72	6 th
2.	Low level of literacy and formal education among women farmers	91	54.82	67	40.36	8	4.82	1.50	15 th
3.	Inaccessibility to credit facilities by men farmers	100	60.24	59	35.54	7	4.22	1.56	12 th
4.	Lack of hereditary right and other means of obtaining land by women farmers	90	54.22	63	37.95	13	7.83	1.46	16 th
5.	Lack of suitable land to increase women involvement in <i>telfaria</i> production	126	75.90	32	19.30	8	4.80	1.71	8 th
6.	High cost of land purchase of lease by male farmers	108	65.1	48	28.92	10	6.02	1.59	10 th
7.	Attitudes and beliefs which underestimate women potentials in <i>telfaria</i> production	129	77.71	30	18.07	7	4.22	1.73	3 rd
8.	Attitude and belief which underestimate women to pay loan	130	78.3	28	16.9	8	4.80	1.74	2 nd
9.	Lack of training about vegetable product technology on the part of the male farmers	100	60.24	58	34.94	8	4.82	1.55	14 th
10.	Directing dissemination of information technology and training mainly to male farmers with adverse effect on women farmers	58	34.94	98	59.04	10	6.02	1.29	18 th

11.	Women cultural obligations to provide labour on their husbands farm limits the amount of time they can devote on their own farms	134	80.72	16	9.64	16	9.64	1.71	8th
12.	Inadequacy and unavailability of subsidy affecting <i>telfaria</i> production on the part of the male farmers	128	77.11	30	18.07	8	4.82	1.72	6th
13.	Problems of high cost of pesticides and herbicides affecting <i>telfaria</i> production on male farmers	70	42.2	88	53.0	8	4.80	1.37	17 th
14.	The problems of bad road is of significant effect on the marketing of <i>telfaria</i> by rural men	130	78.3	28	16.9	8	4.80	1.73	3 rd
15.	The problems of bad road is of significant effect on the marketing of <i>telfaria</i> by rural women	140	84.33	20	12.06	6	3.61	1.81	1st
16.	Low income status of most women cultivating <i>telfaria</i>	56	33.73	98	59.04	12	7.23	1.27	20th
17.	Bad effect on low income status affect male farmers involved in <i>telfaria</i> production	108	65.1	48	28.92	10	6.02	1.59	10th
18.	Inadequate knowledge about improved variety of seed on the part of the male <i>telfaria</i> farmer	58	34.94	98	59.04	10	6.02	1.28	19 th
19.	Lack of access to improved seed by male <i>telfaria</i> farmers	100	60.24	58	34.94	8	4.82	1.56	12th

20.	Fact the government regard farmers as "men" affect women <i>telfaria</i> farmers	124	74.70	39	23.50	3	1.81	1.73	3rd
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Test of Hypotheses

The only hypothesis postulated and tested in this study is

H₀₁: There is no significant difference between men and women entrepreneur's involvements in cultivation of *Telfaria* in rural areas of Lagos state.

Pearson's Product Moment Correlation (PPMC) was used to test the hypothesis as explained below.

Correlation analysis between men and women involvement in cultivation of *Telfaria* in rural areas.

Table 4 below shows that there is significant difference between men and women involvement in cultivation of *Telfaria* in rural area of Lagos state. This implies that there are differences between women activities and men activities in the cultivation of *Telfaria* and this is in line with the study of Schipper, (2017) who opined that male farmers are involved mostly in the tedious aspect of vegetable cultivation; while women are found more in the aspects of marketing. This implies that the most tedious activities like clearing of land, etc are done by male farmers while women are mostly found in less strength involving activities in the study areas.

Table 4: Table of Correlation analysis between men and women involvement in cultivation of *Telfaria* in rural areas.

Variables	Correlation (r) value	p- value	Decision
Men involvement			
Vs			
Women involvement in <i>Telfaria</i> cultivation	0.382	0.23	Significant

Conclusion and Recommendation

These findings showed that 60.84% of the respondents were women entrepreneurs fully involved in *Telfaria* while 39.16 are males. Also, 66.27% of the respondents are into commercial farming whilst 69.88% are into full time farming. The information gathered shows that women are more involved in harvesting and marketing, while the males are more involved in clearing, bed making and fertilizer application. In addition, the study shows that more women entrepreneurs' were maligned and constrained from accessing loans, farming lands, government interventions and many more compared with their male counterparts who didn't face a stiffer challenges in these areas. This may be due to societal perception of the two genders. There is a significant correlation between men's involvements and women's involvement in the cultivation and production of *Telfaria* in Lagos state. This research has generated valuable insights for research and into gender related problems that affect sustainable entrepreneurship of local farmers in Lagos state. Based on the above findings, it is recommended that:

- i. Access to loans and credit facilities can enhance entrepreneurship sustenance in rural farmers in Lagos state.
- ii. Government policies and intervention can be friendlier to women entrepreneurs' by treating them as equals with their male counterparts.

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AN EVALUATION OF THE RELATIONSHIP BETWEEN STUDENT INTEREST AND THEIR PERFORMANCE IN VOCATIONAL EDUCATION SUBJECTS. (A Case Study of Michael Otedola College of Primary Education)

— BY

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Abstract

Student interest is a major factor that positively influences their performance in Vocational Education subjects. In view of this, a research was conducted which focused on the evaluation of the relationship between student interest and their performance in Vocational Education subjects. Students of Michael Otedola College of Primary Education were used as case study. The research pointed out some observable factors that may be affecting students' interest for learning Vocational Education subjects and its implication on their performance in the subjects. The study adopted a survey research work and questionnaire was used to elicit information. The research questions and hypothesis

formulated was analyzed using chi-square statistical analysis tool. The study concluded that there are many factors which influenced students' interest and their performance in Vocational Education subjects. However, it was revealed that gender had nothing to do with students' interest as well as their performance in Vocational Education subjects.

Key words: Evaluation, students, interest, performance, Vocational Education.

Introduction

Vocational education is the type of education designed to develop occupational skills (Adesoji, 2006). It gives individuals the skills to live, learn and work as a productive citizen in a global society. It is important to improving Nigeria's economic development. It encompasses various courses as used in the higher learning or subjects as used in the primary and secondary learning. Among these subjects or courses are home economics (food security, home cleanliness, eating habit), business studies, financial accounting, secretarial studies, entrepreneurship education, computer studies, fashion and textile design, theatre and drama studies, agricultural studies (farm management, Horticulture, plant and crop sciences), architecture and construction (surveyor, bricklaying), and fine arts among others.

Scholars are of the opinion that the capability of vocational education in creating jobs to reduce unemployment among the Nigerian youths which will result to sustainable economic development cannot be undermined. Adesoji (2006) asserted that empowering the youth through vocational programmes is a means to promoting economic growth and development. Dike (2009) revealed that poverty and unemployment keep growing because government fails to embrace and propagate vocational education.

However, despite this proven benefits and contributions of vocational education to national development, Nigeria does not seem to give vocational education the attention it deserves and that appears one of the reasons for the rising unemployment rate among youths and

high rate of poverty which consequently leads to petty-stealing, armed robbery, kidnapping for ransom, bunking, prostitutions and other unjust means of seeking livelihood.

Vocational education has been re-awakened at all levels of education system. Its propagation grew even to the extent that governmental and non-governmental organization sponsor free vocational training programmes for youth to participate in any which relates to their innate potential skills and at the end, they free finance or loan the trainees to establish on what they have learnt for them to be self-reliance, financially independent and become employers of labour.

Argument on student interest and their performance in vocational education subjects have been brought up by different scholars and researchers. Some Researches have shown that students interest for vocational education subjects is positive and students perform excellently well in the practical aspect of vocational education but fairly in the theoretical aspect (Adesoji, 2006). Dike (2009) submitted that gender is a factor that contributes to students' interest and performance in vocational education courses. He stressed that female student develop good interest and perform well in home economics, food and nutrition, secretarial studies and bead making than male students while he agreed that male students develop good interest and perform well in barbing, building construction, agricultural studies and fine arts. Amoor (2009) disagreed with Dike's (2009) submission and criticized him of being gender bias. Though, Amoor realize the fact that there are some vocational courses peculiar to male and female respectively but that is not enough to conclude that gender determine their interest and performance in vocational courses. To Amoor (2009) gender is not a factor that determines student's interest and performance in any chosen vocational education courses. He stressed that both male and female can choose any vocational course as career provided he or she has the potential to achieve greatness in it.

Lawal (2014) submitted that over expectation of white-collar jobs negatively affect students' interest for vocational education courses. Salau (2016) agreed with Lawal's submission because that was the situation in the past. He cleared that recently parents do advised and enrolled their wards into vocational schools since it has been realized that white collar jobs is not forthcoming easily and if secured later, it may be as a result of Man-Know-Man arrangement. Salau (2016), thus concluded that the current economic situation in Nigeria contribute to student's interest and performance in vocational education courses.

Based on the above argument, the researcher is interested in carrying out a study on the evaluation of the relationship between student interest and their performance in vocational education subjects by using Michael Otedola College of Primary Education (MOCPED) as a case study.

Statement of the Problem

Government and non-governmental organizations have scored high in their promoting and enhancing vocational education courses or subjects both in schools and centres. But, despite their contributions, the rate of poverty and unemployment is still high. So therefore, this research was designed to look at students' interest and their performance in Vocational Education subjects using Michael Otedola College of Primary Education as case study.

Purpose of the Study

The main purpose of this study is to evaluate the relationship between students' interest and their performance in vocational education subjects in Michael Otedola College of Primary Education. To achieve this, the following objectives are stated:

1. To assess if unemployment arose students' interest for vocational education courses in Michael Otedola College of Primary Education

2. To appraise if gender affect students' interest towards their performance in vocational education courses in Michael Otedola College of Primary Education
3. To determine if poverty affect students' interest towards their performance in vocational education courses in Michael Otedola College of Primary Education

The following research questions arouse:

1. How has unemployment affect students' interest for vocational education courses in Michael Otedola College of Primary Education?
2. To what extent would gender affect students' interest towards their performance in vocational education courses in Michael Otedola College of Primary Education?
3. How has poverty level affect students' interest towards their performance in vocational education courses in Michael Otedola College of Primary Education?

The following hypotheses were formulated and it was tested at 5% level of significance

- Ho₁: There is no significant relationship between unemployment of student and their performance in Vocational Education courses
- Ho₂: There is no significant relationship between gender of student and their performance in Vocational Education courses
- Ho₃: There is no significant relationship between poverty level of student and their performance in Vocational Education courses

Materials and Methods

Research Design: The research design adopted for this study is survey research design, due to the descriptive nature of the study. The population used in this study consists of students offering Vocational Education courses at Michael Otedola College of Primary Education in five departments namely Cultural and Creative Arts, Home Economics, Agricultural science, Business Education and Computer science.

Sample and Sampling Techniques: The sample used in this study involves fifty (50) students offering Vocational Education courses at Michael Otedola College of Primary Education. The stratified random sampling technique was used to select 10 students each from the selected departments. Five (5) 200 level students and five (5) 300 level students each from the Department of Cultural and Creative Arts, Home Economics, Agricultural science, Business Education and Computer science. The departments were chosen because they offer Vocational Education subjects.

Procedure and Instrumentation: Questionnaire was used as instrument to elicit information for the stated hypotheses using likert scale option to answer the questions raised. The views and opinions of the respondents were obtained on various aspects of the study.

Data Collection and Analysis: The entire questionnaire were distributed and collected. Chi-square statistical analysis tool was adopted to test the stated hypotheses at 5% level of significance.

Result and Discussion

Test of Hypothesis one

Ho₁: There is no significant relationship between unemployment of students and their performance in Vocational Education subjects.

Table 1: Chi-Square Analysis table on unemployment of students and their performance in Vocational Education subjects

ITEMS	SA	A	D	SD	X ² Cal	X ² Tab	Remark	Decision
1	23	15	5	7				
2	18	17	4	11				
3	20	12	9	9	34.4	21.03	at Significant	(Rejected Ho ₁)

4	13	21	9	7	df 12
5	14	28	4	4	

Source: Field Survey, 2018

The critical chi-square value at 0.05 (5%) level found from chi-square (X^2) table is 21.03. Our observed chi-square value of 34.4 was more than the critical value hence, we reject the null hypothesis which states that there is no significant relationship between unemployment of students and their performance in Vocational Education subjects and we accept the alternative hypothesis which states that there is no significant relationship between unemployment of students and their performance in Vocational Education subjects.

Hypothesis Two

Ho₂: There is no significant relationship between gender of students and their performance in Vocational Education subjects

Table 2: Chi-Square Analysis table on gender of students and their performance in Vocational Education subjects

ITEMS	SA	A	D	SD	X^2 Cal	X^2 Tab	Remark	Decision
6	12	10	13	15				
7	12	13	14	11	18.1	21.03 at	Not	Accept Ho ₂
8	19	17	6	8		df 12	significant	
9	2	6	18	24				
10	15	16	12	7				

Source: Field Survey, 2018

The critical chi-square value at 0.05 (5%) level found from chi-square (X^2) table is 21.03. Our observed chi-square value of 18.1 was less than the critical value hence, we accept the null hypothesis which states that there is no significant relationship between gender of students and their performance in Vocational Education subjects and we reject the alternative hypothesis which states that there is no significant relationship between gender of students and their performance in Vocational Education subjects.

Hypothesis Three

H₀₃: There is no significant relationship between poverty level of students and their performance in vocational Education subjects

Table 3: Chi-Square Analysis table on poverty level of students and their performance in vocational Education subjects

ITEMS	SA	A	D	SD	X^2 Cal	X^2 Tab	Remark	Decision
16	21	19	4	6				
17	26	12	09	3	30.62	21.03 at df	Significant	Reject H ₀₃
18	18	17	6	09		of 12		
19	29	17	02	02				
20	15	17	8	10				

Source: Field Survey, 2018

The critical chi-square value at 0.05 (5%) level found from chi-square (X^2) table is 21.03. Our observed chi-square value of 30.6 was more than the critical value hence, we reject the null hypothesis which states that there is no significant relationship between poverty level of students and their performance in Vocational Education subjects and we accept the

alternative hypothesis which states that there is no significant relationship between poverty level of students and their performance in Vocational Education subjects.

Discussions

The result of this finding revealed that there is a significant relationship between unemployment of students and their performance in vocational Education subjects. This result corroborate with Ojo (2014) who opined that the rate at which graduates are unemployed contribute positively to students performance in vocational education subjects. Also, Oduma (2007) stressed that the realization of the present state of unemployment in Nigeria makes students to show deep interest in vocational education subjects as this substitute a means to meet up with their needs, thus, they perform exceptionally good in them.

Also, from this study, it was revealed that gender (sex) of students does not have anything to do with their performance in vocational education subjects. This result is in agreement with Sothan (2018) who emphasized in their study that students' interest is a determinant factor to their academic performance. They explained that student with positive interest towards learning perform very well in their studies while those with negative interest towards learning perform totally poor in their studies irrespective of their gender (sex).

The findings of this study also revealed that there is significant relationship between poverty level of students and their performance in vocational Education subjects. This result corroborate with Uwaifo (2009) who opined that students' performance in subjects involving vocational skills is based on whether such students is not affected by poverty. Daso (2012) submitted that it is only poverty that would prevent a student from acquiring all materials needed for practical to pass vocational Education courses

Conclusion

Based on the result of the findings, this study concluded that there are various factors which influenced students' interest and performance towards vocational education subjects. However, gender as one of the factor tested, has nothing to do with student's interest or their academic performance. Thus, it is no doubt that irrespective of gender, students may choose to show positive or negative interest towards the learning of vocational education courses.

Recommendations

In order to proffer solutions to the problems observed in the cause of this finding, this study therefore recommend that:

1. Teachers' characteristics should be useful, relevant and acceptable to the school objectives. That is teachers' knowledge of the subject matter, teachers' experience, teachers' attitude, teachers' qualification, teachers' classroom management and teachers' method of teaching should be adequate and purposeful to the extent that students' interest for learning vocational education courses will be influenced positively.
2. Students' attitudes towards learning of vocational education subjects should be positive and adequate enough. Students must learn how to study hard, relate well with good friends who are brilliant and ready to share their knowledge and experience, use the library effectively as well as listen attentively in class. These would help them in promoting good academic performance in vocational education subjects.
3. School locations, school size or class size, nature of school library, school resource room, school administrators' qualification and experience should be thoroughly checked and considered for the purpose of effective teaching and learning processes as this can also influence students' interest and performance in vocational education subjects.

4. The parents themselves have a lot to benefit from this finding. They should endeavor to provide for their children needs for practical works. They should also encourage their children on the need to show good interest and perform well in vocational education subjects.
5. Government should organize workshops, seminars, conference among others on how best vocational education courses can be permanently imparted into the learners. Also government should provide every necessary requirement needed by instructors for the purpose of effective delivery.

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REPOSITIONING INDUSTRY R&D UNITS INTO TERTIARY EDUCATION RESEARCH LABORATORIES

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Abstract

Research and Development (R&D) play a crucial role in the development and sustainability of many economies. Therefore, World leaders in developed and developing countries have consciously engaged R&D activities to improve their cities, standard of living of its citizenry and installation of adequate military defence systems. Global spending on Research and Development (R&D) has reached a high of almost US \$1.7 trillion dollars as at 2017. The study posits that public and private firms can reposition its R&D units into research laboratories in tertiary institutions which can result in mutual benefits for both institutions. With dearth of funding, the financial capacity of industries apportioned for R&D can be invested in educational research laboratories. The study showed how industry R&D units can be interpolated with existing tertiary education research laboratories by developing a framework for successful integration and migration. In addition, the study showed that there are drivers that can facilitate the collaborative framework between Industry and education research labs. However, there are barriers to the engagement of tertiary education research labs as a replacement to or complementary of the industry R&D units, these must be surmounted. Since research is the bedrock of most tertiary institutions, the study argued that with a well-developed framework there are mutually exclusive benefits for the industry and tertiary institutions. By repositioning tertiary education research labs to cater for industry needs, quality, capacity and funding can be increased.

Keywords: *Collaboration, Industry, Research and Development, Research Laboratories, Tertiary Education*

INTRODUCTION

The role of research and development (R&D) in economies can be understood in its development roles and sustainability it provides to several sectors. Therefore, world leaders in developed and developing countries have consciously engaged R&D activities to improve their cities, standard of living of its citizenry and installation of adequate military defence systems (Akinwale et al., 2012). Global spending on Research and Development (R&D) has reached a high of almost US \$1.7 trillion dollars as at 2017. In this, 10 countries account for 80 percent of this total spending and continues to consciously increase its quota to R&D. For Nigeria, the R&D spending although largely undocumented as at 2017 was 0.2 percent in purchasing power parity in dollars which equalled US \$1.3748 million as a percentage of Nigeria's GDP (UNESCO Institute for Statistics, 2017). In trying to understand the term "R&D", von Zedwitz (2002) defined it as a scientific process that initiates new knowledge through marketable products and services. Both institutions - tertiary institutions of higher learning and the industry engage in some form of R&D. However, the industry is most know to be in need of R&D than any other sector.

Tertiary institutions and the industry have been known to collaborate on R&D and other forms of linkages. One of such collaborations is through the supply of consulting services by faculty members and researchers to industrial partners (Stamatelos and Stamatelos, 2009). Some of the industry partners have repositories of Universities they can partner with, including their specialization when the need arises. In order to sustain the relationship, it is important that industry partners are aware of the research strength or service specializations of each University. Industries rely on R&D in order to

remain competitive and meet the needs of its customers. Innovation is the new competitive edge industries rely on to meet the needs of the fast-paced world (Oluwatobi, 2015). This study points out that a viable option is for industry to solely rely on affiliated University researchers. The form of relationship that should be built is such that the R&D units and requirement for the industry is moved to the University research lab. University researchers and their laboratory becomes the sole R&D unit for the industry. This is in line with studies by (Afolabi et al., 2017; Oluwatobi et al., 2019). It is well known that University researchers are cognisant with latest pertinent scientific developments and the specialized literature backing their findings as part of their lecturership position within the University. With this prowess, University researchers can consult with the needs of the industry in their R&D products and services.

Santiago et al. (2008) noted that the cooperation between tertiary education institutions (TEIs) and industry is crucial for engendering technological spill-overs, knowledge diffusion and innovation. In various countries across Europe, contractual research relationships are being built by multinationals (Stamatelos and Stamatelos, 2009). This stemmed from the conscious policies by the European Commission that academic institutions must be involved in European research projects in conjunction with the industry. The study becomes pertinent to discuss as part of the sustainable development goals (SDGs) where world leaders have committed to increase investment in R&D and the number of researchers by 2030 (UNESCO Institute for Statistics, 2017). Sub-Saharan countries especially Nigeria needs to take a cue from European countries and other developed countries in light of dwindling funds for TEIs, the pressure to increase financial capacity to meet its expenditure and the need to raise a third stream funds (Mihyo et al., 2012). The study posits that public and private firms can reposition its R&D units into research laboratories in tertiary institutions through institutionalized frameworks.

Interpolating Industry R&D units and Tertiary Education Research Laboratories

Research is an integral part of university processes and one of the distinguishing characteristics of academic staff (NACCB, 1994). TEIs are at the fore-front of research mixed with teaching and administrative duties. For academics, research is a form of measuring the performance or output yearly in some quarters. The popular slogan “Publish or Perish” by academics is a pointer to the emphasis placed on research in TEIs. According to Santiago et al. (2008) and Oluwatobi et al. (2018), tertiary education sector has long been considered the primary producer of new knowledge. For example, the age of computer usage would not have been realizable without the concerted efforts of university researchers (Colyvas et al., 2002). In addition, academic based research are able to links different knowledge areas and obtain a multi-disciplinary approach to the R&D. There are different benefits that a collaborative framework between industry and TEIs’ research labs can derive from the partnership. The collaboration is most times a mutual benefit that aids staff mobility, two-way knowledge sharing and enhanced learning across the university and in the industry (Santiago et al., 2008). Stamatelos and Stamatelos (2009) noted that major industrial partners, especially at an international level, in their interaction with University laboratories, may expect benefits in a number of areas such as;

- Conduct R&D on behalf of the industry in specific areas of interest
- Hiring of competent hands from research laboratories to work in industry
- Provision of consulting services for the industry
- Knowledge sharing on latest developments in industry activities and needs
- Non-routine laboratory activities
- Independent testing of R&D product and services in conformance with standards
- Outsourcing of software development
- Provision of specialized courses to industry employee offered by University laboratories

Overall, the benefits are profound in a university-industry collaborative environment in R&D. The provision of funding and other technical support from the industry helps the University laboratories concentrate majorly on R&D. In some universities, the collaboration with affiliated industrial partners empowers some Professors to employ the services of students either at postgraduate or Post-Doc levels to work in their laboratories. Stamatelos and Stamatelos (2009) reported that the university-industry cooperation is positively influencing the quality of Greek Universities and their laboratories. For the repositioning of industry R&D units into research laboratories in higher institutions, Stamatelos and Stamatelos (2009) suggested that there are associated requirements that the University research labs must uphold. These items revolve mainly around building a quality culture in university research laboratories.

The industry requires quality and well-tested product and services which the university research labs must be able to supply. Figure 1 showed the framework for repositioning of industry R&D units into research laboratories in higher institutions. In Figure 1, the industry retains its Director R&D unit but relocates it's the laboratory activities to a University-based research lab. With the financial backing, knowledge sharing and the required quality standards, the University research lab is able to deploy academics, Ph.D candidates/Post-Doc and other technical staff to deliver innovative R&D products and services.

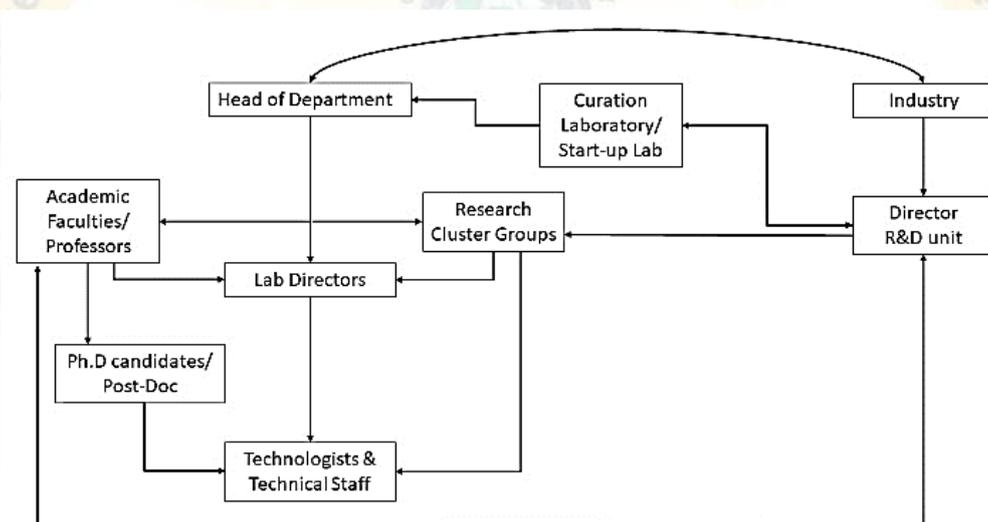


Figure 1. Framework of a repositioned industry R&D unit in Tertiary education research laboratories

Drivers of a collaborative framework between Industry and University Research Labs

With issues of free trade zones, globalization and shrinking borders, competition among industries would continue to increase. This necessity is driving industry actors to look for new knowledge to give them the competitive edge. Mihyo et al. (2012) emphasized that this knowledge required by competitive industries cannot be generated within the industry alone. Synergies with universities, think tanks and consulting firms are inevitable. The reason most times why the relationship works is because both parties have needs that must be met. For the Universities, they are always on the lookout for funds and resources to meet its obligations. Whereas, the industry has the funds and the resources but in search of innovative options for its customers in order to remain relevant in the market. Once the Universities can assure the industry of high quality, a partnership can be initiated. Apart from this, it is important to identify other factors that helps university-industry links to work and remain sustainable. In order for University research laboratories to be well-positioned to replace industry R&D units, there is need for high quality assurance of the University-based laboratories. In this case,

the University research unit must strictly adhere to quality assurance being regularly audited by external auditors, including the industry clients to conform to international standards. OECD (2007) noted that in order to get the required quality in the research labs, the faculties and technical staff need to be trained and retrained.

Oliver (1990) as cited by Ankrah (2007) has identified 5 factors that can drive and ensure the smooth running of university-industry partnership for R&D. They include necessity, reciprocity, efficiency, stability and legitimacy. Figure 1 showed the drivers of a collaborative framework between industry and university research labs. The link is started off as a necessity from the industry which is communicated to the University research lab and personnel. Mihyo et al. (2012) opined that it is crucial that there is a reciprocity in trust, respect and recognition for both parties. For the relationship to last longer and be sustainable, university research labs must be efficient. Therefore, Ojelabi et al. (2017) opined that universities must increase capacity and capabilities in the quality of research outputs and re-designing their curricula to focus on latest trends in the industry. Mihyo et al. (2012) argued that efficacy and efficiency are shaped by time and cost. Industry partners are always conscious of time in their R&D and the final cost it would be put out there. Some university research labs may need to acquire new technologies and more laboratory space within the university to enhance capacity. Researchers that would like to be involved in a university-industry R&D collaboration needs to upgrade their research and technical skills, build credibility, commitment and have a proven record in product development. Once university research labs cannot deliver their R&D to time, the agreement can be cancelled or are not renewed.

Stability on the other hand is vital to a university-industry relationship. A high turnover of staff within the university can undermine the credibility of a university-industry relationship. Universities need to develop human resources strategies that can provide basis for assurance that once a project is launched the same team will see it through to the end (Mihyo et al., 2012). Leadership succession for R&D on behalf of industry needs to be well planned by University bodies for a stable and reliable partnership. Lastly, lack of understanding the legal related issues as it deals with R&D in a university-industry partnership can weaken the collaborative framework. Dealing with R&D means that intellectual property rights needs to be vested in someone, either the industry that has commissioned the university research lab on a product/ service or the leader of the team within the university research lab that has created a new knowledge. This needs to be dealt with before the contract is finalized in order to avoid any conflict of interest. Academics involved in research publish their findings in conferences or journal outlets as a form of recognition and this can conflict with R&D agreements with the industry. An academic's research output is measured through publications for purposes of recognition, rewards or advancement. Whereas, most industry partners deal with secrecy in their R&D products/services mainly because of competitors and the money vested in the process and may oppose to making findings public before they have made gains on their investment.

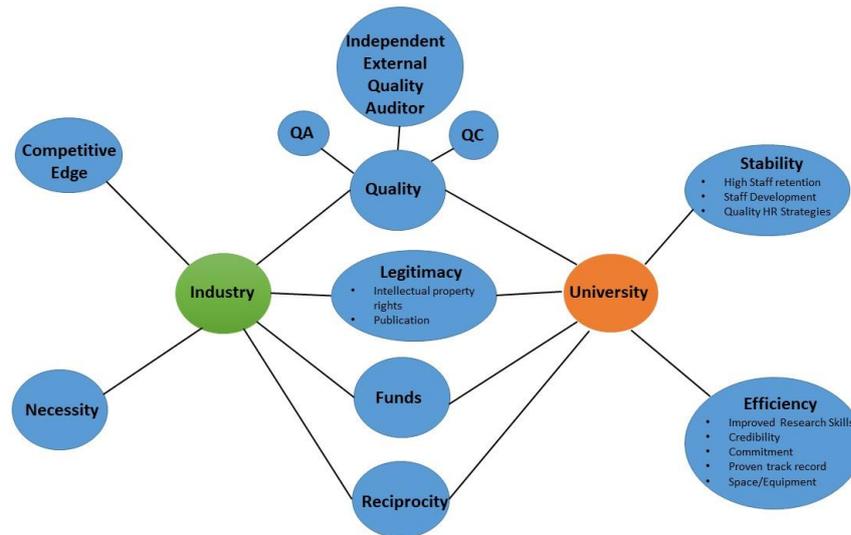


Figure 2. Drivers of a collaborative framework between Industry and University Research Labs

Barriers to engagement of Tertiary Education Research Labs as Industry R&D units

Although, the interaction of university community and industry partners has profound benefits, there are barriers that stakeholders have identified going forward. Figure 3 showed the barriers to engagement of tertiary education research labs as industry R&D units. According to Mamdani (2007), case studies from Makerere University showed that there are fears that total concentration of university research labs on satisfying the needs of the industry can lead to weakening of educational curriculum, shift in the fundamental objective of universities and conflict in the use of university resources. This is a misconception as several studies have indicated the need for industry participation in curriculum development. Mihyo et al. (2012) added that the problem of R&D diffusion from the university to the industry is another major factor. For there to be effective demand on the university research labs, the industry must be able to absorb, diffuse and translate the knowledge generated within university walls. In advanced countries, the issues on technology and innovative diffusion into industries have been studied and well managed. This has encouraged researchers to be focused on solving current industry problems because there is high certainty that they would be implemented. Mihyo et al. (2012) noted that this has made it easier for universities in advanced countries to patent their R&D product and services and even transfer their innovation either through licenses, technology incubators, technology parks or other formal and informal channels. Africa needs to learn from this R&D diffusion mechanism. There are many research institutes and universities but the impact of the research has not been readily felt in the communities.

Weak policies to support a university-industry collaboration is also critical for the repositioning of R&D units from industry to university-based research labs. How well do African countries factor universities into their local and national industrial and technology development plans? Can universities unilaterally adjust their curriculum to fit the needs of the industry without incurring sanctions from university commissions? These are salient questions that institutional policies can help address. At national level, Mihyo et al. (2012) argued that most policies dealing with science, technology and innovation mention university-industry links but do not give guidelines on funding modalities, support systems or quality assurance. For a successful university-industry collaboration, the policy sectors needs to play its part it providing support that encourages adequate funding and reduction of excessive financial responsibilities in terms of taxes etc. in order to boost research output. As part of a nation's science and technological development plans, Mihyo et al. (2012) stated that universities should be viewed beyond mere institutions of learning or as centres of youth

development, rather places where new knowledge is created for technical and technological improvement.

Another barrier is the capability and credibility gap which comes to fore considering that some universities are seen as operating obsolete curriculum, outdated manuals and over-stretched facilities. The industry must be well convinced that university research labs have more skill and facilities than they presently possess in order to form a contractual agreement. In some enterprises the level of research and application skills is higher than in the university research labs (Mihyo et al., 2012). In terms of credibility, Schiller and Diez (2007) reported that universities in Thailand had rigid and bureaucratic human resource policies which does not permit easy deployment of staff across research, teaching and technical assistance for new university-industry collaboration. On the other hand, Schiller and Diez (2007) observed in their study that some industries opted out from such collaborations knowing that some universities do not have adequate control over their staff and therefore cannot be compelled to deliver their R&D contracts to time. Mihyo et al. (2012) opined that these two extremes observed from the study by Schiller and Diez (2007) exist in African universities. In all, the university management plays a crucial role in ensuring the credulity of the researcher to deliver the R&D to time.

Additionally, most industries are unaware of the research outputs or areas of specializations of researchers in university research labs in majority of the universities (Mihyo et al., 2012). In this era of the internet and web-based systems such as Mendeley, Google scholar, Researchgate, Academia.edu and so on, the information on researchers' interests and details needs to be put out there, also via university websites, research cluster sites, departmental profile pages etc. However, what is observed is that some researchers hardly update their profiles once it has been created making it difficult for them to be found. Mihyo et al. (2012) argued that very few universities post abstracts, biographies of their academic researchers and graduate students research output on their website. In a two-way view, many universities are not aware of the current needs of the industry and therefore continuously run the same curriculum year in year out. University research lab need to visit their communities & industries and harvest the R&D needs of each sector.

Lastly, the conflict of perception where the university sees R&D has benefits to the public and awareness must be created via conferences and publication, the industry sees it as a private gain for profit (Mihyo et al., 2012). By disseminating knowledge to the public, the academic researcher is able to garner awards and recognition for his work and also career advancement within the university. But this conflicts with the perception of R&D from the perspective of the industry. They believe that these information were paid for and should be well guarded away from competitors in the market space. Therefore, the issues of who owns the intellectual property rights to the R&D creation. Is it the person that thinks of the new knowledge, or the funding donor or the institution where it was created? These are issues that must be adequately dissected before industry R&D units can be repositioned into research laboratories in tertiary institutions. The fear of full disclosure by academic researchers makes industry stakeholders cautious of research and development collaboration with universities (Mihyo et al., 2012).

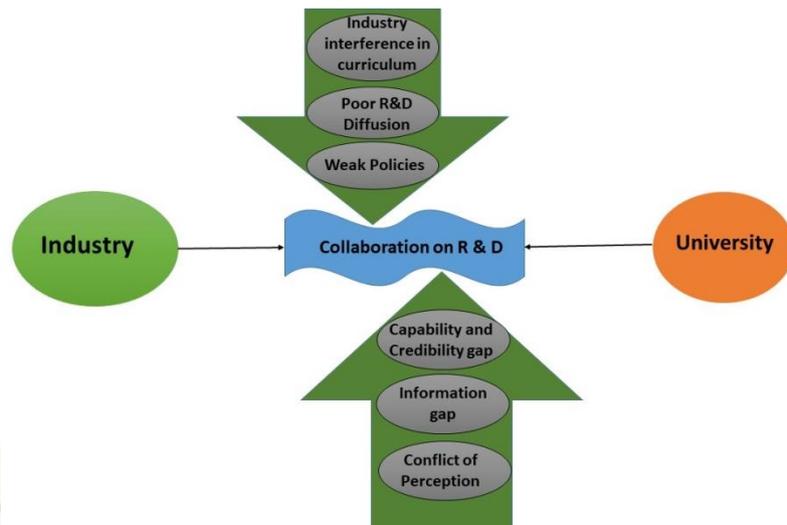


Figure 3. Barriers to engagement of tertiary education research labs as industry R&D units

CONCLUSION AND RECOMMENDATION

The study presented the possibilities of repositioning industry R&D units into tertiary education research laboratories by highlighting the framework, the drivers and the barriers. In this study, there are different mutual benefits that a collaborative framework between industry and TEIs' research labs can derive from the partnership. In order for the collaboration to exist and function, there are requirements which each party must ensure from quality assurance to ensuring that the skill possessed by the university surpasses that of the industry R&D staff. The study showed how industry R&D units can be interpolated with existing tertiary education research laboratories by developing a framework for successful integration and migration. In addition, the study showed that there are drivers that can facilitate the collaborative framework between Industry and education research labs. The drivers identified in this study include Competitive edge, Necessity, Legitimacy, Funds, Reciprocity, Stability, Efficiency and Quality. However, there are barriers to the engagement of tertiary education research labs as a replacement to or complementary of the industry R&D units, these must be surmounted. The barriers that can influence a university-industry R&D collaborative system include fear of industry interference in education curriculum, poor R&D diffusion, weak policies, capability and credibility gap, information gap and conflict of perception. Since research is the bedrock of most tertiary institutions, the study argued that with a well-developed framework there are mutually exclusive benefits for the industry and tertiary institutions. By repositioning tertiary education research labs to cater for industry needs, new knowledge, quality, capacity and funding can be increased.

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DETERMINANT OF SERVICE QUALITY IN NIGERIA BANKING INDUSTRY

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Abstract

Service quality is considered as an integral part of any facet of industry and it defines the future of any organization. Subsequently, competition in the industry is increased and banks are competing based on their perceived service quality. Service quality has various magnitudes and each customer place different level of importance on each magnitudes of service quality. Each bank has recognized themselves with at least one of the dimensions of service quality: that they think it will drive customers' perceived service quality satisfaction, loyalty, and retention. These dimensions are reliability, responsiveness, assurance, empathy and tangibility. The objective of the study is to identify the determinants of service quality in the commercial banking sector in Nigeria. Primary source of data was employed for this study through the use of questionnaire. For the purpose of the study, a questionnaire was designed on, staple scale approach where rating scale from (+5 to -5) is designed to measure respondent attitude towards service quality in the Nigerian banking industry. Findings, The customers of the selected banks assessed the service quality they receive and the purpose is to see how banks can improve their service, quickly identify problems, and to better assess client satisfaction. In caring individualized attention given to customers, UBA took the lead;

customers of UBA also appreciate employees' knowledge and courtesy and their ability to inspire trust and confidence. For appearance of physical facilities and ability to perform the promised service dependably and accurately, UBA also had a greater chance compared to others. This study concludes that where a gap exists between customer expectation and perception of service delivery, service quality is perceived as low and customer dissatisfaction results. Recommendations, No similar research findings are available in underdeveloped countries and it is therefore suggested that this research be replicated in a country that reflects the cultural profile of Nigeria. The study may be repeated in other branches of the service industry in Nigeria to find out users' of service quality perceptions in such divisions of the industry.

Keywords service quality. Responsiveness, empathy, tangibility.

INTRODUCTION

1. Background and Problem Statement

The current business environment is becoming competitive and challenging than before. With multidimensional challenges and call of globalization, the organizations are required to reengineer their products and systems to improve the service quality and remain competitive. (Yasin et al., 2004; Rodie and Martin, 2001). Service quality is considered as an integral part of any facet of industry and it defines the future of any organization.

Subsequently, competition in the industry is increased and banks are competing based on their perceived service quality. Service quality has various magnitudes and each customer place different level of importance on each magnitudes of service quality. Each bank has recognized themselves with at least one of the dimensions of service quality: that they think it will drive customers' perceived service quality satisfaction, loyalty, and retention. These dimensions are reliability, responsiveness, assurance, empathy and tangibility.

Despite this understanding, defining the notion of service quality and its measures have been the most controversial and debated topic in the service quality literature., This problem could be a perceived feeling of distress about the way things are or a perceived differences between what someone believes should be the situation and what the real situation is Fisher and Foreit., (2002). Due to intangible nature of services it is difficult for the firms to analyze how the customers perceive and evaluate the desired outcome of the service quality Zeithaml,(2008). As customer evaluates their level of satisfaction by experimenting the service quality, satisfaction with services is related to conformation or disconfirmation of expectations Smith and Houston,(1982) .However, there have been a number of empirical studies of retail bank service quality. Most of these have measured service quality by replicating or adapting the SERVQUAL model. The model was criticized by Cronin & Taylor (1992) as the SERVQUAL scale measures customer satisfaction on perception-expectation model and not on attitude model. The authors developed the SERVPERF model to measure service quality by considering only the customer perceptions dimension. Globalization of markets and reorganization of distribution are mutually dependent processes that involve changes in market structures. Mattson & Wallenberg, (2003). . In Nigeria, perspective, an extensive research on service quality of commercial banks with the SERVQUAL model is made by

Siddiqi (2010). The present study, however, is based upon the Nordic perspective and the image model used by Gronroos, 1984;

Aldlaigan & Buttle, 2002; and Davila et al., 2010. This paper further expands current knowledge by empirically testing the service quality, satisfaction, and loyalty relationship within the Nigeria banking industry. The financial system of Nigeria is mainly bank dependent.

After the independence, the whole banking system faced a wide ranging of banking reforms. Perhaps, the biggest reform took place in Dec 9, 2009 - The Central Bank of Nigeria Act 1958 signaled the commencement of a true regime of indigenous regulation of banking in Nigeria. On Tuesday 6 July 2004, Professor Chukwuma Soludo (the Governor of Central Bank of Nigeria) made official pronouncements on the envisaged reforms for the banking industry in Nigeria. When the Banking Reform Committee under the Bank decided to give license to private commercial banks (PCBs) to meet the growing customers' demand. The banking industry is now a mixed one involving nationalized, private, and foreign commercial banks. In the last decade, a significant number of PCBs started their operations and faced incredible growth due to the regulation in the banking sector and operation performance of banks. In Nigeria, customers in the banking sector are in a strong bargaining position due to the significant growth of banks (roughly there are about 35 PCBs). This is also leading to rigid competition among the commercial banks which calls for paying more attention to customer satisfaction by carefully improving the service quality of banks.

Hence the reason for the research topic, Determinant of Service Quality in Nigeria Banking Thus, the objectives of the research are as follows:

- i. To identify the determinants of service quality in the commercial banking sector in Nigeria
- ii. To identify the interrelationships among the determinants of service quality;
- iii. To identify and determine the nature of relationships between service quality, satisfaction, and loyalty.

In order to achieve the above objectives, the paper is organized as follows: the first section addresses the problems and issues related to the current research topic; the second section briefly describes the existing literature on the research topic; the third section explains the research methodology; the fourth section discusses the results of the empirical analyses; the fifth on limitations and future research, the sixth section draws the major conclusions and recommendations,

2. Literature Review

Douglas et al define service quality as an attitude formed by long term, overall evaluation of performance. Remarkably, most of the service quality literature was based on commercial banks. In the banking sector, service quality results from the difference between the

customers' perceptions for the services offered (received) by the bank and their expectations vis-a-vis the banks that offer such (expected) services Bahia & Nantel, (2000). A number of factors had been developed over the years in measuring the service quality of banks. Sasser et al (1978) defines levels of material, facilities, and personnel as the factors of service quality. Lehtinen & Lehtinen (1982) consider physical quality (environment), corporate quality (company image), and interactive quality (interaction between personnel and customers) are the determinants of service quality. Stafford (1996) recognized seven attributes in evaluating bank service quality – bank atmosphere, customer-employee relationship, interest rates and charges, available and convenient services, availability of ATMs, reliability, adequate tellers.

Customer satisfaction is the feeling or attitude of a customer towards a product or service after it has been used. The quality of relation and the significance of behavior have been enormously measured by scholars and economic agencies (Jeong, Eun and DGeorge, 2006). With respect to the marketing communications, personal selling of service s goes about as on extension which makes individuals' relations. The success of a service provider depends on the high quality relationship with customers. Panda, (2003) which determines customer's satisfaction and patronage. According to Oliver (1980), the customer satisfaction model explains that when the customers compare their perceptions of actual products/services performance with the expectations, then the feelings of satisfaction have arisen. Any differences between the prospects and the performance create the disconfirmation. Also perceived service quality originate from satisfaction and disconfirmation (negation) of desires which are not related to satisfaction, except through the perceptions of service quality. Oliver's model also specifies that expectations do not affect the perceptions of performance.

Spreng and Mackoy (1996-p203), research based on Oliver's Satisfaction Quality Model. In their research they stated that, satisfaction and service quality are both different constructs. Also expectations are negatively related to satisfaction, but through perceived performance, expectations are positively related to service quality perceived and satisfaction. So managers should always try to decline the level of expectations in order to provide services that are "better than expected" which will result in higher level of satisfaction (Davidow and Uttal, 1989; Peters, 1987).

Furthermore, their Research states that managers should alleviate the negative and positive aspects of satisfaction because if organizations lower the level of expectations, the customer's perceptions of performance will also go disappointed and that will decrease the level of satisfaction as well. It shows that lowering the expectations will also make the satisfaction despondent. If we talk about desires, Spreng and Maackoy (1996) research shows that desires are compatible (congruency) with satisfaction as desires comes prior to satisfaction. Desires are more straight forward factor, as a key feature of both service quality and customer satisfaction is to fulfill the desires of customers.

According to Zeithmal & Bitner (2000) somehow personal and situational factors also affect the process of customer satisfaction. Personal factors such as personal needs or desires effect the customer perceptions and expectations, whereas situational factors such as positive or negative word of mouth leads to satisfied or dissatisfied customer responses/ opinion about the specific service. Expectations are developed based on situational and personnel factors. Expectations about the service standards are compared with the value perceived based on

price paid or the performance of service delivered. The service management literature argues that customer satisfaction comes from the perceptions related to obtained value” . . . where value is equivalent to service quality perceived in relation with price. . . Hallowell, (1996). However the role of price in assessing the expectations and performance with regards to satisfaction

However, According to Philip Kotler *et al* 2010 services firm can differentiate it by providing consistently higher quality than its competitors provide. Now a day's most of service industries have joined the customer-driven quality drive and like product marketers, service providers need to recognize what target customers expect in regards to service quality.. Research has shown repeatedly that service quality influences organizational outcome such as performance superiority Poretla and Thanassoulis, (2005). To be successful in business, each part of the organization must work properly together towards the same goals, recognizing that each person and each activity affects and in turn is affected by others. To improve competitiveness, organizations are looking for a higher level of effectiveness across all functions and processes and are choosing total quality management (TQM) as a strategy to stay in business For marketers or service providers, attaining customer satisfaction is important because it is theoretical to be an important motive of customer loyalty, recurrent business (with customer) and positive word of mouth (Bearden and Teel, 1983). However quality is not the only factor that effects the customer satisfaction, there are other factors besides quality like Performance, Expectations, Mohr,(1982) desires and price factor affect the customer perceptions and the overall satisfaction level. Where quality of service is a descending of customer satisfaction as described by Cronin and Taylor (1992), Service quality is not the only factor that has direct impact on customer satisfaction.

3. Research Methodology

Population

The customers of all the existing banks in Canaanland, Ota, Ogun state was used for this study. A population of 60 customers was randomly selected from the existing commercial banks in Cannanland. These banks include UBA, ECOBANK and ENTERPRISE BANK.

Data collection and Instrumentation

Primary source of data was employed for this study through the use of questionnaire. For the purpose of the study, a questionnaire was designed on, staple scale approach where rating scale from (+5 to -5) is designed to measure respondent attitude towards service quality in the Nigerian banking industry. Questionnaire consisted of questions related to five dimensions of service quality in which the customers of various banks responded against their expectations and perceptions. Questionnaires were personally delivered by hand at workplaces and homes, which was used as a method for data collection. The respondents (commercial banks) were required to record their perceptions and expectations of the service of the selected banks in Canaanland, Ota, Ogun state, Nigeria. The study is based on the assumption that all banks belong to the same category. This categorization was based on the responses of the customers. In the literature of customer-centric marketing, customer perceived quality is the most influential determinant of customer satisfaction (Thompson 2004; Gronros at-al 1996; Xu et al

2002; Dyche 2001; Yals & Knox 2001; Stone 2000). There is no doubt that this view has influenced the practices of customer management and have made customer perceived service quality management the pre-occupation of every business echelon.

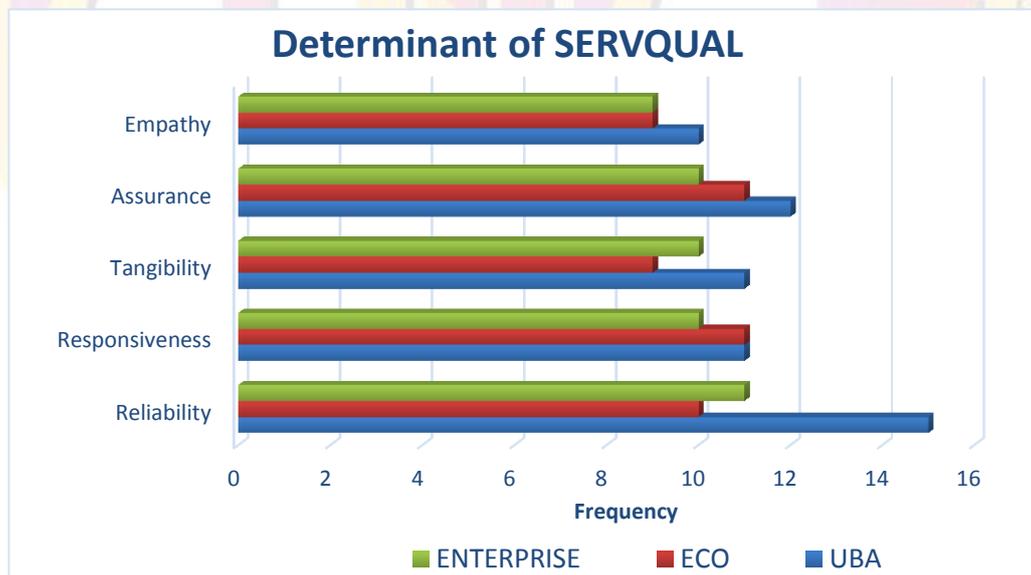
4. Data Analysis

This analysis provides detailed account of the data gathered from the field. Out of 60 copies of questionnaire distributed, only 48 questionnaire were duly returned representing 80% of the total population. The breakdown is presented in the table:

Summary of Copies of Questionnaire Completed and Analysed

S/N	Commercial Banks in Canaan land	Port Code	Copies of Questionnaire Distributed	Copies of Completed Questionnaire	% of Questionnaire Copies Used for Analysis
1	UBA	Bank 'A'	20	18	37.5%
2	ECO	Bank 'B'	20	16	33.3%
3	Enterprise	Bank 'C'	20	14	29.2%
Total			60	48	100%

Source: Researcher's Computation (2018)



		Correlations Matrix						
S/N	Items	1	2	3	4	5	6	
1	Empathy	Pearson Correlation	1	.726**	.412**	.352**	.489**	.394**

		Sig. (2-tailed)		.000	.000	.000	.000	.000
2	Assurance	Pearson Correlation	.726**	1	.505**	.438**	.449**	.155*
		Sig. (2-tailed)	.000		.000	.000	.000	.039
3	Tangibility	Pearson Correlation	.412**	.505**	1	.257**	.606**	.409**
		Sig. (2-tailed)	.000	.000		.001	.000	.000
4	Responsiveness	Pearson Correlation	.352**	.438**	.257**	1	.202**	-.058
		Sig. (2-tailed)	.000	.000	.001		.007	.442
5	Reliability	Pearson Correlation	.489**	.449**	.606**	.202**	1	.628**
		Sig. (2-tailed)	.000	.000	.000	.007		.000
6	Customers' Satisfaction	Pearson Correlation	.394**	.155*	.409**	-.058	.628**	1
		Sig. (2-tailed)	.000	.039	.000	.442	.000	
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

Relationship between Service Quality and Customers' satisfaction

Correlations			
		SERVQUAL	WORK EXPERIENCE
SERVQUAL	Pearson Correlation	1	.432**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	138.053	86.867
	Covariance	.784	.494
	N	48	48
WORK EXPERIENCE	Pearson Correlation	.432**	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	86.867	292.554
	Covariance	.494	1.662
	N	48	48
**. Correlation is significant at the 0.01 level (2-tailed).			

From the analysis above, we can say that there is a positive significant and moderate relationship between service quality of the selected banks and customers' satisfaction.

5. Discussion

The descriptive chart above has presented an assessment of how well a delivered service conforms to the client's expectations. The customers of the selected banks assessed the service quality they receive and the purpose is to see how banks can improve their service, quickly identify problems, and to better assess client satisfaction. In caring individualized attention given to customers, UBA took the lead; customers of UBA also appreciate employees' knowledge and courtesy and their ability to inspire trust and confidence. For appearance of

physical facilities and ability to perform the promised service dependably and accurately, UBA also had a greater chance compared to others.

6. Conclusion and Recommendations

In the modern marketing, customer satisfactions are of paramount importance. Panda reveal that customer tests the quality of service of a firm at every encounter. Each of the customer encounter is called moment of truth. If the experience from service encounters is bad, it may not lead to customer satisfaction. Quality management involve deciding on quality standards and implementing a method of assurance on performance level of the staff and facilities. Quality has emerged as a major competitive element in Service Company strategies. Service providers are giving increasing emphasis on creating reputation for good quality of service as this provides a positive image for their organization. The service quality management process involves matching evolving customer expectations. Customers have their own service expectations. From a firm a customer is satisfied when his expectations match the perceived service. When the perceived service passes over the expected service, the customer is delighted and if there is failure in meeting expectation the customer is dissatisfied. Lovelock et al (2006) opined that if a firm wants to retain customer they are required to provide better services to their customers by quality improvement programs and should continuously enhance benefits desired by customers. Also, productivity improvement efforts decrease the cost. The customers are satisfied with the organization if the services deliver by firm are better than their

This study concludes that where a gap exists between customer expectation and perception of service delivery, service quality is perceived as low and customer dissatisfaction results. However, dissatisfied customers would not necessarily defect. The study therefore confirms the theory that service quality is a necessary but not a sufficient condition for maintaining relationship with customers. Reliability (meeting needs on time and accessibility to the bank 24/7) and Responsiveness (poor customer service, interest rate and bank charges) competitors.

Variables attracted low favorable comments from respondents. These incidentally are dangerous to financial service delivery and subsequently satisfaction of customers. Banks must therefore increase accessibility through service delivery, ensure that ATMs are reliable, customer service enhanced and bank branches are made more reachable and responsive to customer needs. However, this view is in line with those expressed by Kumar et al, (2011). This may require investment in new and recent technology. Regulatory bodies like the Bank of Nigeria should not only openly spell out guidelines but also firmly impose the regulations.

7. Managerial Implications and Suggestion for further studies

No similar research findings are available in underdeveloped countries and it is therefore suggested that this research be replicated in a country that reflects the cultural profile of Nigeria. The study may be repeated in other branches of the service industry in Nigeria to find out users' of service quality perceptions in such divisions of the industry. A major implication of our findings and those by is that marketing practitioners must recognize the dimensions of service quality that define satisfaction and loyalty in their own country. Thus a standardized marketing strategy in macro environments characterized by different economic, social and cultural environment is not appropriate. Hence, Future studies are encouraged to perform a

cross country comparison and compare their findings in other African countries with the results of current study.

8. Limitations and future research

Several limitations of this study should be noted in order to determine the possible future research opportunities. First, the time sequence of the relationships between the variables could not be determined since cross-sectional data were used. Thus, the findings of this study should not be concluded as proof of the causal relationships. In view of that, it is suggested that longitudinal research designs should be carried out in the future. Second, the study was focused on banks in Canaan land, Ota. It is suggested that banks outside Canaan land should be covered in future research. Comparison could be made with respect to the association between the commercial banks and other service sectors and the size of the organizations. It is recommended that future research should be shown from both internal and external point of view (i.e. customers' or public's point of view, employees of the bank) in order to match the results obtained. As such, the generalizability of the present findings could be further assessed

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Questionnaire on Determinants of Service Quality in the Banking Industry

Respondent Basic Information

Respondent's Bank: _____

Gender: (circle one) Male/Female

Age: (circle one): 18-30 31-50 Over 50

Occupation (circle one): Student Full time worker Part-time worker

Section B:

The staple scale asks a person to rate a brand, product, or service according to a certain characteristic on a scale from +5 to -5, indicating how well the characteristic describes the bank's service.

When thinking about reliability of the services rendered to the customers, do you believe that the word "reliability" aptly describes or poorly describes the bank? On a scale of +5 to -5 with +5 being "extremely good description of the service quality" and -5 being "poor description of service quality," how do you rank SERVQUAL according to the various determinants?

1. Ability to perform the promised service dependably and accurately

+5 Extremely Good

+4

+3

+2

+1

RELIABILITY

-1

-2

-3

-4

-5 Extremely Poor

2. Appearance of physical facilities.

+5 Extremely Good

+4

+3

+2

+1

TANGIBILITY

-1

-2

-3

-4

-5 Extremely Poor

3. Employees' knowledge and courtesy and their ability to inspire trust and confidence

+5 Extremely Good

+4

- +3
- +2
- +1
- ASSURANCE**
- 1
- 2
- 3
- 4
- 5 Extremely Poor

4. Willingness to help customers and provide prompt service.

- +5 Extremely Good
- +4
- +3
- +2
- +1
- RESPONSIVENESS**
- 1
- 2
- 3
- 4
- 5 Extremely Poor

5. Caring individualized attention given to customers.

- +5 Extremely Good
- +4
- +3
- +2
- +1
- EMPATHY**
- 1
- 2
- 3
- 4
- 5 Extremely Poor

Customers Satisfaction

S/N	Items	SA	A	U	D	SD
1	I am satisfied with my bank's service					
2	I prefer the service of this bank to other banks					

RETHINKING INNOVATION AND CREATIVITY IN A CHANGING BUSINESS ENVIRONMENT; AN EMPIRICAL REVIEW.

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ABSTRACT

The impact of innovation which is seen as a unique part of human resources and evolution technology has over the years shaped the fate of industries or organizations. Keen managers as well as the owners of business even Nations do not underestimate its potentials. There is a continuous change in technology in the business world today, thus making it a very vital element as both an exertion that can generate growth of organizations well as devastating element which can make organizations vulnerable in competition. The ability of an organization to develop a successful innovation, both in the product or service offered and in the manner at which production is done is very crucial to the health of individual organization, industries, and the economy at large. Researchers recently have shown that whilst most managers of industry acknowledge the importance of innovation, most of them are not satisfied with the management of innovation in their organization. This work tends to add to knowledge by reviewing empirically work in existence on the importance of innovation to organizations, and how organizations are transformed as well as the need to invest in human capital in order acquire the needed skill on innovation as a creative element for improvement instead of dwelling on the threat. The method used for this research work was descriptive and materials where gotten through secondary sources which involves surfing the education database via the internet such as ERIC, EBSCO and Science Direct in order to get the best and relevant academic literatures on Innovation Theory and Creativity. The literature is on the review of theories from different scholars on the phenomenon from the ankle of the different areas of the economy to pinpoint gaps for future research on innovation theory as well as the importance of innovation in organizations.

KEY –WORD: Innovation, Technology, Performance, Creativity, Sustainability, Competition.

1.0 INTRODUCTION

The downing of the 21st century is seen to be accompanied with uncertainty and frightening economic, political, business and educational changes which rapidly renders the solutions the researchers produced as ineffective for solving the problem of life and work place. Innovation and creativity are the most uncomplicated aspect of all human resources and skill. The standard of one's mental reasoning will determine the worth of an individual's human prosperity as well as the person's welfare. Hence, the more an individual builds his/her capacity in innovation and creativity, the more self-dependent the individual becomes in getting things done with less supervision as well as the ability to increase the standard of

his/her life, family, community and society at large [Akinboye, 2003]. This can as well be related to the activity of the organization. Thus, the quality of thinking of managers of the organization determines the quality of success that can be achieved. At the base of economic development is innovation and as such, it is a tool for organizational development. Nevertheless, the innovation process is yet still seen as a subject that is very challenging when studying issues in economics and many researchers have put in efforts in order to help understand the process of innovation evolution instead of focusing on how it affects the different aspects of the economy.

This research, aims at examining the different innovation work, different work by different scholars and how these theories have been implemented or how far they have contributed to the development of any given economy. Innovation is a phenomenon that needs to be critically studied in order to determine how it enters and transforms organization as well as the different strategies for mastering innovation as a creative force for improvement of products, goods and services rather than looking at other people's creative reasoning as a threat to the organizational development [James Utterback, 1975]. Furthermore, this paper seeks to draw the attention of students, employees, managers of business as well as owners and those in the head of the affairs of Nations to the need to proffer solutions to the ever lingering economics challenges through creative thinking as a wake up call.

1.1 RESERCH OBJECTIVE

- To examine the impact of innovation, ideation and creativity in business performance in today's ever changing business world.
- To access the importance of developing human capital and how it contributes to innovative thinking in proffering solutions

- To examine the importance of innovation to the sustainability of business, individual efficiency as well as a Nations development in a bigger picture.

1.2 PROPOSAL

- Idea creativity has a significant impact on business performance
- Innovation largely contributes to business sustainability
- Human capital development a vital tool for innovativeness and creativity

1.3 MODEL AS ADDAPTED FROM EXISTING ONES

INNOVATION.....HUMAN CAPITAL
 DEVELOPMENT..... PERFORMANCE.....
 SUSTAINABILITY

2.0 CONCEPTUAL FRAMEWORK

The word innovation is seen as a byword that is somehow confusing to many people who will as a matter of fact love to hate. Every business manager or owner agrees to the importance of innovation and attest to it that it makes their business or organization unique in its own way. But the real meaning of the word is what nobody as seem to agree to come in terms with www.ideatovalue.com. The meaning of innovation is enormous, different experts have viewed innovation in different ways. They include the following;

According to David Burkus, [2016] innovation is the application “of ideas that are pleasantly new and are very useful. The ability to develop new, different and useful ideas is the seed of innovation but unless it’s applied and scaled it is just an idea this can be referred to as creativity”.

Stephen Shapiro views innovation as simply staying relevant. He further puts that” we are in a time of unprecedented change. As a result what may have helped an organization to be successful in the past could potentially be the cause of their failure in the future”.

Nick Skillicom, [2016] in his own point of view sees innovation as converting an” idea into a solution that adds value, from customer’s perspective”.

Pete Foley’s definition of innovation is that, “innovation is a great idea, executed brilliantly, and communicated in a way that is both intuitive and fully celebrates the magic of the initial concept” [Pete Foleys, 2016].

Gijs van Wulfen, [2016] also defines innovation as a “feasible pertinent offering such as a product, service, process or experience with a feasible business model that is perceived as new and is adopted by customers.”

According to Paul Hocraft, [2016] innovation is “the fundamental way the company brings constant value to their customers business or life, and consequently their shareholders and stakeholders.”

In the nutshell innovation can be appreciated as anything new, useful and surprising that an individual, organization or society can apply in order to advance and stand out in their environment Drew Boyd, [2016].

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Thus, innovation can be defined as the act of being creative in business, and life, thereby doing things in a way and manner nobody has ever done. It can also be seen as setting pace and creating a solution to satisfy the desire of the society. By this an individual stands out in whatever he or she does. Taking for an instance, a service industry (tourism), a manager at a restaurant will come up with new ideas to serve his customers [welcoming, customer service, prompt response to customer’s request, conducive environment, mouthwatering delicacies etc.] in a better way than the customer can get in any other place. Thereby maintaining its competitive advantage in the market.

According to Stamm, [2005], the phenomenon” innovation, creativity, and design are of course amongst words that are most frequently made use of in the business environment

today, not least because excelling in these areas is widely acknowledged to be associated with the success of the business". Innovation can be dated as far back as human existence. Gierer, [2004] has argued that all though evolution and technological innovation may be very different in much respect, they share common features. Innovation and creativity are some basic skill that makes the human resources manager unique because the human resources job involves mental reasoning, thus he is always thinking on how best to improve the work environment. Without innovation and "creativity man is not able to make full use of information and resources available but locked up in old habits, structures, patterns, concepts, and perceptions" Akinboye, [2003].

The study and formulation of theories on innovation started since the late 1970s, and the evolution of innovation strategic ideas, basically took place in the 1990s. The argument was that there is a close link between theory and strategic ideas, essentially going through two phrases. The argument was on a complex crisis of the 1970s created by giving way for rival analyses of the situation. As at 1980s, the development of evolutionary theories which was led by Nelson & Winter, [1980] as well as the empirical-base innovation studies, created a framework in which strategic environments that could consider the implications of heretical ideas both for objectives and a tool for public strategies. "By the early 1990s strategy makers, particularly in Europe, were beginning to see innovation strategy not just as important arenas of action in themselves, but as instruments towards much more wide ranging policy objectives" [Mytelka & Smith, 2001].

Darwin, [1859]" proposed his evolutionary theory of the origin of species based on variation and selection according to what was termed as "fitness", he insisted that evolution was a gradual process involving many small steps". According to Ziman, [2000]," it has been observed by many researchers that various aspects of technological innovation lend themselves to analysis in terms of evolutionary concepts ranging from close formal relationships to qualitative analogies and metaphors" [Gierer, 2004]. Innovation can be seen"

as all the scientific, technological, organizational, financial, and commercial activities necessary to create, implement, and market new or improved products or processes” [OECD, 1997].” At the period when a new technology first surfaced, the established technology generally offers better performance or cost than the challenger, which is still unperfected. The technology is viewed as crude, leading to the belief that it will find only limited application” [Utterback, 1975].

The understanding of innovation evolution can be enhanced at the organizations level which has been developed over some decades from uncomplicated linear and successional models to some form of an increasing models that are complex incorporated as a different range of inter and intra stakeholders as well as the processes involved. According to Rothwell, [1994] “there are five shifts or generations, demonstrating the complexity and integration of the models increases with each subsequent generation as new practices emerge to adapt to changing context and address the limitations of earlier generations” as put by [Ortt & Duin, 2008)]. Rothwell, [1994] in his work pointed that,” the ever changing generation of innovation models most times does not really mean any instant substitution of one model for another; many models can be useful at the same period, and in some cases, elements of another”.

2.1 IMPACT OF INNOVATION IN INDUSTRIES

The empirical research reveals that an in-between any structure of the market is one that is neither excellently competitive nor ideally monopolistic, is sometimes the most instrumental in technical advancement. [Kamie & Schwartz, 1982]. According to Adam Smith, [1937] in his work the “Wealth of Nations”, noted that “innovation is requiring the investment of money and as an important economic activity inducing gains”. Schumpeter, [1934] however, formally threw more light by explaining the economic role of agents in technological advancement. He gave a clear distinction between an inventor and the entrepreneur. An

entrepreneur is an individual who develops something new (different and unique that nobody has done before) [Schumpeter, 1934]. In addition, according to Chinonye, (2015), “an entrepreneur is one who sees a gap or a need in his or her immediate environment and brings resources together to meet such needs. In other words, entrepreneurship and innovation go hand in hand. An entrepreneur makes use of innovation to distinguish his/herself in the business environment that is so highly competitive.

History has it that in the years 1950 to 1960, across North America and Europe there arose a group of social conventions and economic mechanisms that was put in place to ensure mutual adjustment of massive consumption as well as massive production of goods and provided a seemingly consistency in the profit share with regards to the value added [Hall, 1989; Berger & Dore, 1996]. The aftermath of this was that, investment was encouraged, but it was maintained only when the demand was on the increase. At the advent of the year 1970, there was a crisis that made productivity increases become more difficult to achieve and the growth of demand was stalled. Mytelka & Smith, [2001] in their innovation theory of ‘BRIDGING THE GAP’ concluded that; “Innovation theories emerged in a period of dramatic change. Expectations of growth were diminishing after several positive post-war decades. Technological ruptures were underway but their impact on productivity was not yet felt. Imports from low-wage countries were increasing and, coupled with new patterns of investment and organizational change, created further economic dislocation as regions declined and unemployment rose. Existing theory could not deal with these changes and the paradoxes to which they gave rise. While national governments in the developed world initially fell back upon neo-protectionist solutions and then embraced liberalization, a small number of international organizations such as the OECD and the European Commission, became the locus for exploratory thinking around the issue of technological change. Dissenting theorists slowly reformulated the problem as one of learning and innovation and contextualized it in terms of innovation systems and institutions. Passage through

international organizations then served to legitimize these concepts and to promote them as focusing devices in national policy making.”

2.2 EDUCATION

At the advent of independence in Nigeria, it became so clear to leaders and those in authority [political class, societal planners and academicians] that education will be the key agent of lasting change if corporately invested in. At the realization that when there is a transformation in education the society will transform also [Fagerlind & Saha, 1983; Durkheim, 1938] The education sector in Nigeria has so much bought into innovation. From the nursery to high school to college. The pattern of teaching, impacting and having a robust product has changed which has resulted as an influential force of transformation of the society at large [Adamu, 1994]. Therefore, the evolution of innovation in the sector can be likened to a great force that has transformed the face of education in Nigeria. The changes in technology also have contributed immensely to the education industry in Nigeria, where we now have e-learning has operated largely by National Open University of Nigeria. One of the systems no one could imagine will have good product. With the e-learning, learning is made easy and information can be accessed without having to get to the school environment or office.

A very good example is Covenant University where innovation and creativity is the watch word. The institution through innovation has created a new face in the education sector in Nigeria in so many ways such as, academic research, a conducive environment for learning, decent dress code that looks corporate always both as student faculty and staff, no use of mobile phones in lecture room, a world class library and so on. By this innovative move many other institutions in the country are losing out while others are striving to buy into it and it is shaping the education sector in Nigeria. Above all, Covenant University through innovation maintains its relevance in the market as well as its competitive advantage. The creative power of innovation is amazing, the process of the invasion of innovation technology as described in James Utterback, [1975] Dynamics of Innovation, the case of” the ice

industry, tends to follow a predictable pattern”. In general terms, in every commodity market, there are periods where continuity is required, when the tempo of innovative ideas is on the increase and paramount changes are persistent, and periods of discontinuity with paramount products or procedures, changes occur as well. Hence, organization engage in all round the clock research and activity in order not to lose out in the market.

In covenant University there is a display of innovation and investment. For example, bringing a new style or pattern in the education system in Nigeria by introducing core values, mode of dressing, employing trained, effective and efficient lecturers and putting in place motivation in retaining them, improving consistently on her internet technology [IT] all in the bid of achieving her goal. According to Leonardo and Jaime, [2001] “high technology services” is important to organizations that deals with it because it has different demands that is related to “high technology manufacturing” which reinforces the processes of hardening, as much as the pecking order hypothesis that is based on the level of dominance and the considerations of the owners, and the acceptance of the investors which is conditional to the benefaction of harmonious capabilities that seem to be lacking in the organization.

2.3 TRANSPORTATION

Transportation can be traced back to man existence. Man needed to move from one place to the other. Transportation can be seen as integral aspect of the economy. Summarized by scholars as movement from one place to the other. The moving of people and goods from one destination to the desired destination. According to history, man started off by foot which will take months to reach the desired destination. Then bicycle, vehicles, rails, boat / ships, to air plane and so on. Being an enormous sector, this work will focus on the cab services, i.e. taxi. In major cities around the world today, innovation has so shaped the face of transporting people within cities. For instance in Nigeria for many years taxi operation has been on but the new trend ‘UBER’ just turned the game around. So most people, instead of finding their way to taxi stations, they stay at the comfort of their homes and call and ‘UBER’ driver. And this

as has resulted in the old method of taxi business losing out. This system has been seen by many as the easiest to move around major cities in Nigeria. According to Giudici and Paleari, (2000) in their work that was empirically analyzed, also attest to the fact that “companies experience difficulties in funding innovative projects and their development has been sensibly slackened by scarcity of self-generated profits”. Hence, the other old taxi drivers seem to be lacking out due to the inability to invest in innovation.

To confirm this, Nell, Anna, and Constantine, (2004) Due to the size and the fast and continuous growth of the transportation system globally, researchers have hyper concentration on the factors that are associated with organization’s performance in the sector. However, knowledge of this increasingly sector of the economy remains limited. After the authors have empirically assessed predicted relationships with the data they got, the end result was that, there is a broad support to the Theoretical Model, which indicates that the factors that affects export ventures, choice of competitive strategies to make use of, and high position advantage in the market as well as performance of out-come as to do with how much resources and capabilities the organization can possess.

2.4 IMPORTANCE OF INNOVATION

The global business environment has fast become a global village. The system or processes for the production of goods and services is fast evolving. Hence, any manager or owner of business that ignorantly disregard the innovation trend will stand a chance of losing out of competition. In developing nations, it has been discovered by scholars that very few business owners invest in innovation and at the long run drop out of the market place [Krishnan, 2009]. The first advantage here will be that innovation brings about healthy competition in the business environment among firms. Schumpeter, [1942] developed the word “creative destruction” a situation whereby firms compete with each other by interacting in the market environment. This then result in the ‘survival of the fittest’. Where the business that can’t stand the pressure will park up. Secondly, innovation has so much changed, the face of

service in tourism, banking, and health care. According to OECD, [2007] posits that, there is a conversation between business owners and makers of policies that the activities of innovation in the society is the main that is driving the growth of any economy.

2.5 EMPIRICAL FRAMEWORK

Cohen and Levinthal, [1989] in their work “EMPIRICAL STUDIES OF INNOVATION AND MARKET STRUCTURE” “discuss the perceptible movement of empirical scholars from a narrow concern with the role firm size and market concentration toward a broader consideration of the fundamental determinants of technical change in industry. Although taste, technological opportunity, and the ability to appropriate themselves are subject to change over time, particularly in responses to radical innovations that alter technological regime, these conditions are reasonably assumed to determine inter-industry differences in innovative activity relatively long periods”. The research also argued that, “many of the most empirical regularities have been established not by estimating and testing elaborate optimization models with published data but by painstaking collection of original data, usually in the form of response to relatively simple questions”. This can be related to James Utterback’s, [1996] research on how the production of ice in America’s ice industry blossomed in the 19th-century by the “Ice King Frederic Tulo” of Boston but “in turn fell prey to the innovation of mechanical and later electrical means of refrigerator” thus, at the advent of innovation, Frederic was out of the market almost forty years after. Hence, there are so many businesses that are lacking behind for lack of not flowing in the innovation trend.

In determining the impact of employee innovativeness on the performance of the organization and business, Siddiqi & Qureshi [2016] conducted a research with a sample size of about 50 respondents and they arrived at the conclusion that there was a significant relationship between employee’s creativity and organizational performance in which is as a result of empowering the employee to think critically to proffer solution to any rising problem in the

organization. In addition when the employee is empowered, the result will be the effective and efficient utilization of resources to maximize the overall performance of the organization and the market share in a long run.

Ramalingam, Karim, Piaralal, & Singh [2015] in their work 'Creativity and Innovation (Organizational Factor) Influence on Firm Performance: An Empirical Study on Malaysian Telecommunication Mobile Network Operators', got to establish the fact that creativity and innovation have to be recognized as a critical force in maintaining the competitive advantage of any organization that desires to achieve higher grounds in the business environment. After having an empirical look of the 'Malaysian telecommunication mobile network operators', the work concluded that organizational performance and effectiveness is highly influenced by innovation and creativity although some organizations are not putting so much in improving human capital development which will enhance the performance of the organization.

Finally, to further establish the fact that innovation is a vital force in the business world today and the need for organizations to invest in the human capital, Gabriela Lucia Sipos & Alin Ionescu [2015] conducted an empirical work that was aimed at the effect of motivating creativity methods used by establishments in determining a country's innovative performance. The study was built on identifying connections between using stimulating 'creativity methods – such as brainstorming sessions, financial incentives for employees to develop new ideas, job rotation of staff, multidisciplinary or cross-functional work teams, non-financial incentives for employees and training employees on how to develop new ideas or creativity – and, by the other hand, innovative performance of European countries synthetically expressed by Summary Innovation Index'. It was found that innovation had a strong influence on organizations performance which at long run resulted in the effectiveness of a country. Little wonder why most developed countries maintain their place in the global market and most underdeveloped as well as developing country's still lack behind.

This study hence, arrived at the fact that, when any organization, group, corporation, institution or Nation place value on human capital development by motivating and creating an enabling environment, the good result will be effectiveness, efficiency and performance.

3.0 METHODOLOGY

The methodology for this research work can be said to be an exploratory in that majorly, materials were gotten through secondary sources which is the informal qualitative approach which involves surfing the education database via the internet such as ERIC, EBSCO, www.mitsloan.mit.edu., <http://nmlm.gov/pr/eval/rogers.html>., www.ideatovalue.com and science Direct in order to get the best and relevant academic literatures on Innovation Theory and Creativity . The database were seen as very useful the reason being that they dealt on the subject matter and are also point of reference in other publications. In addition, they also provided an avenue to variety of publications and journals that are academic based. Words like Innovation, Creativity, and Technology were the major keywords and were repeated in almost all the pages..

It is important to note that literature review were restricted to English publications only.

5.0 CONCLUSION AND MANAGERIAL IMPLICATION

Innovation is recognized to be as old as the existence of mankind but the developmental process of Innovation Theory began in the year 1970. This work was able to view definitions of innovation as posited by different scholars, review on literatures on the phenomenon, its impact in industries [education and transportation], how well managers have engaged, its importance and the identification that developing a modified conceptual framework will be a satisfactory representation of new product as much as the market, and put in place foundation for further research of the phenomenon.

The conclusion of the matter therefore is that, there has to be increased research in order to connect innovation as a theory, the size of the firm, as well as on new product and the market structure, where the theories and proofs of empirical work tends to be indecisive. Methodologically, the problem would be to differentiate one empirical idea with the other, information as well as knowledge, and to make more findings concerning the respective roles that are related to innovation.

But very importantly, a crucial step will substantiate the proof in the developmental process of new product, acceptability and retention in the market in order support the formulation of a more appropriate innovation theories and creativity. Given the importance that innovation could have positive impact on the organization, innovation should be top in the list in organizations.

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Disruptive Innovation and Performance of Family Business in Ogun State

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ABSTRACTS

The level of family business innovation is low because the owner cum managers' knowledge of innovation in Nigeria is poor, their preference for incremental innovation which require little resources and lack of continuity after owners death. The study examined disruptive innovation and the performance of family business in Ogun State. Descriptive research designed was employed and primary data collected using the questionnaire was utilized. The questionnaire comprises of Eisenhardt and Martin's (2000) innovativeness scale, Family Business Culture Scale modified from Klein et al. (2005) and Goodman & Svyantek (1999) nine task performance. Disruptive innovation theory provides the framework for the analysis. A sample of three hundred and thirty one (331) purposively selected staff of five family business firms. Analysis of variance (ANOVA) regression estimated through SPSS 15.0 was used for analysis. The result showed that disruptive innovation ($\beta=.047$, $t=0.781$ & $P>0.05$) does not have a significant effect on performance of family business. It was also found that family business culture ($\beta=0.733$, $t=17.711$ and $P<0.05$) has a significant positive effect on performance of family business. The result also shows that age ($\beta =.634$, $t=4.775$, $p<.05$), marital status ($\beta =1.465$, $t=2.652$, $p<.05$) and work experience ($\beta=-.740$, $t=-2.172$ $p<.05$) have a significant and independent effect on performance of family business while gender ($\beta=-.029$, $t=-.220$ & $p>.05$) and qualification ($\beta = -.154$, $t=-1.087$ & $P> .05$) do not have a significant independent and joint effect on performance of family business in Ogun State. The study concluded that disruptive innovation does not show any effect on the performance of family business. Among others, the study recommends that managers should therefore, create and promote the eagerness to learn among their employees so that they can develop new skills and share existing knowledge. Also family business should engage in new product development to gain competitive advantage.

Keywords: Disruptive Innovation, Family Business, Performance, Change, Innovation

Word Count: 297

1. Introduction

In the global markets, the presence of family businesses is an undeniable fact and their role as job providers, innovators, and, at times, market leaders in the development of local economies around the world cannot be over-emphasized (Surdej, 2015). These firms are increasingly seen as a secure route to a sustainable economic development, since they are particularly resistant to crises, they are more rarely closed and they fire less frequently their employees, thereby reducing the adverse social effect of economic crises (Safin, 2007). The wide spread of family business across the globe is a results of the dominating role of family members in the daily running and operations of various businesses, thereby leading to a leadership system proposed by family members. A business is regarded family owned, when there are more than one member of a family participating actively which result in controlling above 50% of the total assets of the company/business (Ayobami, Odey, Olanireti & Babarinde, 2018).

In this era of rapid technological progress and advancement in western knowledge across all spheres of human life coupled with wide spread of market across the world as a result of gradual

convergence of all economies towards free trade inherent in the doctrine of economic integration and globalization, the consumer are now more expose and wiser which makes the objective of customer satisfaction more strenuous and complicated to accomplish. They are now expose to a wide varieties of products across the world and are keeping pace with the rapid innovations across the world as technology that alter the dimension, structure and forms of the existing product continue to grow. Thus, any organization irrespective of its forms and ownership structure which fails to come alive to this reality will fail and go into extinction. To corroborate this position Ayobami, Odey, Olanireti and Babarinde, (2018) stated that, businesses which fail to innovate their individual products will in no time discover those products have become obsolete. In line with this realization, several firms are now striving to maintain and expand their market share by constantly implementing strategies that will boost their competitive advantage. Innovation is a gateway to developing competitive advantage over other firms in the same or outside a particular industry. It is something new or novel (Ayobami, Odey, Olanireti & Babarinde, 2018). According to Tidd, Bessant and Pavitt, (2005) innovation refers to creating, renewal, changing product or ways of doing things.

In family business, less attention is focused on investment in innovation especially radical innovation (Rod, 2016). The three major reasons adduced in the literature for the lack of attention is on one hand due to the fact that they are less formal than the non-family business which often makes them oppose to change (Kellermanns & Eddleston, 2006). On the other hand, they often prefer incremental innovation other than ploughing a large sum of their resources in disruptive innovation (Ayobami, Odey, Olanireti & Babarinde, 2018). Most family businesses are often reluctant to accept changes and introduce such flexibility in to their measures. There is also the issue of conflicting interests in family business which often limit the availability of capital and investment in newer ideas, technology or product innovation. This is why family business are often labeled as being conservative and non-flexible in regards to changes (Wang & Poutziouris, 2010). Family business that adopts innovation as competitive strategy in order to gain an advantage will be able to embark on long term planning. Succession planning is a major concern for most family businesses, as such, these businesses employ innovation in planning the organisational hierarchy and who takes over from member/s of top management in case of death or incapability. (Ayobami, Odey, Olanireti & Babarinde, 2018).

Given that the three distinguished aspect of innovation are imperative for business survival and growth. That is, product innovation which helps a firm to maintain a sufficient market share, process innovation is also essential to produce below price level, and social innovation to maintain a flexible and durable organization. However, it is not all innovations that are born equal. The impact of some innovations extends beyond their beneficial value to external costs or negative effect for other actors and at times the initiator of the idea. Consequently, the profound consequence of losing or gaining in a disruptive innovation scenario is so weighty that it cannot simply be ignored

(Baiyere, 2016). Innovation is disruptive in the case whereby a smaller company with fewer resources is able to successfully challenge established incumbent business” (Christensen, 2015). According, to Baiyere (2016) disruptive innovations are innovations whose adoption over time results in the decline of the dominance of another innovation which ultimately results in a challenging situation for the (to be) disrupted entity/ies to respond to.

Disruptive innovations creates a challenging situation for some, it also creates a situation where a non-existent entity or company can rise from obscurity to dominance in a business domain (Baiyere, 2016). In Nigeria business world generally and family business in particular, the level of innovation is low due to reasons such as poor knowledge of the role of innovation, their preference for incremental innovation which require little resources to achieve and lack of continuity after the death of founders resulting from lack of succession planning, poor management style, misappropriation of funds, embezzlement, lack of competent top management among others (Ayobami, Odey, Olanireti & Babarinde, 2018). All these challenges, makes them focus less attention on investment in innovation especially radical innovation (Rod, 2016). Be that is may be, there are still noticeable giant strides on the path of disruptive innovation in Nigeria such as the displacement of print news media with internet news media in the media industry, Google internet library store has also displaced the traditional library in the education industry, in the transport sector, especially in Lagos online taxi providers like Uber is now displacing yellow taxi and the e-commerce websites (Jumia & Konga) is now displacing the shopping mall and local market.. However, most of these innovations borne out of technology and revolve around commercial industry without spreading across the critical industries like primary industry (agriculture) and tertiary industry especially the health industrial sector

In the literature, several studies have investigated the relationship between innovation and business performance, growth and survival. However, most of this study focused attention non-family business as their case study. Although, in the area of disruptive innovation, several studies abound but there is little to no study conducted on how disruptive innovation affect family firm and how family business adapts to disruptive innovations arising from other firms in their industry. It is against this background that this study is motivated, to examine disruptive and performance of family business in Ogun State. The specific objectives are to:

- i. Examine the effect of disruptive innovation on the performance of family business in Ogun State.
- ii. Examine the relationship between family business culture, disruptive innovation and performance in Ogun State.

- iii. Determine whether entrepreneurs demographic factors moderate the relationship between disruptive innovation and performance of family business in Ogun State.

The focus of this study is on disruptive innovation and performance of family business in selected family businesses in Ogun State. Family businesses cover a vast range of business in different sectors and sizes. They range from sole proprietors to large scale enterprises. To effectively measure innovation, and performance in family business, this study considered family businesses which have been in existence for a period of five years and above irrespective of their sector and nature of business. Data from primary sources through the use of questionnaire as the instrument for data collection was used in the analysis. The study therefore aims to help family businesses understand how other family firms adapt to disruptive innovations, and how they integrate it for the greatest success within their organization. This investigation is imperative as it will help people in identifying the ways in which they make their family business innovative. Understanding how innovativeness in this specific organizational context turns into performance is relevant not only for the development of individual firms but for the economy as a whole. It will adds to the research on family firms by increasing our understanding of the performance impact of the unique interplay between resources derived from the firm and the family spheres in the course of engaging in the development and launching of new products.

2. Literature Review

This section draws from the existing theories, empirical studies and conceptualization on the concepts of family business and disruptive innovation in order to put these subjects in proper perspective. On the conceptual perspective, family business as term is exclusively applied to every conceivable area, such as to public and policy discussions, to legal regulations, as an eligibility criterion for support services, and to the provision of statistical data and academic research (European Commission Family Business Review, 2009). As such there is no single definition of the family business concept. According to Astrachan, Klein and Smyrniotis, (2002) even with the growing empirical studies on family firms, there is no universally accepted definition for family business. Most of its existing definitions focus on the vital role of family in terms of determining the management and control methods used in the business (Astrachan, Klein & Smyrniotis, 2002). To buttress this point, Sharma, Melin and Nordqvist, (2014) stated that, the definition of family firm is still a matter of discussion among researchers. According to Chua, Chrisman and Sharma (1999) a family firm as “a business governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generations of the family or families”. In line with the European Commission family business review (2009), “A firm, of any

size, is a family business, if: (1) The majority of decision-making rights are in the possession of the natural person(s) who established the firm, or in the possession of the natural person(s) who has/have acquired the share capital of the firm, or in the possession of their spouses, parents, child or children's direct heirs. (2) The majority of decision-making rights are indirect or direct. (3) At least one representative of the family or kin is formally involved in the governance of the firm. (4) Listed companies meet the definition of family enterprise if the person who established or acquired the firm (share capital) or their families or descendants possess 25 per cent of the decision-making rights mandated by their share capital." Poza (2004) in his study listed the following as the characteristics of family business and the essence of their distinctiveness in nature: The presence of the family; the owner's dream of keeping the business in the family (the objective of business continuity from generation to generation); the overlap of family, management, and ownership, with its zero-sum (win-lose) propensities, which render family businesses particularly vulnerable during succession and the unique sources of competitive advantage derived from the interaction of family, management, and ownership, especially when family unity is high.

Innovation is something new or novel (Ayobami, Odey, Olanireti & Babarinde, 2018). It is any good service or idea that is perceived by someone as new (Kotler, 2006). In the view of Heunk (2007) innovation as the successful implementation of a creation and this innovation seems to foster growth, profits and success. In the case of disruptive innovation, there is a widely adopted definition. As acknowledged by Christensen (2006) disruptive innovation describes innovations that when introduced to the market, are initially attractive to non-mainstream customers due to their inferiority on the parameters valued by the mainstream customers. However, the innovations improve along the trajectory valued by the mainstream customers over time and end up challenging the survivability of the incumbent by attracting the incumbent's mainstream customers (Baiyere, 2016). To Christensen, (2015) disruptive innovations describes a process whereby a smaller company with fewer resources is able to successfully challenge established incumbent business. On the other end, firm performance is defined as the level of goal accomplishment (Achrol & Etzel, 2003). As a multidimensional construct, performance has several connotations, including growth (Wolff and Pett, 2006), survival, success and competitiveness. Depending on organizational goals, different methods are adopted by different firms to measure their performance. This performance indicator can be measured in financial and non-financial terms (Bakar & Ahmad, 2010). Most firms, however, prefer to adopt financial indicators to measure their performance such as ROA and ROI (Hoskinson, 1990).

On the theoretical perspective both the disruptive innovation theory, Porter's models and Rogers' Diffusion of Innovation theory (DOI) are explored captured the link between disruptive

innovation and performance. In the disruptive innovation theory, the term disruptive technology was coined and introduced in the article "Disruptive Technology: Catching the wave (1995). In the theory, Christensen distinguish between "low-end disruption" which targets customers who do not need the full performance valued by customers at the high end of the market and "new-market disruption" which targets customers who have needs that were previously unserved by existing incumbents. "Low-end disruption" occurs when the rate at which products improve exceeds the rate at which customers can adopt the new performance. Therefore, at some point the performance of the product overshoots the needs of certain customers segments. At this point, a disruptive technology may enter the market and provide a product which has lower performance than the incumbent but which exceeds the requirements of certain segments, thereby gaining a foothold in the market. Rogers' Diffusion of innovation theory (DOI) combines several strategies, trying to explain relationship and rational aspect of adapting to disruptive technologies. Rogers (2003), outlined four elements for this strategy: innovation, social system, communication channels, and time. The Porters' model involves, generic strategy, using Porter's industry forces, and value change as a strategic response to disruptive technologies (Porter, 2001). These strategies range from niche marketing to differentiation, all of which require study of both the company's strengths and weaknesses, as well as the disruptive technology's. The authors note that this strategy is particularly appropriate when responding to disruptive technologies (Parker & Castleman, 2009; Ray & Ray, 2006).

On the empirical ground, several studies abound on the relationship between disruptive innovation and business performance, growth and survival but there is little known on how disruptive innovation affect family firm and how family business adapts to disruptive innovations arising from other firms in their industry. For instance, Hatak, Kautonen, Fink and Kansikas (2016) analyse how the interplay between innovativeness as a business specific resource and family commitment as a family-specific resource affects performance. The analysis of longitudinal survey data collected from Finnish family business demonstrates a curvilinear (U-shaped) moderating effect of the owner family's commitment to the firm, in that the impact of innovativeness on firm performance is strongest when family commitment is either low or high. In another study, Weng, Chen and Chen (2015), examined the influence of a number of factors on green innovation and the consequences in terms of performance. An empirical survey was conducted of 202 Taiwanese service and manufacturing companies. The survey found that pressure from competitors and the government, along with employee conduct, all had significant and positive effects on green innovation practices. Also, a moderating effect of innovation orientation existed only in the relationship between green product innovation practices and employee conduct. Also, Mbatha (2015) shed some light on patterns of and major motives for the adoption of different types of

disruptive learning innovations by Unisa academics. A qualitative approach was adopted by conducting focus group interviews with 76 Unisa academics. The data was analysed using open and axial coding, where dominant themes from the discussions were identified and discussed in detail. The findings show that the interaction of Unisa lecturers with different technologies varied from technology to technology. The study also found that disruptive innovations play a pivotal role in opening avenues and collapsing the transactional distance in an ODL institution. Some lecturers lack skill in using some technology, which is a cause for concern. In another study, Millan, Yunda and Valencia (2015) analyse economic and business factors influencing disruption innovation in healthcare taking as a reference Telehealth systems and technologies. The study analyse economic and business decision factors that influence the adoption of new technologies qualitatively using as a case example Telehealth systems to indentify the main factors for the adoption of new technologies in healthcare are identified and analyzed. The Factors identified include new technology adoption cost, usability, perceived value, competitive systems, old systems competitive cost and performance, and type of users, between others. In a similar vein, Lin and Wu (2018) investigated the impact of existing knowledge assets on disruptive innovation by analyzing the role of knowledge embeddedness and specificity. They conducted a hierarchical regression analysis using survey data from 173 Chinese industrial firms to test the direct and indirect effects of knowledge embeddedness and specificity on disruptive innovation, which can be divided into outward-oriented and internal-oriented disruptive innovation. The results indicated that knowledge embeddedness not only played a positive role in knowledge specificity, but also had a positive effect on outward-oriented disruptive innovation. Furthermore, knowledge specificity exhibited opposite functions in outward-oriented and internal-oriented disruptive innovation. In addition, knowledge specificity mediated the relationship between knowledge embeddedness and outward-oriented (internal-oriented) disruptive innovation

3. Methodology

This section presents the scientific process involved in data collection; stating their appropriateness of the methods. The chapter cover the research design, the study population, sample size and sampling techniques, research instrument, the validity and reliability of the instrument, procedure for data collection and method of data analysis.

i. Research Design, Population and Sample

This study synthesized several design alternatives which emphasize different design objectives, to characterize the alternatives in terms of precision, cost, and operational problems, and to achieve a consensus on the best overall design. The survey research design method was used in this study, by collecting data through questionnaire from population of interest. It allows collection

of data which can be analyzed quantitatively. This was chosen in order to make reference to phenomena as they exist in real life and it is relatively economical in terms of time and resources. Because family business is still at its nascent stage especially in Nigeria, the populations of this study is all the family businesses in Ogun State. The purposive sampling technique was used to select the sample from the population on the basis of convenience and easy accessibility and to ensure a fair representation of the views of all the members of the population in the study. The study used a purposive sample of five (5) family businesses in Ogun State, South West Nigeria. The firms are: Animal care services, Ogere Ogun State, Justrite Nigeria Limited, Premier Lotto Limited (Ogun Branch), Geepee Industries Ltd and Obasanjo Farms Otta Nigeria Limited Ogun State.

The table 3.3 below summarizes the staff strength of each category of staff in the five companies:

Table 1: Staff Strengths of the Sampled Firms

SN	Name of Firms	Board of Directors	Senior staff	Junior staff	Casual Staff	Total
1	Animalcare services	6	124	203	364	697
2	Justrite Nigeria Limited	4	18	93	27	142
3	Premier Lotto	5	25	57	13	100
4	Geepee Industries Ltd	8	37	66	94	57
5	Obasanjo Farms Otta	8	170	254	445	877
	Total	31	374	673	943	2021

Source: Authors compilation , 2019

In determining the sample size of staff from each five family firms the population of the entire staff in the five companies was used and the Taro Yamani's Statistical Formula [$n = \frac{N}{1 + (Ne^2)}$] was applied. Where n = sample size, N = population of the study and e = % level of significance or margin of tolerable error. The 5% level of significance or margin of tolerable error was used in the study.

$$n = \frac{N}{1 + N(e)^2}$$

Where n = Sample Size

N = Population

1 = Constant

e = Acceptable margin of error

Since,

$N = 2021$; and $e = 5\%$ (0.05)

Therefore

$$n = \frac{2021}{1 + 2021 (0.05)^2}$$

$$n = \frac{2021}{6.1} = n = 331.31 \approx 331$$

The total numbers of the members of staff for the purpose of study is three hundred and thirty one (331). The size is considered sufficiently large enough to carry adequate estimation.

ii. Research Instruments

The research instrument used in this study was a research questionnaire. The questionnaire that was used in the study was divided into sections. Part A contained information about the respondent demographic data. Part B contained items on disruptive innovation and family business performance. With regards to the scoring of responses, no scoring was attached to the first section of the questionnaire since the information gotten from that section was the demographic data of the respondents. The scoring of the second section that is "B" ranged from 4-1 Likert scale where strongly agree: 4, agree: 3, disagree: 2 and strongly disagree: 1. The scales are include Disruptive Innovation Scale: The seven-item innovativeness scale based on Eisenhardt and Martin's (2000) study of dynamic capabilities in product development. Innovativeness was measured in the first wave and the respondents evaluated the items relative to their competitors in the previous three years (2016–2018) given the lack of consensus on recommended approaches for measuring innovativeness (Garcia and Calantone, 2002). Family Business Culture Scale was used to measure the family business practices and culture of the firms on a 4-point Likert's scales, with five questions from Q₁ to Q₅ modified from Klein et al. (2005) covering "The Culture Sub-Scale", Performance was measure using a wide variety and multidimensional Job Performance scale. The current study has utilized Goodman & Svyantek (1999) the 9 task performance scale a sub scale of Job Performance Scale, which is consisted of 25 items, covering three dimensions of Job Performance, i.e. Altruism, Conscientiousness and Task Performance (Goodman & Svyantek, 1999).

The research made use of the pilot study and content validity to test the validity of the research instrument used in the research. The content validity was performed by researcher's supervisor and senior lecturers in the Faculty of Social and Management Science, Olabisi Onabanjo University. They evaluated the instrument to ensure that it represents the entire range of possible items to be tested in the study. The questionnaire was modified in line with their recommendations. Reliability test measures the extent to which the research instrument consistently measures what it intends to measure. The coefficient of the reliability test obtained was for innovation and family business performance are 0.71, 0.83 respectively which established the reliability of the instrument used in the study.

iii. Method of Data Analysis

Inferential statistics was used to reach conclusions and make generalizations about the characteristics of populations based on data collected from the sample. Descriptive statistics was used to analyze the demographical data. In testing the hypotheses, hypotheses regression analysis was adopted. Statistical Package for Social Sciences (SPSS) was used to perform these tests. The decision rule for the test requires that if the calculated value is less (<) than the critical value, then we accept the null hypothesis H_0 and reject the alternate hypothesis H_1 . But if the calculated value is greater (>) than the critical value, then we reject the null hypothesis H_0 and accept the alternate hypothesis H_1 .

4. Results

In the study Five (5) family businesses in Ogun State, South-West Nigeria were sampled using the questionnaire. The Table shows that out of Three hundred and thirty one (331) copies of the questionnaire that were distributed to respondents, 303 (91.5%) were retrieved while 28 (8.5%) were not retrieved. Out of the 303 copies of the questionnaires that were retrieved, 272 were completely filled and used for analysis.

Table 2: Questionnaire Responses Rate

Name of Firms	Distributed	Retrieved	Wrongly Filled	Valid questionnaire
Animal Care Services	103	96	10	86
Justrite Nigeria Limited	30	28	4	24
Premier Lotto	21	16	Nil	16
Geepee Industry	57	54	2	52
Obasanjo Farms	120	109	15	94
Total	331	303	31	272

Source: Field Survey, 2019

i. Analysis of Demographic Data

Table 3: Distribution of Respondents by Gender

	Frequency	Valid Percent	Cumulative Percent
Valid Male	124	45.6	45.6
Female	148	54.4	100.0
Total	272	100.0	

Source: Field Survey, 2019

The result in Table 3 shows that 45.6% of the respondents sampled in the study were male, and 54.4% of them were female. The result shows that, majority of the responses was from female respondents.

Table 4: Distribution of Respondents by Age

	Frequency	Valid Percent	Cumulative Percent
Valid below 40yrs	103	37.9	37.9
40-49yrs	91	33.5	71.3
50-59yrs	39	14.3	85.7
60 and above	39	14.3	100.0
Total	272	100.0	

Source: Field Survey, 2019

The result in Table 4 also shows that 37.9% of the respondents that took part in the study were below forty years, 33.5% of them were between the ages of forty and forty nine years; 14.3% of them are between the ages of fifty and fifty nine years, while the remaining 14.3% were sixty years and above.

Table 5: Distribution of Respondents by Marital Status

	Frequency	Valid Percent	Cumulative Percent
Valid Single	109	40.1	40.1
Married	115	42.3	82.4
Others	48	17.6	100.0
Total	272	100.0	

Source: Field Survey, 2019

The result in Table 5 also shows that 40.1.0% of the participant that took part in the study were single 42.3% of them married, while the remaining 17.6% are neither single nor married.

Table 6: Distribution of Respondents by Highest Qualification

		Frequency	Valid Percent	Cumulative Percent
Valid	OND	110	40.4	40.4
	BSc/HND	95	34.9	75.4
	MA Degree	39	14.3	89.7
	PG degree	28	10.3	100.0
	Total	272	100.0	

Source: Field Survey, 2019

The result in Table 6 also shows that 40.4% of the respondent that took part in the study have OND qualification, 34.9% of them have BSC/HND, 14.3% of them have master degree, while the remaining 10.3% of them have post graduate degree qualification.

Table 7: Distribution of Respondents by Work Experience

		Frequency	Valid Percent	Cumulative Percent
Valid	less than 5yrs	120	44.1	44.1
	5-10yrs	104	38.2	82.4
	10yrs and above	48	17.6	100.0
	Total	272	100.0	

Source: Field Survey, 2019

The result in Table 7 also shows that 44.1% of the respondent that took part in the study have less than five years level of experience, 38.2% of them have between five and ten years level of experience, while the remaining 17.6% of the respondents have above ten years level of work experience.

ii. Empirical Results

Table 8: Regression Results showing the effect of Disruptive Innovation on Performance

Coefficients(a)

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	F	r ²	
	B	Std. Error	Beta	B	Std. Error			
1	(Constant)	2.570	.278		9.248	.000	.610	0.002

Disruptive Innovation	.124	.159	.047	.781	.435		
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a Dependent Variable: Performance

Source: SPSS 20.0

The estimated result in table 8 shows that the coefficient of the effect of disruptive innovation on performance of family business is positive ($\beta=.047, t=0.781$ & $P>0.05$) which indicates that a unit increase in innovation will on the average leads to 4.7% increase in performance of family business. The calculated F-ratio has $F\text{-prob}(0.435) > p(.05)$ which shows that disruptive innovation does not have a significant effect on performance of family business. The result also shows that the value of the coefficient of determination (0.002%) is low which proof that disruptive innovation does not explained the variation in performance of family business adequately. From the result, it can be seen that on the disruptive innovation does not have a significant effect on performance of family business. Therefore the null hypothesis (H_0) cannot be rejected.

Table 9: Regression Results showing the effect of Family Business Culture on Performance

Coefficients(a)

Model	Unstandardized Coefficients		Standardized Coefficients	t		F	r^2
	B	Std. Error	Beta	B	Std. Error		
1						313.693	0.537
	(Constant)	.697	.128		5.452	.000	
	Family Business Culture	.798	.045	.733	17.711	.000	

a Dependent Variable: Performance

Source: SPSS 20.0

The estimated result in table 9 shows that the coefficient of family business culture is positive ($\beta=0.733, t=17.711$ & $P<0.05$) which indicates that a unit increase in family business culture on the average leads to 73.3% increase in the performance of family business. The $F\text{-prob}(.000) < p(.05)$ shows that family business culture has a significant positive effect on performance of family business. The results in the table also revealed that the value of the coefficient of determination (53.7%) is high proof that family business culture explained the variation in the performance of family business adequately. The remaining 46.3.5% of the variation unexplained could be due to the effect of extraneous variables outside the relationship between the two variables. From the result, it can be seen that family business culture has significant positive effect on performance of family business. Therefore the null hypothesis (H_0) is rejected.

Table 10: Independent and Joint Influence of Demographic Variables on Performance

Coefficients(a)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	F	r ²
	B	Std. Error	Beta	B	Std. Error		
1						9.907	0.232
(Constant)	2.320	.319		7.263	.000		
Gender	-.029	.134	-.012	-.220	.826		
Age	.634	.133	.547	4.775	.000		
Marital Status	1.465	.552	.878	2.652	.008		
Highest Qualification	-.154	.142	-.125	-1.087	.278		
Work experience	-.740	.341	-.452	-2.172	.031		

a Dependent Variable: Performance

Table 10 above revealed that age of the entrepreneur ($\beta = .634$, $t=4.775$, $p<.05$), marital status ($\beta = 1.465$, $t=2.652$, $p<.05$) and work experience ($\beta = -.740$, $t=-2.172$, $p<.05$) have a significant and independent effect on performance of family business. The table also revealed that gender ($\beta = -.029$, $t=-.220$, $p>.05$) and qualification ($\beta = -.154$, $t=-1.087$, $P> .05$) do not have a significant independent and joint effect on performance of family business in Nigeria. The result shows that the explanatory variables accounted for 86.2% variation in the dependent variable performance of family business ($R^2=.862$). Thus the hypothesis which states that age, qualification, gender and work experience do not have a significant independent and joint impact performance of family business is rejected.

5. Discussion and Recommendations

This study examined disruptive innovation and the performance of family business in Ogun State. The study specifically, examined the effect of disruptive innovation on the performance of family business, analyse the relationship between family business culture, disruptive innovation and performance and investigate the role entrepreneurs demographic factors on the performance of family business in Ogun State. This investigation is imperative because in Nigeria family business, the level of innovation is low due their poor knowledge of the role of innovation, their preference for incremental innovation which require little resources to achieve and lack of continuity after the death of founders as a result of lack of succession planning, poor management style, misappropriation of funds, embezzlement, lack of competent top management among others. However, there are still noticeable giant strides on the path of disruptive innovation in Nigeria.

However, most of these innovations borne out of technology and revolve around commercial industry without spreading across the critical industries like primary industry (agriculture) and tertiary industry especially the health industrial sector. In the study descriptive research designed was employed and primary data collected using the questionnaire was utilized. The questionnaire comprises of three instruments: Eisenhardt and Martin's (2000) innovativeness scale, Family Business Culture Scale modified from Klein et al. (2005) and Goodman & Svyantek (1999) nine task performance. The study draw support from the disruptive innovation theory to validate the three hypotheses drawn from the specific objectives for validation. A sample of three hundred and thirty one (331) purposively selected staff of five family business firms in ogun State, South West Nigeria. Analysis of variance (ANOVA) regression technique was adopted for the analysis and the result of the estimation was facilitated using the statistical package for social and management sciences (SPSS).

The analysis of the result showed that disruptive innovation ($\beta=.047$, $t=0.781$ & $P>0.05$) does not have a significant effect on performance of family business. It was also found that family business culture ($\beta=0.733$, $t=17.711$ & $P<0.05$) has a significant positive effect on performance of family business. The result also shows that age ($\beta = .634$, $t=4.775$, $p<.05$), marital status ($\beta =1.465$, $t=2.652$, $p<.05$) and work experience ($\beta=-.740$, $t=-2.172$ $p<.05$) have a significant and independent effect on performance of family business while gender ($\beta=-.029$, $t=-.220$ & $p>.05$) and qualification ($\beta = -.154$, $t=-1.087$ & $P> .05$) do not have a significant independent and joint effect on performance of family business in Ogun State. The insignificant effect of disruptive innovation on performance, may have result from the implication of the fact that family business resistance to change. In family businesses, it is usually hard to accept changes and flexibility when dealing with innovation.

The result was in line with the findings of Salim and Sulaiman (2011) on the effect of organizational innovation on company performance. Findings from the study support both the hypothesis that organizational innovation has a significant influence on firm performance. This result is also supported by the findings Hatak, Kautonen, Fink and Kansikas (2016) on how the interplay between innovativeness as a business specific resource and family commitment as a family-specific resource affects performance. Family business demonstrates a curvilinear (U-shaped) moderating effect of the owner family's commitment to the firm, in that the impact of innovativeness on firm performance is strongest when family commitment is either low or high. The result was in line with the findings of Llach (2010) on the differences in innovative behaviour between family and non-family business. A Mann-Whitney U non-parametric test revealed that six out of seven measures were statistically significant between the two matched groups of companies. The study found differences between family and non-family business with regard to the role of human, social and marketing capital for innovation.

The study concluded that disruptive innovation does not show any effect on the performance of family business. The result demonstrated that family business resistance to change which limits their innovativeness and in turn affect their performance. The following suggestions are offered:

1. Managers should therefore, create and promote the eagerness to learn among their employees so that they can develop new skills and share existing knowledge
2. Given the importance of family businesses to the economy of a country, it is essential that family businesses adopt disruptive innovation in their daily operations to enhance their productivity as well as market share.
3. Family businesses and other forms of business should engage in new product development as this leads to the production of a quality and better product or the generation of a whole new product which in turn increases sales turnover as well as profitability.
4. Also business organizations should have a broad knowledge of their competitive environment and take advantage of the opportunities that exist therein.
5. The importance of new technology cannot be overemphasized. Family business and other forms of business organizations should employ the use of new technology as this enhances productivity and reduces the cost of production.

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APPENDIX
QUESTIONNAIRE

INNOVATION ON THE PERFORMANCE OF FAMILY BUSINESS

(A case study of Family Business in Ogun State)

Part A: Demographic Data Form (DDF) (Please tick whichever is applicable)

1. Gender: Male Female
2. Age (year): below 40 40-49 50-59 60 and above
3. Marital Status: Single Married Others
4. Highest qualification: OND Bsc/HND MA Degree PG Degree
5. Work experience: less than 5 yrs 5-10 years 10 years above

Part B: Innovation, Family Business and Performance Scales

Section I: Innovativeness Scale

Instruction: Please tick as appropriate the correct option for each items as it best describe the ability of your company to perform product development research in order to launch new products and services compare her competitors (is much better/much worse)

	Items	Much better	Much worse
8	The ability of our company to perform product development research in order to launch new products and services		
9	The ability of our company to transform product development into new products and services		
10	The ability of our company to make new products and improve services		
11	The swiftness of our product development		
12	Launching new products and services		
13	The effectiveness of our product development		
14	Improvements and innovations in our product development activity		

Section III: Culture of Family Business Scale

Instruction: Please tick as appropriate the correct option for each items as it best describe your feelings as:: SA is strongly agree; A is agree; D is Disagree and SD is strongly disagree.

	Items	SA	A	D	SD
20	Family members (FM) support discussion with friends and other family members.				
21	FMs are proud to tell others that „we are part of the family business“.				
22	FMs agree with the family business goals, plans, and policies.				

23	FMs really care about the fate of the family business.				
24	Deciding to be involved with the family business has a positive influence on my life.				

Section IV: Performance Scale

Instruction: Please tick as appropriate the correct option for each items as it best describe your feelings as:: SA is strongly agree; A is agree; D is Disagree and SD is strongly disagree.

N	ITEMS	SA	A	D	SD
		4	3	2	1
25	The firm achieve the objectives of the job				
26	My firm meet criteria for performance				
27	The firm demonstrate expertise in all job-related tasks				
27	The firm fulfills all the requirements of the job				
28	Workers can manage more responsibility than typically assigned				
29	The staff appears suitable for a higher level role				
30	The staff are competent in all areas of the job, handles tasks with proficiency				
31	The firm performs well in the overall job by carrying out tasks as expected				
32	The firm plans and organizes to achieve objectives of the job and meet deadlines				

SELF-SERVICE TECHNOLOGY AND CUSTOMER LOYALTY IN THE NIGERIAN RETAIL BANKING INDUSTRY

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Abstract

This research is based on Self-Service Technology and Customer Loyalty in the Banking Industry. It is based on a study of some retail bank customers in Anambra State. The emergence of information, communication technology (ICT) and its wide application in the banking industry lead to the development of self-service technology (SST) based products like automated teller machine (ATM), internet banking among others. In view of this, banks have invested heavily in the innovation with the aim of attracting and retaining customers; hence the aim of this study is to investigate how SST impinge customer loyalty among the retail banking customers in Anambra State. The study is a correlational survey research and is based on a statistically determined sample of 246 respondents selected from among some of the major towns in the state out of which 236 respondents returned duly filled and usable questionnaire. Questionnaire was the major instrument for data collection and this was self-administered to the respondents. The stated hypotheses were tested using Pearson Product Moment Correlation Coefficient. The results of the analysis show that security of SST, reliability, competence and accessibility have significant influence on customer loyalty with in the retail banking industry. In conclusion, it is evident from the study that security, reliability, accessibility and competence have significant relationship with customer loyalty in the Nigerian retail banking industry. Based on the conclusion, it was recommended that e-banking service should be able to provide enhanced interactivity, diversified offerings, and facilitate customers to participate in improving the service encounter with e-banking services and make it a memorable and pleasant experience. Banks should develop strategies to motivate non- users through awareness, education, extending personalized services, and demonstrating the functions of SST banking services. This is more so as the study has shown that consumer awareness is highest among e-banking services users. Bank management should monitor the environment and identify the trends through marketing intelligence.

Keywords: *Self-Service Technology, *Customer Loyalty, *Retail Banking, *Anambra State, *Nigeria.

INTRODUCTION

Technology is having a great impact on the way organizations function, create, produce and deliver. Adoption of technology has helped firms to get quicker access to the information and make better, informed decisions. This is helping in changing the way traditional business used to work and develop new practices. One of the important applications is Self-service technology especially within the service industries. Self-servicing technologies are those that allow the customers to perform the service on their own, without the help of the employees of the organization. Self-servicing technologies have already occupied a vital position in industries like hotels, banking, and airline. Banks are increasingly using technology in their efforts to reach and serve their customers, and as a result, it is important to understand the

impact of these technologies on the customer loyalty. The evolution of self-service technology (SST) has tremendously changed the way customers' interaction with firms to create service outcomes. Inferior service quality leads to unfavorable behavioral intentions, which lead to customer defection from the organization, which leads to decreased spending, lost customers, and increasing costs associated with attracting new customers (Zeithaml, & Parasuraman, 1996). As a result, service providers especially bankers now deploy self-service channels such as Automated Teller Machine (ATM). These channels offer a number of strategic advantages to bank managers for customer loyalty.

Self-services technology are devices and machines that are facilitated by information, communication and the internet and allows customers perform some activities without the presence of an employee from the organization. They include ATMs, online banking, internet banking and point of purchase (POS) terminals. By deploying SST, service providers can deliver better quality products and convenient solutions to customers and thereby engendering customers' satisfaction and loyalty. Customer loyalty is necessary to ensure corporate survival and profitability because it is much more expensive to acquire a new customer than to retain existing ones. In addition, loyal customers acts as advocate for the firm and are usually willing to recommend a firm to others.

Accordingly, banks have resorted to adopting technology based self-service channels that promise to remove the constraint of time, distance and communication. From the banking institution's point of view, automated self-service users are no more looked at as customers only, but rather as employees, since they are more involved in the service (Sindwani & Goel, 2017). Another identification of SST in banking services is its competitive advantage and its use as a weapon of returning a benefit that justifies the initial investment (Davies et al., 1996). SST is a win-win situation for banks and their customers; as the benefits are in form of lower cost of transaction and lesser customer load on branches (Sindwani & Goel, 2017). Owing to the recent focus and massive investment by banks on the self-service channels, it is therefore imperative to study customer loyalty in light of the new developments. SST channels have regarded as tools for maintain customer loyalty. However it is still unclear if the effects of these on consumer behavior yield to customer loyalty in the retail banking context.

Statement of Problem

As core banking services offered by banks are almost similar, banks are trying to use these SST channels to differentiate themselves from other banks on other parameters for enhancing customer loyalty. But the problem is that in spite of the SST channels customers are still switching from one bank to another. Thus studying SST channel and its impact on customer loyalty has become a key interest area of managers and researchers, as it influences performance and profitability of the organisation (Al-Hawari, Ward & Newby, 2009; Seth, Deshmukh & Vrat, 2006). In the banking sector, studies to find impact of SST on customer loyalty has been conducted in both traditional as well as in automated banking context.

Research on automated banking service quality is given due importance as it is found to have effect on customer loyalty (Al-Hawari, Hartley & Ward, 2005; Santos, 2003). Most of the studies on technology based self-service banking quality covers only one of the automated banking channels. Focus of these studies is either on Internet banking or on ATM banking. In this technology era, customers are using more than one automated banking channel to avail services. So, it is imperative to study all SST channels to present the overall picture of technology based banking. Sindwani & Goel, (2017) relied on convenience, reliability and security, responsiveness, personalisation; while Okeke, Ezeh and Nnedum, (2015) was based on such variables as: price, security, reliability, responsiveness, perceived risk and tangibility.

This utilises security, reliability, accessibility and competence. To get the comprehensive picture, in the present study broad attributes related to all channels of SST service quality are grouped into the four dimensions and their impact on customer loyalty is examined.

Objectives of the Study

The main objective of this study is to ascertain the relationship between Self-Service Technology and customer loyalty among bank customers in Anambra State. The specific objectives are:

- i To ascertain the impact of SST security on customer loyalty.
- ii To ascertain the impact of SST reliability on consumer loyalty.
- iii To determine the relationship between SST accessibility and customer loyalty.
- iv To determine the extent competence with SST accessibility affects customer loyalty.

Research Questions

- i To what extent does SST security influence customer loyalty with commercial banks?
- ii How does SST reliability impact on customer's loyalty with commercial banks?
- iii How can SST accessibility affect the loyalty of customers of Commercial Banks?
- iv To what extent does competence with SST influence customer loyalty with commercial banks?

Statement of Hypotheses

The following hypotheses are formulated for the study and they are stated in alternate form:

- H₁:** There is a significant relationship between SST security and customer's loyalty with banks.
- H₂:** There is a significant relationship between SST reliability and customer's loyalty with banks
- H₃:** There is a significant relationship between SST accessibility and customer's loyalty with banks.
- H₄:** There is a significant relationship between competence with SST and customer's loyalty with banks.

REVIEW OF RELATED LITERATURE

Nature of Services

The service industry in Nigeria and elsewhere is characterized by low capital, numerous but customized sellers and imperfect competition arising from imperfect knowledge on the

part of the consumers, especially in professional services like accounting, medicine, law, etc. where customer education and information through promotion is frowned upon because promotion ethics forbid it (Agbonifoh, Ogwo, Nnolim & Nkamnebe 2007). Services vary overtime and place even by the same provider. For example the speed of service delivery during service encounters in a bank varies from one service personnel to another and from one another. Services are also intangible difficult to standardize and monitor, thereby making it difficult to evaluate before purchase. Though government attempts to monitor and standardize service through regulations and legislations, little progress has been made.

Characteristics of a service

i. Intangibility:

Services are intangible and do not have a physical existence. Hence, services cannot be touched, held, tasted or smelt. This is the most defining feature of a service and that, which primarily differentiates it from a product. Also, it poses a unique challenge to those engaged in marketing a service as they need to attach tangible attributes to an otherwise intangible offering.

ii. Heterogeneity/Variability:

Given the very nature of services, each service offering is unique and cannot be exactly repeated even by the same service provider. While products can be mass produced and be homogenous the same is not true of services. However, the same is not true of the service rendered by the same counter staff consecutively to two customers.

iii. Perishability:

Services cannot be stored, saved, returned or resold once they have been used. Once rendered to a customer the service is completely consumed and cannot be delivered to another customer. For example, a customer dissatisfied with the services of a barber cannot return the service of the haircut that was rendered to him. At the most, he may decide not to visit that particular barber in the future.

iv. Inseparability/Simultaneity of production and consumption:

TWs refers to the fact that services are generated and consumed within the same time frame. For example, a haircut is delivered to and consumed by a customer simultaneously unlike, say, a takeaway burger, which the customer may consume even after a few hours of purchase. Moreover, it is very difficult to separate a service from the service provider, e.g., the barber is necessarily a part of the service of a haircut that he is delivering to his customer.

Theoretical Framework

Many researchers have examined electronic service quality as an emerging ICT artifact from the perspective of user adoption of information technology (IT) (Zhou et al., 2010). User adoption is one of the key requirements for realizing technology value and utilization (Min et al., 2008). The technology acceptance model (TAM), extended technology acceptance model (TAM2), theory of reasoned action (TRA), theory of planned behavior and the unified theory of use and acceptance of technology (UTAUT) are the most commonly used theories in IT adoption (Venkatesh et al., 2003). TAM and TPB have been used extensively in mobile banking studies to identify the factors affecting users' behavioral intention (Zhou et al., 2010). The most well-known theory and models in technology adoption have been Theory of Diffusion of Innovation (DOI) (Rogers 1995), Technology Acceptance Model (TAM) (Davis 1989), and Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). Those theories are all widely tested and used by numerous researches and studies concerning the adoption of mobile service and technology. TAM is one of the most widely

used in studying end user behavior and system usage (Chen et al, 2002). In this thesis, several theories related to information system and new technology acceptance are being reviewed in order to give an academic view of explaining the adoption of mobile money services in our case. Theories stated in the following are: diffusion of innovation, technology acceptance model, context of use and some advanced mobile service acceptance model. UTAUT combines constructs of eight models from earlier research (theory of reasoned action, technology acceptance model, and motivational model, theory of planned behavior, a combined theory of planned behavior/technology acceptance model, model of PC utilization, innovation diffusion theory, and social cognitive theory).

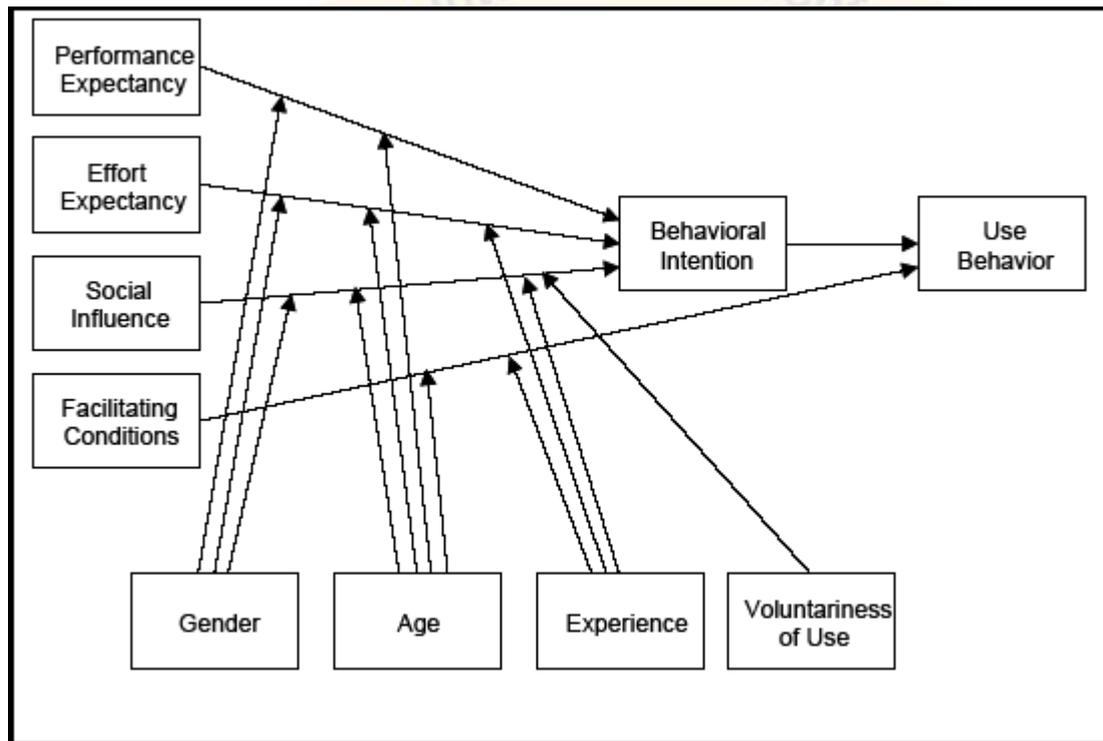


Figure 3: Unified theory of acceptance and use of technology (Venkatesh et al. 2003).

There are three direct determinants of intention to use (performance expectancy, effort expectancy, and social influence) and two direct determinants of usage behavior (intention and facilitating conditions). The model also includes moderating influences of experience, voluntariness of use, gender and age. Factors such as perceived usefulness, perceived ease of use, credibility, self-efficacy and financial cost, facilitating conditions and demographic characteristics have been recognized as influences (Luarn and Lin, 2005; Crabbe et al., 2009 cited in Zhou et al., 2010). The UTAUT model was proposed as an extension of the basic TAM model. The model incorporates four key factors, namely performance expectancy (e.g., perceived usefulness), effort expectancy (e.g., perceived ease of use), social influence and facilitating conditions (Venkatesh et al., 2003). Recently, there has evolved a revised UTAUT model by Min et al. (2008), suitable for investigating mobile banking. This revised UTAUT model was used as the basis in this study by considering variables such as trust and privacy, convenience and cost, user satisfaction and culture in addition to the standard UTAUT factors. In this model, the performance expectancy factor of UTAUT model is replaced with utility expectancy, which is more appropriate for assessing mobile banking. In this study, variables extracted and used are: security, access, competence, and reliability to evaluate their impact on customer loyalty with respect to e-service quality in banks.

Self-Service Technology

Self-Service Technologies are services that are performed by customers themselves using various types of technological innovations, such as ATMs, the internet, internet banking, and interactive kiosks (Amanda, Nick and Leonard, 2007). They represent an alternative way of service delivery using innovative technologies for complementing or even replacing personal services. Customers value the convenience, consistency and self-control of automated transactions over a friendly smile, while companies value the increased coverage, low cost of operation and reliability of automating transactions. It is common practice for individuals to encounter long lines and companies that are closed when you want to do business, as a result opportunities to conduct transactions online or using self-service technologies have become a welcome alternative to most consumers.

Self-service Technology Channels

Self-service technology channels are technology interfaces allowing customers to produce services independent of involvement of direct service employee. Its intention is to make service transactions more accurate, convenient and faster. Self-service technology (SST) channels are classified into three (3) main categories based on their purpose, namely, customer service, transactional and self-help (Langeard *et al.*, 1981). Customer service is the provision of service to customers before; during and after a purchase the perception of success of such interaction is dependent. Customer service facilities include; telephone, flight information, order status, package tracking, account information, ATMs and hotel checkout. Transactional services are third party services provided by a professional services firm when a business transaction takes place, e.g. mobile banking, prescription refills, retail purchasing, financial transactions, pay at the pump, hotel check out and car rental. While self-help services technology is a technology service used to overcome one's problem without the aid of others or professional help. Self-help services would include information telephone lines, internet information search, distance learning, blood pressure machines and tourist information.

Dimensions of Self-Service Technology

Competence

This is the ability of an SST channel to serve a customer satisfactorily. Competence is measured against the perceived level of service delivery which a customer will receive if such service were being performed by a human being. The following metrics will be considered when measuring competence: Punctuality, transparency, accountability. On competence, the customers desire that the SST channels can perform the required task without any hiccups or challenges which may require external interventions. Meuter *et al.*, [2000] discovered that customers were more satisfied when the SST channel delivered the service smoothly, timely and without need for human intervention. Typical testimonies came from users of cash deposit ATMs who did not have to wait on long queues to deposit cash. Also users of mobile banking systems who could easily check their account balance and make cash transfers without any errors showed high level of loyalty.

Reliability

This is the assurance or probability that a particle SST channel will perform the task or service it is designed to, when accessed by a customer. Reliability describes the ability of the SST channel to function at a specified moment or interval of time. Subjects of interest under reliability include: Network reliability, Network connectivity and Software reliability.

- **Network reliability:** Reliability is an attribute of any computer-related component that consistently performs according to its specifications.
- **Network connectivity:** Network connectivity is a kind of metric to discuss how well parts of the network connect to one another. It also takes into account the speed and ease of communication between connected nodes in a network.
- **Software reliability:** This is the probability of failure-free software operation for a specified period of time in a specified environment.

On reliability, customers want to be able to have access to the particular channel whenever they demand service. Menter et al., [2000] found that customers tend to be dissatisfied when failures were experienced while using SST channels. Such failures include: technology failures, process failures, and poor design. On technology failure, typical complaints include faulty ATMs. On process failure, the SST functioned as designed, but there was a failure in process after the consumer interaction occurred. Typical examples of this includes: debit of customer account even when ATM fails to dispense cash.

Poor design: In this case, the SST functioned as designed but the technology performed in a way that the user was not happy with the execution. Common complaints include: site which are difficult to navigate and slow response from server.

Accessibility

Accessibility refers to ability or ease with which customers can perform transactions on their accounts. This incorporates the different channels with which the bank customers can make use of their accounts using the Self-Service channels. The channels available to customers to perform transactions include: ATM, POS, Mobile banking and Internet banking.

ATM: This is a money dispensing machine. However, ATMs have been modified to provide all the services which a teller at a bank can render over the counter, such as make withdrawals, accept deposits, balance checking, cash transfers, bill payments and several other services which the bank may decide to include.

POS: The POS which stands for Point of Sale Terminal is a portable handheld device which customers can use to pay for goods and services at merchant locations. Each POS terminal is directly linked to the merchant's account, and payments are made using the customers debit or credit card as the case may be.

Mobile and Internet Banking: These make use of electronic devices such as computers, mobile phones, tablets etc. which are connected to the internet to enable customers carry out cashless transactions on their accounts. Such transactions include balance inquiry, bill payments, airtime top up and money transfers. On accessibility, customers want to be able to use the different SST channels without any hassle. Meuter *et al.*, [2000] also discovered that a high level of satisfaction was observed from customers who could use the service at almost any time of the day. They also appreciated having the service close to them when needed. A typical example of this is having the ATM machine close by when cash strapped.

Security

This implies the measures and steps put in place by the bank, to ensure that customers' accounts are not compromised by or accessible to external parties. Security implementations include Bank Verification Number (BVN). Personal Identification Number (PIN) and chip technology debit cards. Security primarily consists of network security. It consists of the policies and

practices adopted to prevent and monitor unauthorized access, misuse, modification, or denial of computer network and network-accessible resources. Network security involves the authorization of access to data in a network, which is controlled by the network administrator. Users are usually assigned an ID and password or other authenticating information that allows them access to information and programs within their authority. On security, customers want to be assured that their accounts and particularly money are not exposed as a result of using SST channels. Jayawardhena and Foley (2000) argued that typical internet banking users has been observed among a high enlightened people with good education and skill belonging to the upper middle class. Lee and Lee (2001) stated that the use of banking service might adopt internet banking as a convenient option that can save time and effort. However, if consumers have no experience of previous banking technologies, they might find it difficult to adopt recent banking technology. They might not be comfortable and lack the confidence to use internet banking even though they think internet banking is necessary.

Computer experience and skills such as excellence in handling internet, e-payment had the noteworthy impact on online banking by customers. Technology experience, such as ATM, internet banking were significant factor for attitude toward online banking among bank customers. Karjaluoto et al., (2002); Guriting, Gibson and Ndu (2007) found that strong determinants of the behavioral intention to adopt internet banking are perceived usefulness and ease of use. Computer self-service is an individual judgment of their computer competence. It is emphasized that computer self-efficacy reflects individual perceptions and abilities to fulfill job requirements of computer competence.

In conclusion, self-service technologies are therefore, defined as services that are performed by customers themselves using various types of technological innovations, such as ATMs, the Internet. Internet banking, Mobile banking and interactive kiosks. The technological interface that enable customers to produce a service independent of direct service employee involvement. Customer satisfaction is an evaluation of perceived discrepancy between prior expectations and the actual performance of the product. Customer satisfaction is a customer reaction to the state of satisfaction, and customer's judgment of satisfaction level (Kim et al., 2004). The concept of customer satisfaction and services quality is interrelated with each other. Moreover satisfaction of customer depends upon service quality. The relationship between satisfaction and service quality is the key to measure user satisfaction (Pitt et al., 1995).

Customer Loyalty

The recent years have shown a growing interest in customer loyalty. The globalization competition, saturation of markets, and development of information technology have enhanced customer awareness and created a situation where long-term success is no longer additional through optimized product price and quality. Instead, companies build their success on long-term customer relationship. According to former studies, it can cost as much as 6 times more to win a new customer than it does to keep an existing one (Rosenberg & Czepiel 1984). Hence, we can see that the increase and retention of loyal customers has become a key factor for long-term success of company. The main emphasis in marketing has shifted from winning new customers to the retention of existing ones. Customer loyalty, the main consequence of customer satisfaction, has been defined and measured in various ways over the past decades. Oliver (1997) defines customer loyalty as "a deeply held commitment to re-buy or re-patronize a preferred product or service consistently in the future, despite situation influences and marketing efforts having the potential to cause switching behaviors".

According to the literature on loyalty, customer loyalty has several distinct dimensions. The two most important dimensions are the behavioral and attitudinal component (Day 1969;

Jacoby & Kyner 1973; Yi 1991). Earlier research conceptualized customer loyalty as a behavior (Dick and Basu 1994; Jacoby & Chestnut 1978). Behavioral loyalty signifies actual repeat purchasing behavior, or the likelihood of repeat product/service purchases from the same supplier. Yet, recent research seems to measure loyalty attitudinally (including cognitive and/or affective components). Using this perspective, customer loyalty is perceived as future intention-to-repurchase or commitment that reflects the cognitive and emotional attachment associated with customer loyalty.

Customer loyalty indicates customer retention, the most important customer metric for firm profitability, because loyalty measures customers' intention to repurchase a product or service. In a traditional sense, marketing academics and practitioners have emphasized the consequences of market-based assets on success within the product marketplace, as illustrated in product sales and market shares. Nevertheless, the significance of the effect of market-based assets on financial performance has appeared in the past decade as top management has begun seeing the final objective of marketing as contributing to the favorable status of shareholder returns (Day & Fahey 1988). Top management has begun to realize that not only tangible assets, such as plant and equipment, raw materials, and finished products (whose values are enumerated on balanced sheets), but also intangible market-based assets, such as brands and customers, channels, and partner relationships (whose values are not seen on balance sheets) all play a part in shareholder wealth. Moreover, internet-based firms (e.g., Amazon, eBay, Google, and Facebook) are commonly present in the contemporary digital economy, and these firms generally do not hold tangible assets, as opposed to traditional firms. Ironically, customer loyalty is more of a fragile concept especially in a world where customers are mouse click away from better deals and providing do-it-yourself channels to customers is redefining customer loyalty (Kambol et al. 2009).

Empirical Review: Self-Service Technology and Customer Loyalty

As customer become more sophisticated, it becomes essential to consider the use of technology to respond to their continuously changing needs. Banking is an industry which is highly involved with the customers. Customers in developing economies seems to keep the technological factors of services as the yardstick in differentiating good and bad services and the human factor-the employees seem to play a lesser role in discriminating the quality of services for banks. The variation in services offered by the banks develops the excellence for service quality. Banking is no longer regarded as a business dealing with money transaction alone, but it is also seen as a business related to information on financial transaction (Padwal, 1995). Customer whether at the corporate level or at retail level have always been important for the bank.

As SST is becoming more prevalent, so level of customers satisfaction and loyalty is also changing the scenario of technological environment. Self-service technology plays a significant role in providing better services at lower cost. Several innovative SST such as Automated Teller Machine (ATM), Internet banking smart cards, credit cards, Mobile banking, anywhere anytime banking have provided number convenience services to the customer. So as the service quality improves, the probability of having loyal customer also increase which in turn increase mutual understanding, customer retention and a bond of trust between customers and banks. The banks which are providing these services at large extent to customers are more reputed in the eyes of customers.

Generally, in the area of SST and the banking industry of the last few decades has been developed as well as improved, specifically in the internet banking sector. The internet

banking began in the early 1980s when many larger financial organizations had started to offer such access to several banking services over and done with the internet (Phillips, 2007). Bradley and Stewart (2003), documented that nearly every bank will have such online facilities and services available in few years. Sudarraj and Wu (2005), the use of E-banking has been increasing worldwide for the past decade, and seems to continue to do so. Moreover, using online services has rapidly contributed to creation competition even fiercer, nonetheless of the size of the organization. Several researchers have been examined the development and improvement of E-banking and SST and bank operations (Aladwani 2001, and Wang, 2006). Accordingly Narteh (2012) and Al-Madi (2010), revealed that E-Banking consists several important factors that could affect the level of customer satisfaction or even loyalty towards the organizations; these factors are perceived usefulness, perceived ease of use, perceived credibility, and customer attitude. Perceived usefulness is defined as the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1986).

In a study by Zahid, Mujtaba and Riaz (2010) revealed that people who implement such a particular technology believe that the use of the E-banking, information system and technology would improve their performance. In other words, those people who pay attention to the usefulness of E-banking will perform in a good way. Therefore, they declared that perceived usefulness plays an important role in determining customer's decision to adopt E-banking.

Liao and Cheung (2003) conducted a study in Singapore on consumer attitudes towards the usefulness of and willingness to use internet retail banking. Based on their results, they found that expectations of accuracy, security, network speed, user involvement, convenience and user friendliness were the major quality attributes underlying perceived usefulness

Likewise, Al-Somali, Gholami and Clegg, (2009) studied factors effecting perceived usefulness and perceived ease of use in internet banking acceptance. They found that security, quality of internet connection and awareness about internet banking and its benefits have significant effects on the perceived usefulness and perceived ease of use in internet banking acceptance.

Perceived ease-of-use can be defined as the degree to which a person believes that using a particular system would be free from effort (Davis, 1986). AC Nielsen Consult (2002) documented that the development if E-banking can be determined through perceived ease of use. In other words, the perceived ease of use plays an important factor which could influence the acceptance of any information system. In this study, perceived ease of use is replaced with competence. Moon and Kim (2000) revealed that perceived usefulness and ease of use are necessary factors in determining the acceptance information system in corporations.

Lichtenstein and Williamson (2006) found that the determinants of ease of use were significantly related to the framework of SST such as aesthetics and the ability of the component parts of a system to operate successfully together. Furthermore, Pikkarainen, Karjaluoto and Pahlila (2004) found that the complexity and design issues have been significantly found to discouraged customers from using E-banking. It is argued that any novelty perceived to be easier to use than another is more likely to be accepted by users (Pikkarainen *et al.*, 2004). The influence of perceived ease of use on the acceptance of, and intention to using, retail banking services was agreed as well as supported in several studies (Kolodinsky, Hogarth & Hilgert 2001; Ravi, Carr & Sagar 2007).

Perceived credibility is defined as the privacy and security concerns in the adaptation of E-banking (Ba & Pavlou, 2002). Researchers defined perceived credibility as the level of perceived credibility to which people trust online banking services as trustworthy and secure (Lichtenstein & Williamson, 2006). To the authors' knowledge, this variable considers important in influencing customers' satisfaction because of the level of trust security and

privacy are commonly used in online banking services around the world (Lichtenstein & Williamson, 2006).

Sommer (2011) defined attitude as a central conception in explaining the humans' intention behavioural. It is also defined as the perceptions about product information, form of payment, delivery terms, service offered, risk involved privacy, security, personalization, visual appeal, navigation, entertainment and enjoyment (Burke, 2002).

Sarlak and Hastiani (2011) documented that customer attitude plays an important role in affecting their behaviour in refusing or accepting technology such as online banking services. Several researchers have highlighted the role of attitude toward using inline banking services, as a result of their findings is that the customers' attitude towards online banking services is expected to affect customers intention to start using SST (Al-Somali *et al.*, 2009).

Satisfaction plays a significant antecedent in developing customer retention (Gil, Hudson & Quintana 2006), customers' decision can be effected by satisfaction towards products therefore it can affect a buyer's decision to remain loyal. Satisfaction is linked to loyalty. Bei and Chiao, (2001) had investigated the consequences of customer satisfaction, customer loyalty and the outcomes of customer satisfaction. Customer satisfaction considers a key factor in creation customers' desires towards buying products. A study by Bloemer, Deruyter and Peeters (1998) showed how service quality, and customer satisfaction influence customer loyalty. Based on their results, they found that service quality has a significant impact on customers' satisfaction. The present study is based on SST and customer loyalty in the banking industry.

Okeke, Ezeh and Nnedum (2015) study concerns the relationship between service quality dimensions and customer satisfaction with online/ebanking services of Nigerian banks. Seven service dimensions were included in the study and they are: reliability, assurance, responsiveness, perceived risk, tangibility, security, and price. The study was based on a sample 400 respondents out of which 258 responded to the questionnaire. The seven service quality variables and the dependent variable were all measured with a number of items each using seven-point Likert scale. The analysis was conducted with Multiple Linear Regression analysis (MLR) and the results show that five out of the seven variables: price, security, perceived risk, responsiveness and assurance are significant in enhancing customer satisfaction with online services of Nigerian banks. The other two variables: reliability and tangibility are not significant and require further exploration. The study provides necessary input for bank management to increase customers' involvement through improving service quality; lowering risk; and enhancing security of operations. The implication of this review to the present study is that two out of the seven independent variables they used are relevant to this study.

In a study on Mobile money adoption in Nigeria Bankole, Bankole and Brown (2011) affirmed that the adoption of Information and Communication Technology (ICT) is culturally inclined; adding that mobile banking is an ICT application considered to be of vital use among people in various countries who are likely to have dissimilar cultural backgrounds. They report that research into the use and adoption of mobile banking has shown varied findings in different countries across the globe and attributed the development to the diversity of the cultural landscape in different countries. The objective of their study was to add cultural variables to the TAM. The development of mobile banking in a country is likely to be determined by some characteristic factors which are unique to that country. This study conducted a cross-sectional survey through a judgmental sampling procedure. The respondents were mobile banking customers that consisted of students, and workers from diverse fields of employment. A total of 231 questionnaires as well as interviews were collected from the sampled population of mobile banking customers. The data were analyzed through statistics and qualitative techniques. This article explores the factors that influence

adoption of mobile banking in Nigeria. The results show that culture is the most important factor influencing the adoption behaviour of users of mobile banking in Nigeria. The implication of this study is that mobile banking is one of the channels of self-service technology hence their study was relevant to ours.

Okeke (2013) presented a classification of e-payment customers in Nigeria on the basis of high and low involvement and to find out the perceived risk/security factors that are dominant in the classification. Based on an empirical survey of e-banking customers from different segments in Nigeria with questionnaire as the instrument for data collection; he employed discriminant analysis to ascertain which of the perceived risk/security factors of psychological risk, quality risk, time-loss risk, financial risk, physical risk and security that are dominant in classifying e-banking customers on the basis of high and low involvement. The results show that the ATM/debit/credit cards command high involvement followed by telephone/GSM banking, while others like master/visa cards, internet banking, among others are less preferred. Time-loss risk and security are the most dominant in classifying e-banking customers though these two factors are the dominant the discriminant structure matrix show that the seven factors are important as they all contribute to the classification. His findings has implications for banks and policy makers toward ensuring that e-banking services are secure and that the risks associated e-banking transactions are minimized. The study also has implications for further studies in consumer involvement and consumer behaviour.

MATERIALS AND METHODS

Correlational research design or correlational survey design was adopted for this study. In correlational research we observe natural events; we can do this by either taking a snapshot of many variables at a single point in time, or by measuring variables. Correlational research provides a very natural view of the question we're researching because we are not influencing what happens and the measures of the variables should not be biased by the researcher being there (Field, 2013). Hence in this study we set out to measure without manipulating the phenomenon and the subject of enquiry in this study is the relationship between SST and customer loyalty. The population of this study is the retail banking customers in Anambra State. The total number of customers is infinite since the researcher cannot ascertain the number of the retail banking customers in the state with exactitude. The sampling method employed was quota sampling. Since the population of the study is infinite. The researcher adopted a formula that estimates the representativeness of the sample on certain critical parameters at an acceptable level of probability. The formula is stated below:

$$n = \frac{z^2(P)(Q)}{e^2}$$

Where;

n = sample size

Z = Standard deviation given a corresponding confidence level

P = Assumed success rate of the research instrument

Q = Assumed failure rate of the research instrument

e — Error margin

Source: Okeke, . et al (2014),

When $Z = 1.96$ at 95% confidence level

$P = 80\%$ or 0.8

$Q = (1-0.8) = 0.2$

$e = 5\%$

Hence:

$$n = \frac{(1.96)^2(0.80)(0.20)}{(0.05)^2} - \frac{(0.614656)}{0.05} = 245.86$$

A sample size of 246 was obtained and used for the study.

Questionnaire was used to collect primary data through a structured personal interview. The questionnaire comprises of two sections; A and B. Section A collected data on the profile of the respondent, Section B collected data relating to the study objectives on customers' loyalty levels on particular independent variables in order to generate statistically the people's attitudes and opinions. The questionnaire adopted Likert scale. Copies of the questionnaire were self-administered by the researcher. The method of administration is the mall intercept method. Most of the copies of the questionnaire were collected instantly while others were collected at a later date through the help of some staff in the banks studied. This method was responsible for the high response rate experienced in the study.

To ensure the validity of the instrument, attempts were made to ensure that the instrument covers the various constructs used in the study after which a copy was given to the supervisor who read and made some comments. Moreover, few copies were given to some select respondents to read and their comments and that of the supervisor were incorporated in final copy of the instrument. The researcher resorted to internal consistency and this was done with the statistical tool of Factor analysis. This was to check for unidimensionality and to check whether any item needed to be removed since the constructs used in study were measured with multiple items. Hypotheses were tested using Pearson Moment Correlation to show the relationship between variables and t-test statistic was adopted to test for the significance of the hypotheses. The formula for Pearson moment Correlation and t-test statistic is stated below respectively.

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

r = correlation coefficient

n = sample size

x = Independent variable

y = Dependent variable

$$|t| = \left| r \sqrt{\frac{n-2}{1-r^2}} \right|$$

r = correlation coefficient

Source: Okeke, et al. (2012).

Data Analysis

The sample size for this study is 246 retail bank customers drawn from the study area. This means that a total of 246 copies of the questionnaire were distributed to the select customers

of which 236 representing approximately 95.9% response rate were returned as duly filled and usable. This high response rate was informed by the fact that the researcher took time to go round the cities and distribute the questionnaire himself. Four demographic variables were used in the study and are presented in Table 4.1.

Table 4.1: Demographic Characteristics of the Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Gender: Male	158	66.9	66.9	66.9
Female	78	33.1	33.1	100.0
Total	236	100.0	100.0	
Marital status: Single	149	63.1	63.1	63.1
Married	40	16.9	16.9	80.1
Separated/Divorced	47	19.9	19.9	100.0
Total	236	100.0	100.0	
Age bracket: Below 30 years	118	50.0	50.0	50.0
31 - 40 years	73	30.9	30.9	80.9
41 - 50 years	45	19.1	19.1	100.0
Total	236	100.0	100.0	
Education: O'Level	89	37.7	37.7	37.7
HND/BSc	115	48.7	48.7	86.4
Postgraduate	32	13.6	13.6	100.0
Total	236	100.0	100.0	

On gender, 158(66.9%) of the respondents are male while the remaining 78(33.1%) are female. On marital status, 149(63.1%) are singles, 40(16.9%) are married, while 47(19.9%) are either divorced or separated. On age bracket, 118(50.0%) are below 30 years, 73(30.9%) are within 31 – 40 years, while 45(19.1%) are within the age bracket of 41 – 50 years. The implication of this is that majority of our respondents are very young people who are more prone to innovation than old people. On education, 89(37.7%) have O-Levels only, 115(48.7%) have HND/BSc while 32(13.6%) have post graduate qualifications. The implication of this is that majority of the respondents 147(62.3%) have tertiary education and are therefore disposed to give valid and usable information needed for the study.

Testing of Hypotheses

Pearson Product Moment correlation was used to test the hypotheses earlier formulated to guide the study in Chapter one. Summated scale was used to bring the items into their respective constructs before the hypotheses testing proper.

H₁: There is a significant relationship between SST security and customer's loyalty with banks.

Correlations

		Security	Customer Loyalty
Security	Pearson Correlation	1	.262**
	Sig. (2-tailed)		.000
	N	236	236
Customer Loyalty	Pearson Correlation	.262**	1
	Sig. (2-tailed)	.000	

N	236	236
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** . Correlation is significant at the 0.01 level (2-tailed).

The results of the Pearson product moment correlation for hypothesis one show a correlation coefficient of .262 with a p -value of .000 which well below the .05 margin of error. Based on this, Hypothesis One which states that: there is a significant relationship between SST security and customer's loyalty with banks is fully validated and accepted.

H₂: There is a significant relationship between SST reliability and customer's loyalty with banks.

Correlations

		Competency	Customer Loyalty
Competency	Pearson Correlation	1	.368**
	Sig. (2-tailed)		.000
	N	236	236
Customer Loyalty	Pearson Correlation	.368**	1
	Sig. (2-tailed)	.000	
	N	236	236

** . Correlation is significant at the 0.01 level (2-tailed).

The results of the Pearson product moment correlation for hypothesis two show a correlation coefficient of .368 with a p -value of .000 which well below the .05 margin of error. Based on this, Hypothesis Two which states that: there is a significant relationship between SST reliability and customer's loyalty with banks is fully validated and accepted.

H₃: There is a significant relationship between SST accessibility and customer's loyalty with banks.

Correlations

		Reliability	Customer Loyalty
Reliability	Pearson Correlation	1	.575**
	Sig. (2-tailed)		.000
	N	236	236
Customer Loyalty	Pearson Correlation	.575**	1
	Sig. (2-tailed)	.000	
	N	236	236

** . Correlation is significant at the 0.01 level (2-tailed).

The results of the Pearson product moment correlation for hypothesis three show a correlation coefficient of .575 with a p -value of .000 which well below the .05 margin of error. Based on this, Hypothesis Three which states that: there is a significant relationship between SST accessibility and customer's loyalty with banks is fully validated and accepted.

H₄: There is a significant relationship between competence with SST and customer's loyalty with banks.

Correlations

		Accessibility	Customer Loyalty
Accessibility	Pearson Correlation	1	.909**
	Sig. (2-tailed)		.000
	N	236	236
Customer Loyalty	Pearson Correlation	.909**	1
	Sig. (2-tailed)	.000	
	N	236	236

** . Correlation is significant at the 0.01 level (2-tailed).

The results of the Pearson product moment correlation for hypothesis four show a correlation coefficient of .909 with a p -value of .000 which well below the .05 margin of error. Based on this, Hypothesis Four which states that: there is a significant relationship between competence with SST and customer's loyalty with banks is fully validated and accepted.

Discussion of Findings

This study was informed by the need to assess the relationship between self-service technology and customer loyalty in the retail banking industry. It was based on sample 246 retail bank customers in Anambra State of which 236 responded. The study was based on four independent variables: security, reliability, accessibility and competence while customer loyalty was the dependent variable. The descriptive analysis of the data show that (Table 4.6) young and middle age customers are more inclined to explore innovations like the SST channels: ATM, Mobile banking and internet banking than the old customers. The study equally shows no clear variations in the usage of the SST channels between male and female respondents (Table 4.3). On the other hand the more a customer stay with a bank the more the customer is inclined to use SST channels in conducting banking transactions. The study also show that ATM is the most preferred channel (Tables 4.3 to 4.7) among all the SST channels. This finding is in line with Okeke, 2013 cited in the review.

The study found out that there is a significant relationship between SST security and customer loyalty with banks. This finding is in line with Guriting, Gibson and Ndu (2007). It is also in line with Liao and Cheung (2003) that security of operations is important to customers when considering SST channels. It was also found out that reliability has a significant relationship with SST channels. This is in line with Zahid, Mujtaba and Riaz (2010) earlier cited in the literature. The study also found out that accessibility and competence have significant relationship with SST channels. These agree with Liao and Cheung (2003); Okeke, (2013); and Okeke, Ezeh & Nnedum, (2015).

Conclusion

This work is concerned with self-service technology and customer loyalty in the banking industry: a study of retail bank customers in Anambra State. Many theories like UTAUT, TAM, and TRA among others were reviewed after which the study relied on four independent variables: security, reliability, competence and accessibility; while the dependent variable is customer loyalty. The data collected were analyzed using both descriptive and inferential statistics. Based on the analysis the following conclusions are made. There is no clear difference between the two gender: males and females on the use of SST channels

especially ATM. The more a customer stays with a bank the more such a customer is inclined to use the SST channels which include ATM, mobile banking and internet banking. ATM is the most preferred channel for transacting retail banking services through the SST. That is to say that ATM is the most patronized SST channel. Security of SST channel has a significant and positive effect on customer loyalty with retail banking. Reliability of SST channel is positively related to customer loyalty with banks. Also competency and accessibility have significant and positive relationship with customer loyalty in retail banking.

Recommendations

The results of this study show that ATM usage is highest among the SST services. To further improve the service quality, ATM service should be able to provide enhanced interactivity, diversified offerings, and facilitate customers to participate in improving the service encounter with ATM and make it a memorable and pleasant experience. Banks should develop strategies to motivate non- users through awareness, education, extending personalized services, and demonstrating the functions of SST banking services. This is more so as the study has shown that consumer awareness is highest among ATM users.

It is evident from the study that security, reliability, accessibility and competence have relationship with SST. Bank management should monitor the environment and identify the trends through marketing intelligence. They need to constantly up-date and differentiate their SST products service quality dimensions to ensure continuous satisfaction and loyalty of customers. Quick response to customers' needs and queries about the SST related services are important to improve the service standards of SST banking channels. This would facilitate customers to participate in improvement of service quality, learn and perform, and have a pleasant experience through two-way communication.

There is no doubt that the possibilities and consequences of cybercrime are many and they threaten the survival of corporate organizations and even individuals. The growth of ICT infrastructure and the Nigeria's economy at large is at risk which is why the fears in some quarters that Nigeria will be subject to various vulnerabilities, especially cybercrimes, as the nation deploys ICT infrastructure to support her development. There is the need for the CBN, the Economic and Financial Crimes Commission (EFCC) and the Nigerian Information Technology Development Agency (NITDA) to work together in ensuring that the anti-cyber law is more effective.

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QUESTIONNAIRE

Section A: Demographic information

Instructions: Tick where appropriate

1. Gender: Male Female
2. Age: Below 30 years 31-40 years 41-50 years 51 years & above
3. Marital information: Married Single Divorced/Separated
4. Education level: O –level/Diploma HND/BSc Post graduate
5. What type of self-service channels have you signed up to?
 Mobile banking Internet banking ATM facility
 Others please specify.....
6. How long have you been with the bank?
 Less than 1 year 1-3 years 3-5 years 5 years & above
7. Use scale of 1=Strongly disagree, 2= Disagree, 3=Undecided 4=Agree, 5=Strongly disagree, please provide responses for the following statements

Security	1	2	3	4	5
Ensures physical safety of the transaction					
It also increases the financial security					
Privacy can be easily maintained.					
Password facility provides confidentiality to transaction.					
Competency	1	2	3	4	5
I am able to use SST					
I find SST easy to use					
I have a well-developed technological competency					
Reliability	1	2	3	4	5
Provides error-free transactions					
Provides convenient location of service facility (location of ATM, POS, etc.)					
Reduces the waiting time to receive the service.					
Accessibility	1	2	3	4	5
I like SST because it helps me in purchase of goods and services online					
Self-Service technology channels is easily accessible					
Provides convenient location of service facility					
Reduces the waiting time to receive the service					
Customer loyalty					

I will introduce Diamond bank to others					
I will Influence others to Use my bank					
I am Satisfied with my bank, therefore I will Continue to be Loyal					

**THE RELEVANCE OF ENTREPRENEURIAL ORIENTATION TO
STUDENTS ENTREPRENEURIAL INTENTION: EVIDENCE FROM
FEDERAL UNIVERSITY DUTSE (FUD)**

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Abstract

This paper examined the dimensions of entrepreneurial orientation and its relevance to student's entrepreneurial intention among Federal University Dutse final year students as at 2017/2018 academic session. The study used cross-sectional research design with quantitative questionnaire approach to collect the data. To validate the model, data from 282 final year students were analysed using the Partial Least Squares Structural Equation Modelling (PLS-SEM). Overall, the study revealed that dimensions of innovativeness, pro-activeness and risk-taking are significantly and positively related to entrepreneurial intention. The study used Human Capital Theory HCT as a theoretical basis of the study. This study served as one of the pioneering study with regard to HCT in testing relationship of this nature. This study recommended that other researchers should use this theory to include other dimension of entrepreneurial orientation for further validation. As implication to

policy, the government should ensure not only enriching students with entrepreneurship education but also inculcate the spirit of entrepreneurial orientation among youths as it has a direct as well as strong influence on student in explaining their entrepreneurial intention.

KEY WORDS: Innovativeness, Pro-activeness, Risk-taking, entrepreneurial intention.

INTRODUCTION

Increasing number of youth unemployment, couple with population growth and low entrepreneurial intention in Nigeria has become a major concern to government and other stakeholders. Statistically, unemployment increased from 19.7% in the 3rd quarter 2016 to 21.0% in the 4th quarter of same year (NBS 2017), also employability status of Nigerian university graduate is 36.26% based on (STUTERN Report 2016), the Nigerian population increased from 184.6 million as of 2016 to 188,906,160 as at 2017 based on NBS, 2017 reports and the level of entrepreneurial intention is 44% according to GEM 2012 Sub-Saharan African ranking, this figure is lower than other African countries like Angola, Botswana, and Malawi with 70, 72, and 70 respectively. This could be the reasons behind the inclusion of entrepreneurship education into Nigeria tertiary education system in 2007\ 2008. Norman, Douglas, Takaruza and Morgen (2016) posited that the world currently requires people with creative, complex and diversified entrepreneurial knowledge and skills to answer to the twin challenges of shrinking economics and unemployment.

In view of this, several effort have been made by researchers to study factors affecting entrepreneurial intention especially in developed economies, Some of these studies includes entrepreneurship education (Daniela, Rainer, Norbert, & Birgit, 2015; Peter & Moses, 2014; Malabena, 2015; Muhammad, 2013), entrepreneurial orientation (Boltone, 2012; Boltone & Lane 2012; Koe, 2016) environmental factors (Fini et al, 2009; Sadeghi et al 2013) among others.

However, with all the number of studies on factors effecting entrepreneurship intention worldwide only little has been done on the relationship between dimension of entrepreneurial orientation and students entrepreneurial intention as most of the studies are at organisational level e.g. Lumpkin and Dess, (2001) Bhuian, Richard, and Shamma, (2012) Gupta and Gupta,

(2015) Gupta and Batra, (2015) Seibert, Kraimer, and Crant (2001) Aminu (2016a) Aminu (2016b) Aminu and Sharif (2014) Koe (2013) while the concept can also be study at individual level (Boltone & Lane, 2012). Moreover the concept of individual entrepreneurial orientation (IEO) has not been fully scrutinized in entrepreneurial intention studies (Koe, 2016). Questions such as; are university students who have attended entrepreneurship courses possess entrepreneurial intention and are elements of IEO influence university students' entrepreneurial intention? Remain unanswered. Researchers have also found that in general the EO construct including these five dimensions can be considered collectively (Covin & Wales, 2012; Lumpkin et al., 2009; Runyan et al., 2008) or separately (Lumpkin and Dess, 1996, 2001; Wang, 2008), depending on context (Unidimensional or Multidimensional).

Many researchers have study the concept of entrepreneurial orientation based on the original conceptualization of Miller (1983) e.g. (Covin & Slevin, 1989; Naman & Slevin, 1993; Lumpkin and Dess 1996; Covin & Wales, 2012). However, there are three popular models of Entrepreneurial Orientation (EO). They are the three-dimension model by Covin and Slevin (1989) the Five- dimension model by Lumpkin and Dess (1996) and unidimensional model by Covin and Wales (2012). Each model offers a different perspective on both the concept of entrepreneurial orientation and the relationships between EO and other firm level characteristics, performances or student intention. Each of the models takes into consideration the internal structure of the firm and the external environment within which the firm operates however, the representations of these factors and relationships are all different (Alarape, 2009). As such this study is considering the three dimensions of entrepreneurial orientation based on Covin and Slevin (1989) conceptualization and their relevance to students' entrepreneurial intention using Federal University Dutse (FUD) students as a focal point. Base on the above background the following hypothesis are formulated to guide the study.

H₀₁: Innovativeness has no significant and positive relationship with entrepreneurial intention among FUD students.

H₀₂: Proactiveness has no significant and positive relationship with entrepreneurial intention among FUD students

H₀₃: Risk-taking has no significant and positive relationship with entrepreneurial intention among FUD students

The remaining sections of the paper are structured as follows; first, reviews of related literatures and theoretical framework, followed by methodology, data analysis and discussion of findings. The paper then concludes with direction for further research.

2.1 Concept of Entrepreneurial Intention (EIT)

Commonly, intention is the cognitive state of mind directly prior to executing behaviour (Krueger, 2005). Thus, an entrepreneurial intention is concerned with the inclination of a person to start an entrepreneurial activity in the future (Davidson, 1995). It is a key determinant of the action of new venture creation moderated by exogenous variables such as family background, position in one's family, parent(s) occupation, education and training (Bird and Jelinek, 1988).

Thompson (2009) defined entrepreneurial intention as "a self-acknowledged conviction by a person that they intend to set up a new business venture and consciously plan to do so at some point in the future. Previous studies have indicated that entrepreneurial intention is a strong predictor of planned behaviour (Ajzen, 1991; Bird, 1988; Covin & Slevin, 1989). Pittaway and Cope (2007) recommended that; studies on entrepreneurial intention should be linked to employability in small and medium enterprises to provide a rationalization that is more than merely economical. Tertiary institutions are now considered as a source of technological development that is meaningful to entrepreneurial activities (Shane, 2004).

2.2 Entrepreneurial Orientation and Students Entrepreneurial Intention.

Individual Entrepreneurial orientation is the combination of knowledge skills and awareness acquired by an individual that led to execution of entrepreneurial behaviour or creation and actualization of new venture. The concept of entrepreneurial orientation has its own origin traced back to the work of Miller (1983) who provides a significant insight especially at the firm level. He suggested that an entrepreneurial firm is one that "engages in product market innovation, undertakes somewhat risky ventures, and is first to come up with 'proactive' innovations, beating competitors to the punch". In his own view "innovativeness," "risk taking," and "proactiveness" are the key factors of entrepreneurial firms.

Moreover studies have also found a significant relationship between individual entrepreneurial orientation and entrepreneurial intention as well as business performance (Kollmann, Christofor, & Kuckertz, 2007; Bolton & Lane, 2012). In line with findings that the basic components of entrepreneurial orientation like proactiveness helps in discovering

and exploiting the environment toward opportunities identification better than its competitors (Smith & Cao, 2007). Furthermore, innovativeness played a significant role in the enhancement of abilities in coping with the environment towards innovating new product and services (Ireland, Covin, & Kuratko, 2009; Jabeen & Alekam, 2013). Finally risk-taking has to do with being bold enough to venture into new business, to obtain borrowing a huge amount and/or committing much resource into a new business venture in an environment that is not certain (Rauch, Wiklund, Lumpkin, & Frese, 2009).

2.3 Human Capital Theory

The human capital theory was propounded by Becker in 1964 with a view of estimating income distribution among his employees in relation to their investments in human capital. He sees human capital as a talents and awareness that employees acquire through investments in schooling, on-the-job training, and other types of experiences. It comprises the stock of knowledge and skills that reside within individuals. Precisely, it includes the unique insights, skills, cognitive characteristics and aptitudes of entrepreneurs. It also includes accomplished attributes, accrued work and habits that may have a positive or negative effect on productivity. It represents a resource that is heterogeneously distributed across individuals and is thus, central to accepting changes in opportunity identification and exploitation. Researchers have employed a enormous range of variables indicating human capital such as formal education and training, employment experience, start-up experience, skills and knowledge, individual creativity and innovativeness among others (Muhammad; 2016)

This study heavily relay on Human Capital theory because the study assumed that an individual with high propensity to risk-taking, proactiveness, as well as higher spirit of innovativeness may likely have higher entrepreneurship intention. Thus, from the theory viewpoint, individuals with more or higher human capital achieve higher intention when executing tasks. Risk taking propensity, pro-activeness as well as Individual creativity or innovativeness, are therefore the human capitals that are needed for better intention to create business venture.

3.1 Methodology

The study adopts survey research design which is cross-sectional in nature. This type of research design is adopted because the information about the variables represents what is going on at only one point in time. Primary data was collected from the population of the study using self-administered questionnaire. The population of the study consists of 793 final

year students of Federal University Dutse (FUD) during the 2017/2018 session where the sample size of 266 obtained from the population using Yamane formula and 30% was added to the sample size as recommended this change the sample size to 346. University students are ideally suited for the study as they about to engage in the actual entrepreneurial behaviour (Krueger, et. al., 2000). The researchers chooses FUD final year students not by priority rather because the entrepreneurship education curriculum is consider the same across all the universities in the country and all the student took the courses in their 200 and 300 level respectively. Simple random sampling technique was adopted given the fact that the population is homogeneous in nature. Out of the 346 questionnaires distributed 305 filled and returned, 23 had more than 10% missing values and one was an unengaged response, thus they were all deleted. However, 282 were valid and useful for analysis (Hair, Balck, Babin, Anderson & Tatham, 2006)

The instrument for measuring individual entrepreneurial orientation(IEO) three dimensions from Boltone & Lane (2012) and finally entrepreneurial intention(EIT) from (Linan & Chen, 2009), all questions were in close ended form and responses were on a 5 point likert scale, thus: strongly agree, agree, undecided, disagree and strongly disagree).

3.2 Technique of Data Analysis

This study employed the use of SmartPLS2.0 in order to calculate the two basic model of PLS path modelling i.e. measurement model and structural model base on the recommendation of (Anderson & Gerbing, 1988). Some of the aims for the use of PLS are: places a very flexible restriction in respect of distribution and population of the study (Haenlein & Kaplan, 2004). It also has the likelihood of providing a additional reliable and accurate calculations of moderating roles because its accounts for error that is capable of decreasing the possible relationship as well as the expansion of the confirmation of the theory as stated in (Helm, Eggert, & Garnefeld, 2010; Henseler & Fassott, 2010).

4.1 Discussions of the Results

Table 4.1 Measurement model results

Relationship	AVE	Composite Reliability	R square
INN	0.558	0.791	
PRO	0.626	0.833	
RTK	0.523	0.762	
EIT	0.610	0.916	0.427

In table 4.1 above, the researchers carried out confirmatory factor analysis (CFA) in order to confirm the reliability of the items, the convergent validity as well as the discriminant

validity. The internal consistency reliability was also attained by composite reliability, the values were more than the vital cut-off value of $\geq .70$ (Chin, 1998; Hair et al., 2006). Furthermore, the convergent validity was also reached as average variance extracted (AVE) met the minimum criteria of $\geq .5$, the values range between 0.523 and 0.610 as stated in (Fornell & Larcker, 1981; Henseler et al., 2009). The discriminant validity was also achieved as the square root of the AVE is higher than the inter-correlation of each of the study's construct in relation to other hypotheses of the research model (Chin, 2010; Komiak & Benbasat, 2006) and also higher than the hypothesis correlations (Chin, 2010). It is well-judged to say that the measurement model satisfactory achieved both internal consistency reliability, convergent and discriminant validity. Thus, are effective and consistent for subsequent analyses.

Table 4.2 Assessment of the structural model and of Test of Hypothesis

R/ship	B.value	Stand.Error	T.values	P Values	Decision
INN -> EIT	0.13	0.04	2.89	0.00	Rejected
PRO -> EIT	0.37	0.05	7.23	0.00	Rejected
RTK -> EIT	0.26	0.04	6.08	0.00	Rejected

The paper studies the relevance of entrepreneurial orientation three dimensions to student's entrepreneurship intention with the reference to federal university Dutse students. The explanation and summary of the outcomes are presented in Table 4.2 the results indicated that a positive association exists between innovativeness and entrepreneurship intention of FUD students (beta value 0.13, $t.value=2.89$; $p.value= 0.00$), this reject H1. In addition, this paper discover a significant and positive relationship between proactiveness and entrepreneurship intention ($beta\ value = 0.37$; $t.\ value= 7.23$; $p.value= 0.00$) the finding also rejected H2. With regard to H3 the finding also revealed significant and positive association between Risk taking and students' entrepreneurial intention ($beta\ value = 0.26$; $t.\ value= 6.08$; $p.value= 0.00$) this also rejected the H3 which stated no significant and positive relationship between Risk taking students entrepreneurial intention. As most of studies on entrepreneurial orientation linked to firm performances this study would be among the first attempt by researchers in relating the concept to individual or students entrepreneurial intention, moreover most of researchers whose study the concept in relation to students intention study it either unidimensional or using Hierarchical Component Model (HCM) without considering individual dimensions. This is what differentiates the current study from the previous studies.

5.1 Conclusion and Policy Recommendation

This study observed the relevance of entrepreneurial orientation dimensions to students' entrepreneurship intention using FUD students as a focal point. The data obtained from final year students in 2017/2018 academic session. The findings of study revealed that entrepreneurial orientation dimensions of innovativeness, proactiveness and risk-taking are absolutely related to entrepreneurship intention. Thus, the study recommends the investigation of innovativeness, proactiveness and risk-taking using other variables as a moderator or mediator to further check the relationship particularly in studies where Human Capital Theory (HCT) served as underpinning theory. This paper contributed to the HCT by relating it to entrepreneurial orientation dimensions which to the best of the researchers' knowledge has not been established in the previous studies. The policy consequence of this study is on an importance of innovativeness, proactiveness and risk taking in youth development policies in Nigeria. The Study call for entrepreneurship educators in Nigeria to emphasize more on installing the spirit of entrepreneurial orientation in order to understand the competences infatuated by the number of Nigerian students in respect to entrepreneurship intention.

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AN ASSESSMENT OF ENTREPRENEURIAL INTENTION AMONG UNDERGRADUATES STUDENTS' OF SOME SELECTED UNIVERSITIES, IN SOUTH-WEST, NIGERIA

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Abstract

The Fourth Industrial Revolution (4IR) is designed to challenge the old order and create a new form of social relationship and one of its tools are disruptive innovations like Artificial Intelligence that are designed to cause loss of employment as a result of automation that comes with disruptive technologies. In expectation of the massive retrenchment of workers, it is highly expected that youths (students) shifts away from the old belief of educating for employment to self-employment. More so, an evaluation of unemployment in the country coupled with the adversities of poverty, crimes, corruption and all other misfortunes

deposited into the sub-Saharan African generally and Nigeria specifically make studying Entrepreneurial Intention (EI) cogent as the literature has affirmed that a high EI leads to enterprise creation. We, therefore, set out to determine the rate of EI amongst students of some selected universities in South-West, Nigeria and we laid our theoretical premise on the thesis of Theory of planned behaviour and Rational Choice Theory. The research design was exploratory in nature, while the mixed method of data collection was adopted and data were generated through 403 questionnaires and 32 IDIs' across four universities in a six-stage multi-stage sampling method. Amongst the variables that were tested, findings depicted that subjective norm is insignificantly related to EI ($r=.141$; $\beta=-.049$). We, therefore, recommended that for Nigeria to record internationally recognized disruptive entrepreneurial innovations, it need to significantly increase her students' EI and create a friendly atmosphere for the easy conduction of enterprising activities for start-ups and sustain existing businesses.

Keywords: Fourth Industrial Revolution (4IR), Disruptive Innovation, Entrepreneurship, Entrepreneurial Intention, Rational Choice Theory, South-West, Theory of Planned behaviour (TPB).

Word Count: 254.

INTRODUCTION

There is high evidence that the 21st century ushered in a new form of societal and industrial relationship that has come to displace the old form of social interactions and install a new social relationship. The Fourth Industrial Revolution (4IR) has become an overly used term in daily interactions and discussions, it arrived with a new form of societal relationships by its major tool of Artificial Intelligence (AI) and Deep/Machine Learning. Entrepreneurship was defined by Allawadi (2010) as 'the creation of five basic new combinations of introduction of a new product, a new method of production, opening a new market, conquest of new source of supply and creating a new organization". According to the definition above, the 4IR is in itself a function of entrepreneurial thoughts, as it meets the five composition of entrepreneurship as defined by Allawadi above, it has so far challenged the status quo and the old social order. Consequently, 4IR comes forth in the entrepreneurial discourse that, only innovations that causes disruptions to the old order and those that creates a new order shall be relevant to the world we presently live. The concept of Disruptive Entrepreneurial Innovation has therefore become a buzzword across the globe.

The National Bureau of Statistics (NBS) (2017), affirmed that, unemployment rate in the country has increased to 18.8% in the third quarter of 2017 from its initial rate of 16.2%, while both underemployment and unemployment is placed at 40% (18million) of

people in the Nigeria labour force; more so, this figures affects majorly the youth (15-35 years) who bears 52.65% of the total unemployment and underemployment figures. The high figures are consequent upon an economy at its early stage of post-economic recession recovery and ensured that 1.6million (52.7-51.1 million) people loosed full-time employment (NBS, 2017). Unemployment as a social problem has been described to be a cause of many social disadvantages on the Nigeria space, which include, poverty (absolute and relative), high criminal occurrence, individual psychological problems, emergence of separatist terrorist groups and underdevelopment witnessed in the country (Uddin, and Uddin, 2013; Aiyedogbon, and Ohwofasa, 2012; Chidiebere, Ilonaya, Udunze, 2014). More so, the literature affirmed that the only workable solution to the problem of unemployment is the development of entrepreneurial spirits amongst a population as it is a medium of reducing and resolving unemployment and underemployment problem, and it fosters economic growth and development (Lee, Lim, Ng Huei, Wong, 2012; Sylvia and Dayang, 2016; Nian, Bakar and Islam, 2014).

The CEO of DBS Group, Piyush Gupta affirmed that in the 4IR social structure, Artificial Intelligence shall replace the blue collar economy while Deep Learning shall displace the white collar jobs. This affirms that as the 4IR offers a displacement of the social order, more people (employed) shall be jettisoned and retrenched from the work force and this is affirmed in the labour statistics presented above. An example can be found in the banking industry, the introduction of the machines like Automated Teller Machine (ATM), Mobile and Internet Banking has ensured that more workers are laid off from the service sector as the initial order of people gathering at the banks for their banking functions has been displaced by a system such that everything that are presently done in the bank can be done on a mobile device and in one corner of a room, thereby, ensuring that banks keep on laying-off workers who are surplus to bank requirements.

In the light of the expected mass loss of work in all industries and inclusive of the agricultural sector, it is expected that a study be conducted to determine if the Nigeria populace can survive work displacements and yet create a new venture for themselves i.e. can the national population survive the 4IR economic scare? In order to evaluate this postulation, a study on entrepreneurial intention shall be conducted. Entrepreneurial Intention (EI) is the intent or thought of an individual towards being an entrepreneur. A high rate of entrepreneurship intention in an individual will translate to the creation of new enterprise (Tshikovhi, and Shambare, (2015); Ajzen (1991)). In the new social order, it is expected that,

when a person is denied working hours and remuneration from their workplace, in order to sustain themselves, it is expected that they create a means of innovative sustenance of their own.

Study Scope and Justification: This study shall make a case of entrepreneurial intention amongst undergraduates' students in the South-West geographical region of the country. The youths (undergraduates) depicts valuable and worthy study subjects in this study because they have primarily never being employed, however, after seeing their parents, neighbours, relatives and family friends losing their jobs, we believe that the intent of taking a collar job (white or blue) in the labour market should be reduced and tilt towards creating a new world of their own (entrepreneurial intention), and then, encourage the continuation and existence of the new social order such that innovative ideas that shall displace the old order be brought into the Nigeria market (disruptive innovation). The study objective is therefore to examine a combination of cognitive (personal attitude, subjective norm and perceived behavioural control) and contextual (entrepreneurship education and contextual support) factors as a prediction of entrepreneurial intent in undergraduate students in the South-West, Nigeria.

CONCEPTUAL FRAMEWORK

Relevant documented scholastic explanation has been conducted by the literature on Entrepreneurial Intention (EI). Majorly, two sets of factors have been adopted to text the existence or non-existence of EI in a study population; and can be summarized into cognitive/ personality characteristics/ intrinsic and contextual/ environmental/ extrinsic factors (Gelard and Saleh, 2010). In the study of entrepreneurial intentions, majority of authors have used different cognitions to explain EI (Elfving, Casrud and Brannback, 2009). Consequently, the literature argued that, the lone use of cognitive to study EI is to say that man can exist in a vacuum, which underplays the social impact on human existence and a further affirmation that the field of social psychology is irrelevant. Therefore, Gelard et al. (2010); Turker and Selcuk, 2009); Denanyoh, Adjei and Nyemekye (2015) adopted factors like, social structure, networks (formal and informal) and education etc. to explain EI; although, diverse results have been derived by these studies, but it was affirmed that the impact of social influences

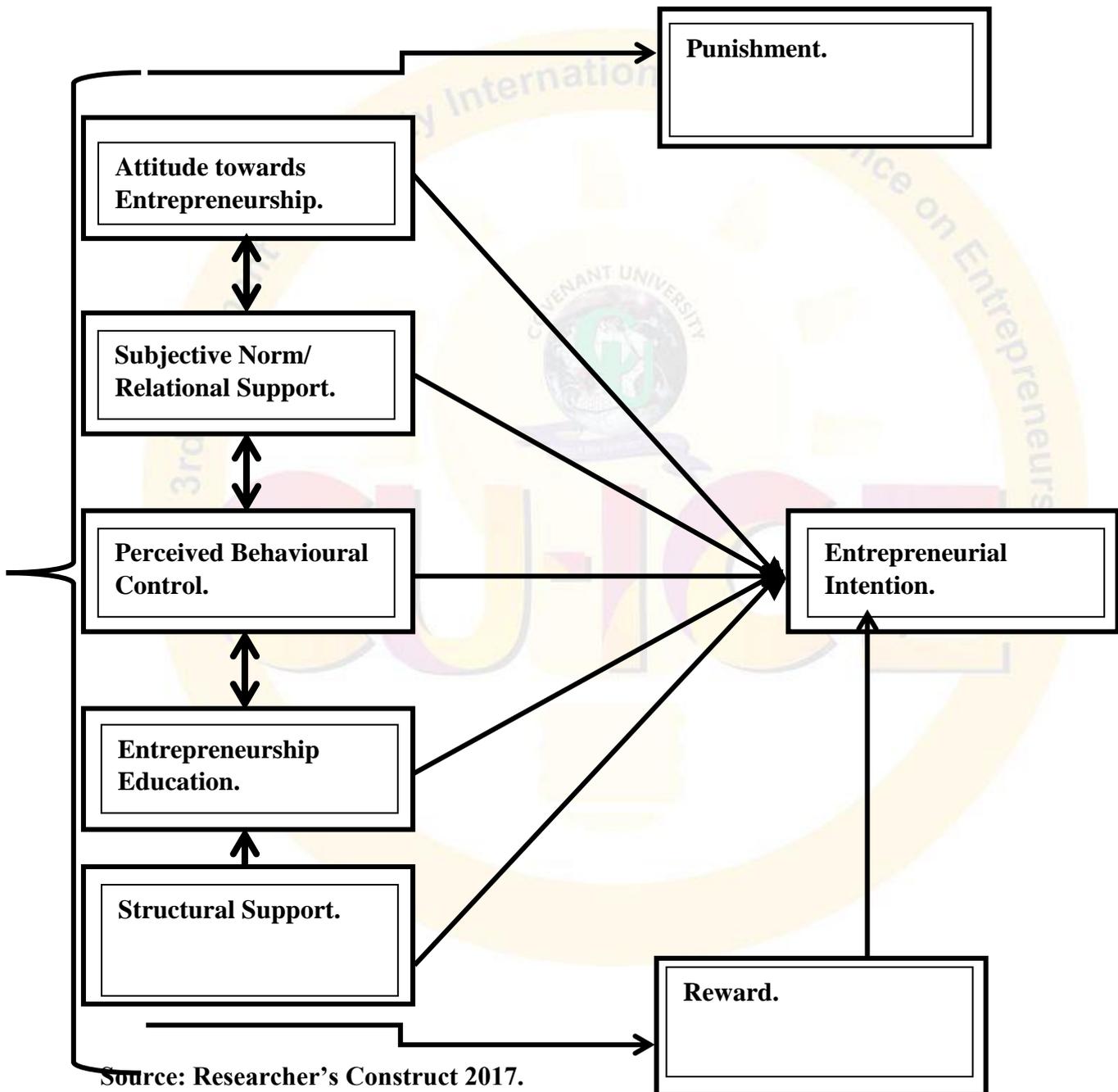
cannot be overemphasized in the decision of a man to decide on self-employment and/or create an innovation that disrupts the old order. Summarily, cognitive are internal self-developed factors that influences the decision to be self-employed i.e. personal attitude, self-efficacy/ perceived behavioural control, creativity, personal goals, self-confidence, risk-taking ability, need for achievement, locus of control and innovativeness; while contextual are extrinsic factors such as government policies, networks (formal) that instigates the decision of an individual to be self-employed.

In cognitive study of EI, the Theory of Planned Behavior (TPB) has been greatly adopted and its variables put into empirical use (Muraina, 2017; Linan and Chen, 2009; Lee et al. 2012; Sylvia and Dayang, 2016). TPB was developed by Ajzen (1991) and derived from Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975). TPB adopted three (3) variables {attitude toward the behaviour, subjective/ social norm (SN) and perceived behavioural control (PBC)} in her conceptualization of an individual to perform a behaviour, and not only limited to entrepreneurship behaviour alone. Ajzen (1991), referred attitude toward the behaviour as the extent to which a person has a positive or negative valuation towards a behaviour; SN refers to the perceived social pressure to perform or not to perform a desired behaviour and PBC describes people's perceived ease or difficulty to perform a given behaviour (Ajzen, 1991; Linan et al., 2009; Lee *et al* 2012). In TPB, PBC is adjudged to be superior as it was affirmed by Ajzen (1991), that performance of a behaviour is a joint function of intentions and PBC (Ajzen, 1991). As a general rule of the theory, the stronger the intention to engage in a behaviour, the more likely should be its performance (Ajzen, 1991). Our model shall consequently adopt all the variables of TPB as it has wide popularity in intentions studies.

Rational choice is a full fledge sociology theory that has its roots in economics (utilitarianism and game theory). RCT was informed from the works of Max Weber (1864-1920) on his concept of *Rational Action*, and James Coleman in his book, "*Foundations of Social Theory*" in 1990. RCT opines that, all action is fundamentally 'rational' in character and that people act within the information available to them and that actors usually examine the rewards, risks, punishment of any act before undertaking the act and choose the one that is more preferable to them amongst several alternatives (Scott, 2000). In our context, actors' intention is EI. It is believed that individuals calculate the reward and punishment of engaging in entrepreneurship before undertaking them. Aside the cognitive factors that influences EI, individuals consider the rewards and risks amidst entrepreneurial education

(EE) and structural support (SS) as perceived in this study before deciding to be self-employed. Therefore, we came up with the conceptual diagram above, to show variables relationship with EI.

Model 1: Entrepreneurial Intention (EI) Conceptual Framework



The conceptual framework depicts a conglomeration of all the perceived independent variables thought to influence EI to either lead to punishment or reward. It proposes that when individuals view all the independent variables as being positive and rewarding for them, it strengthens and reinforces EI which later leads to the creation of enterprise as confirmed by Ajzen (1991), and proposed by the framework by the use of an arrow that

situates to EI and vice versa as depicted by the non-use of an arrow that leads to EI in the punishment variable. A rewarding view of these variables can be seen as when individuals are optimistic about the rewards (financial & non-financial) from creating an enterprise; leading and directing the enterprise processes and humans, more so, adding their own quota to societal growth and development. A punishing view of these variables can be earmarked as when individuals are pessimistic about the risks of failure from starting an enterprise; failure of societal members to encourage or purchase the products produced from the enterprise and also the fear of recording massive loss that can lead to bankruptcy and retrogressive personal development.

Hypothesis: Consequent upon the explanations given below, the study shall adopt inferential statistics tools to test the following hypothesis:

1. There is no significant relationship between personal attitude (PA) and entrepreneurial intention.
2. There is no significant relationship between subjective norm (SN) and entrepreneurial intention.
3. There is no significant relationship between perceived behavioural control (PBC) and entrepreneurial intention.
4. There is no significant relationship between entrepreneurship education (EE) and entrepreneurial intention.
5. There is no significant relationship between structural support (SS) and entrepreneurial intention.
6. There is no significant relationship between PA, SN, PBC, EE & SS and EI.

METHODOLOGY

Research Design: The study adopted an exploratory survey (mixed method) research method. A combination of quantitative (questionnaire) and qualitative (In-depth Interview {IDI}) were adopted.

Study Area & Population: The study area was South-West, Nigeria which comprised of six (6) states: Ogun, Oyo, Osun, Ondo, Lagos and Ekiti. The study population are the

undergraduate students of selected universities which shall be explained in the sampling mechanism.

Sampling Mechanism: The study adopted probability and non-probability sampling. Different sampling mechanism was adopted in the selection of universities and sample units. The encapsulating and major sampling in the selection of university was a random multi-stage sampling (six-stage) while other sampling methods were also adopted as explained below:

1. Amongst the six states in South-West, Nigeria, three (3) states were simple randomly selected through ballot simple random sampling. Therefore, Ogun, Lagos and Oyo were simple randomly selected.
2. The three cadres of universities in Nigeria (Public {Federal and State} and Private universities were considered.
3. The data presented by the Joint Admission and Matriculation Board (JAMB) depicts that 10, 4 and 3 universities are valid for selection from Ogun, Lagos and Oyo respectively after having their establishment before 2015 (decision explained in selection of participants).
4. Amongst the 17 universities that were valid for selection, 4 universities were purposively selected. The purposes are as a result that, the 4 universities academic calendar are still running as at the collection of data and being high-profiled schools.
5. The quota (proportional) sampling was used to select the universities between the 3 randomly selected states. 2 (State Public and Private), 1 (Private) and 1 (Federal Public) universities were proportionally selected from Ogun, Lagos and Oyo state respectively.
6. Olabisi Onabanjo University (OOU) and Covenant University (CU) were purposively selected from Ogun state, while Caleb and University of Ibadan (UI) were also purposively selected from Lagos and Oyo respectively.

Before administering research instruments on respondents, they must meet the two (2) purposes below:

- 4 Respondents must have at most 2 years to graduate from the university (present year inclusive) because they are those believed to be in their critical stage to decide their future career path on whether to be self-employed or employed. The rationale behind this was depicted in (Ahmed, Nawaz, Ahmad, Shaukat, Usman, Rehman, Ahmed 2010; Lee *et al.*, 2012).
- 5 Respondent must have offered a course on entrepreneurship (theory and practical class) as speculated as a requirement by National Universities Commission (NUC).

Instrumentation: The 25-45 minutes' in-depth interview (IDI) had 32 IDIs' conducted in all study areas; while the questionnaires were presented in Likert Scale format and answered between 7–12 minutes, while the research instruments were collected concurrently between 8 working days. 414 questionnaires were distributed while 403 were valid for programming. The questionnaire was pilot tested with 30 questionnaires in order to ensure its validity and reliability to meet the research objectives accurately. The results of the pilot study are shown below:

Table 1: Summary of Cronbach Alpha Reliability Statistics

S/N.	Constructs	Cronbach's Alpha	Number of Items	Number of respondents
1.	Personal Attitude	0.885	6	30
2.	Subjective Norm	0.793	3	30
3.	PBC	0.477	5	30
4.	EE	0.871	5	30
5.	Structural Support	0.627	7	30
6.	EI	0.694	7	30

Source: Researcher's Construct' 2017.

Data Analysis: analysis would be conducted via SPSS (20). Descriptive statistics such as mean and mode shall be depicted, while, inferential statistics in Spearman correlation coefficient and regression analysis shall be utilized for testing our hypothesis.

Ethics: Participation in the study was strictly based on the consent and free-will of the respondents. Respondents and participants were also assured of confidentiality and anonymity of their choices in providing answers in the research instrument.

RESULTS

Below is a description of the socio- demographic characteristics of the sampled respondents.

Table 2: Frequency and percentage distribution of Respondents' Socio-Demographic Characteristics

Socio-Demographic Variables	Frequency (N)	Percentage {%}
Age		
15 – 19 years	86	21.3
20 – 24 years	254	63
25 – 29 years	58	14.4
29 years and above	5	1.2
Total	403	100%
Sex		
Male	192	47.6
Female	211	52.4
Religion		
Islam	67	16.7
Christianity	327	81.3
Traditional African Religion	8	2.2
Universities		
Caleb University	97	24.1
Covenant University	98	24.3
Olabisi Onabanjo University	100	24.8

University of Ibadan	108	26.8
Faculty/ College		
Social and Management Sciences (SMS)	195	48.4
Education	41	10.2
Law	23	5.7
Science and Technology	57	14.1
Arts	25	6.2
Agriculture and Forestry	18	4.5
Engineering and Environmental Sciences	44	10.9
Level		
300 Level	156	38.7
400 Level	202	50.1
500 Level	37	9.2
Others Specify	8	2.0

Source: Researcher's Field Result, 2017.

Table 3: Central Tendency of Entrepreneurial Intention.

S/N	STATEMENTS	SD	D	I	A	SA	MEAN	RANK
•	I prefer to be my own boss than to be an employee in a company.	9 2.2%	17 4.2%	40 9.9%	135 33.5%	202 50.1%	4.25	2
•	I'm determined to create a business in the future.	3 0.7%	8 2.0%	44 10.9%	151 37.5%	197 48.9%	4.32	1
•	I would dedicate my life to establishing a new business even if family and friends are against it.	10 2.5%	31 7.7%	64 15.9%	156 38.7%	142 35.2%	3.97	5
•	I can only make big money if I am self-employed.	37 9.2%	64 15.9%	77 19.1%	115 28.5%	110 27.3%	3.49	7

• I'm expecting the challenge of creating a new business.	7 1.7%	20 5.0%	67 16.6%	198 49.1%	111 27.5%	3.96	6
• Even if am working as an employee in another business, I will still create a business of my own.	7 1.7%	9 2.2%	43 10.7%	176 43.7%	168 41.7%	4.21	4
• Even if I launch new ventures and fail many times, I will keep on trying until I succeed.	5 1.2%	14 3.5%	44 10.9%	162 40.2%	178 44.2%	4.23	3

Source: Researcher's Field Survey Result, 2017.

The questions had a bi-modal score; while Question 1, 2 and 7 had a modal score of 5; question 3, 4, 5 and 6 have their mode as 4. It therefore translates that a majority of the respondents agreed and strongly agreed to the questions, which were asked in positive forms. It can be inferred that a majority of the respondents have good intentions to becoming entrepreneurs according to the central point of location analysis presented above.

Hypothesis Testing

Spearman Ranking Correlation Coefficient would be adopted as it is a non-parametric test and a distribution free statistics which does not require that the data to fit a normal distribution (Muraina, 2017). The larger the correlation coefficient (r), the stronger the level of relationship and it can either be positive or negative relationship depending on the direction of the relationship between variables.

Table 4: Spearman Correlation Coefficient Analysis between Independent Variables and EI.

Independent Variables		Entrepreneurial Intention
Personal Attitude	Correlation Coefficient	.414**
Spearman Ranking Correlation Coefficient	Sig. (2-tailed)	.000
	N	403
Subjective Norm	Correlation Coefficient	.141**
Spearman Ranking Correlation Coefficient	Sig. (2-tailed)	.005
	N	402

Perceived Behavioural Control	Correlation Coefficient	.374**
Spearman Ranking Correlation Coefficient	Sig. (2-tailed)	.000
	N	403
Entrepreneurship Education	Correlation Coefficient	.273**
Spearman Ranking Correlation Coefficient	Sig. (2-tailed)	.000
	N	403
Structural Support	Correlation Coefficient	.328**
Spearman Ranking Correlation Coefficient	Sig. (2-tailed)	.000
	N	403

Source: Researcher's Field Survey Result, 2017.

From the result depicted above, it can be inferred that all of the variables have positive relationship with EI, however, their level of relationship differs, while, PA has a moderate relationship, PBC, SS and EE has a small but definite relationship and SN has a slight and almost negligible relationship with EI. It can therefore be inferred from the developed hypothesis that the null hypothesis for hypotheses 1, 3, 4 and 5 would be rejected and their alternative hypothesis accepted; while, null hypothesis 2 would be accepted. We can therefore say that there is significant relationship between personal attitude (PA), perceived behavioural control (PBC), entrepreneurship education (EE), structural support (SS) and Entrepreneurial Intention (EI). However, there is no significant relationship between social/subjective norm (SN) and EI.

Table 5: Summary of the Central Tendency and Spearman Correlation Coefficient of the Independent Variables of Entrepreneurial Intention.

INDEPENDENT VARIABLE	MEAN SCORE	CORRELATION COEFFICIENT	RANKING \bar{X}		ADDITION r
Personal Attitude	4.17	0.414	1	1	2 – 1 st
Subjective Norm	3.55	0.141	4	5	9 – 5 th
Perceived Behavioural Control	3.81	0.374	3	2	5 – 2 nd
Entrepreneurship Education	3.85	0.273	2	4	6 – 3 rd
Structural Support	3.40	0.328	5	3	8 – 4 th

Source: Researcher's Field Survey Result, 2017.

The table depicts that PA is the best predictor of EI, followed by PBC, EE, SS and SN respectively according to the gathered data. The interpretation is that EI is more intrinsic than extrinsic as a result of the high scores of the intrinsic factors (PA & PBC). The weak ranking of the SS can probably be as a result of the bad, weak, and corrupt structure (educational, political, economy, financial, law, governmental etc.) in the country. The EE scores was however surprising, because, despite the appalling educational system in Nigeria, EE was able to rank third in the average and correlational ranking above. SN scores had the least ranking and this is juxtaposed by its correlation result which affirmed a non-significant relationship between SN and EI. In conclusion, all the variables depict good association with EI as they amassed a minimum mean of 3.40 out of a total of 5, and a maximum of 4.17. We can therefore say that undergraduate students' in South-West, Nigeria have sound EI.

The fact above can be forwarded by presenting original speeches from some of the interviews conducted as asked that "1. Do you have intention to become an entrepreneur in the future? is the intention primary or secondary? 2. If you launch a business and it fails, would you still continue to trying until you succeed? Why? b. when will it exhaust you?"

'Yes, Primary throughout my life. I already failed in Network Marketing due to high exchange rate and also in trading cloth due to debts and decrease in academic performance before my present catering and Exportation of food items. I can only stop entrepreneurship business when I lose my breadth'

Interviewee 1/ IDI/ UI/ 22/ Female/ Single/ Igbo/ Social Science/ Political Science/ 300 L/ 1st Child.

'Yes, Primary intention. A key to ventures and enterprises is consistency and when you are consistent even with failures and challenges, you are good to go. I don't even think I've failed so so so amount of times, I've only learnt 50 ways of how not to do that thing again and how it is not working.'

Interviewee 12/ IDI/ CU/ 19/ Male/ Single/ Igbo/ Christian/ Engineering/ Electrical Electronics/ 500 L/ 4th Child.

'I will make it as a side job. I won't stop because I have passion for it but if my passion reduces, I will try and walk to other alternatives but if I don't lose passion in it, no way.'

Interviewee 23/ IDI/ Caleb/ 19/ Female/ Single/ Yoruba/ Christian/ Science & Technology/ Computer Science/ 400 L/ 1st Child.

'Uhhn, Primary and Secondary but I will only work in other people or government businesses for some time in order to acquire fund for my own business for maybe 10years then, I will now settle only on my business. We were taught in GNS 203 about a scholar named Leibenstein, 'Once you fail, you can

always rise and change to other businesses’, but at the 10th time I would stop entrepreneurship businesses altogether’

Interviewee 31/ IDI/ OOU/ 26/ Male/ Married/ Yoruba/ Muslim/ Arts/ History and Diplomatic Studies/ 400 L/ 2nd Child.

Generally, most of the interviewees reported to have secondary intention on creating their own personal businesses. Some reported that they would work in other peoples’ businesses for some time in order to acquire funds for the development of their own businesses. Almost all the interviewees also reported that failure in a business is not a limitation factor and that they would keep trying until they are successful while some few ones’ said that they would change to other line of businesses but would never stop. We can conclude that students’ in the study region have strong and sound EI.

Multiple Regression Analysis

The multiple regression will be utilized to explain the part that the independent variables explains or accounts for in the dependent variable. In this study, independent variables (PA, SN, PBC, EE & SS) are entered into the same regression equation (multiple regression) to predict whether there is any significant relationship with EI.

Table 6: Model Summary of Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.516 ^a	.266	.257	.693

- Predictors: (Constant), PA, SN, PBC, EE & SS.
- Dependent Variable: Entrepreneurial Intention
- **Source: *Researcher’s Field Survey Result, 2017.***

The table above depicts how much of the variance in the dependent variable is explained by the independent variables. The R² offers 0.266 and expressed in percentage as 26.6%. This represents that PA, SN, PBC, EE & SS accounts for only 26.6% of EI, thereby leaving, 73.4% explained by other contextual and cognitive factor.

Table 7: ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
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1	Regression	69.056	5	13.811	28.757	.000 ^b
	Residual	190.188	396	.480		
	Total	259.244	401			

5 Dependent Variable: Entrepreneurial Intention

6 Predictors: (Constant), PA, SN, PBC, EE & SS.

7 **Source: Researcher's Field Survey Result, 2017.**

Hypothesis 6: H₀: There is no significant relationship between PA, SN, PBC, EE & SS and EI.

The table depicts that F-ratio value is 28.757 significant at 0.000 and the Degree of Freedom is 5, then we can reject the H₀ since the tabulated statistics is lower than the F value. This implies that the overall regression model for these five predictors (PA, SN, PBC, EE & SS) has significantly explained the variation in entrepreneurial intention.

Table 8: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error			
(Constant)	1.793	.224		8.007	.000
PA	.221	.043	.253	5.097	.000
SN	-.049	.035	-.068	-1.427	.154
PBC	.149	.044	.168	3.408	.001
EE	.097	.034	.129	2.825	.005
SS	.192	.042	.222	4.532	.000

a) Dependent Variable: Entrepreneurial Intention

b) **Source: Researcher's Field Survey Result, 2017.**

Based on Table 4.4.3.3, the regression equation for EI is:

$$EI = 1.793 + 0.221(PA) + (-0.049)(SN) + 0.149(PBC) + 0.097(EE) + 0.192(SS)$$

According to the equation above, PA, PBC, EE and SS have positive and significant relationship with EI, while, SN has a negative relationship with EI due to the negative 0.049.

PA is the predictor variables that contribute the highest to the variation of the EI with a β of 0.221.

DISCUSSION OF FINDINGS

Five independent variables were adopted to test the EI of the undergraduate students' in South-West, Nigeria. The first Variable Personal Attitude (PA) was a sound predictor of EI. The measures of location and correlation result were positive with EI and the variable ranked first in all of the statistical tools and also depicted a good explanation of EI in the regression analysis and its Beta value depicted high. The finding aligns with the result of Lee *et al.* (2012), Sylvia *et al.* (2016), Iqbal, Melhem and Kokash (n.d.), Linan *et al.* (2009). Generally, most EI studies have reported good relationship between PA and EI (Muraina, 2017).

The second variable Subjective/Social Norm (SN) has mixed result as a predictor of EI. The descriptive statistics ranked 4th, although, the question has a mode of 4 (most respondents agreed to the impact of friends and relatives on the development of entrepreneurial spirits), but, the correlation analysis depicts little relationship with EI and therefore, was translated to be an insignificant means to an end to EI. The regression analysis also shows negative relationship with EI. We can therefore conclude that, there is positive relationship between SN and EI as the correlation results depicts positive, however, there is no significant relationship between SN and EI among undergraduate students' in South-West, Nigeria i.e. SN do not influence the development of innovative thoughts in the study area, but it can influence somewhere else. This result is in tandem with the findings of Iqbal *et al.* (n.d.), and Linan *et al.* (2009), however it antagonizes the findings of Lee *et al.* (2012) while some studies ignored SN in their studies probably due to its laxity, inconsistency and mixed results in explaining EI i.e. Kadir, Salim, Kamarudin, and Melaka (n.d.). Results here can further be buttressed by the writings of the popular motivational writer and speaker – Robert Kiyosaki, who has on several occasions reported that, the norm in the society amongst friends and families, is that, an individual should go to school, pass examinations, come out with good grades and seek for juicy employment in the labour market; this can be vividly seen in most social systems inclusive of Nigeria and can explain the low influence of SN on EI.

Perceived Behavioural Control (PBC) findings depict valid association and prediction of EI. The central tendency tables show high scores and ranked 2nd between all the independent variables, PBC also ranked 3rd amongst all the independent factors in the correlation analysis. The regression analysis also depicted good association with EI as the beta value was positive. The findings align with the results of Lee *et al.* (2012), Linan *et al.* (2009), Sylvia *et al.* (2016), Iqbal *et al.* (n.d.) etc. Most studies have also reported a good association and relationship between PBC and EI. It can therefore be affirmed that when

individual perceive a behaviour to be favourable, rewarding and easy in execution, they go on to exhibit the behaviour.

TPB by Ajzen (1991) utilized three (3) variables and all were adopted in this study, we can therefore correctly say that, TPB is a valid explanation of intentional studies, and specifically, EI researches. The intentional theory states that, '*the stronger the intention to engage in a behaviour, the more likely should be its performance*'. Therefore, since two variables (PA & PBC) out of the are valid precursors to EI except SN which has insignificant relationship with EI, we can conclude half-way that there is TPB is rewarding and can instigate entrepreneurial intentions in students.

Entrepreneurship Education (EE) also depicts good relationship with EI with the utilization of all the statistical tools. EE measures of central tendency ranked 2nd while its' correlation score was 4th, but yet significant with EI. The Beta value of EE in the regression of analysis was also positive. The result relates and associates well with the findings of Kadir *et al.* (n.d.), Denanyoh *et al.* (2015), Lee *et al.* (2012) but in opposition with the report of Sylvia *et al.* (2016), Ahmed *et al.* (2010). The importance of EE in reality cannot be overemphasized and can be a reason for its broad compulsory teaching in tertiary and secondary institutions starting from the 2007/2008 academic session according to a directive from National Universities Commission (NUC).

The last independent variable adopted is SS and also depicts a positive relationship with EI. The independent variable ranked 5th in the measures of location, though the respondents' that agreed to the constructs under this independent variable are more than those that disagreed. The 5th rank in the measures of central tendency was atoned by 3rd position in the correlation analysis, the Beta value was also positive and therefore affirms that, when the structure supports undergraduate students', undergraduates tends to possess EI and therefore leads to the creation of businesses in the country. The finding aligns with Denanyoh *et al.* (2015) while it agonizes the report of Sylvia *et al.* (2016).

The dependent variable - EI seems to be in good shape, as amongst the 5 independent variables that was tested, 4 variables are positive and therefore ensured that the undergraduates' in South-West, Nigeria have a sound, positive and significant EI by all standards and statistical measurement. More so, the hypothesis further affirmed this assertion, as we recorded a significant relationship between all the independent variables tested and EI. The sound EI recorded in this study can be explained by the Global Entrepreneurship Report (GER) (2012). The report recorded that Total Early-Stage Entrepreneurial activity (TEA) in Nigeria is 35% while Perceived Opportunity and Perceived Capability in the country are

respectively 82 and 88%. Salami (2013), polarized entrepreneurship into opportunity and necessity based entrepreneurship. The GER (2012), affirmed that, there are massive entrepreneurship opportunities (82%) in the Nigeria structure, that need to be tapped and developed. With the clear depictions of these opportunities, it is 'normal' that students have sound and valid EI.

CONCLUSION AND RECOMMENDATION

Based on the results of the finding and the information gathered, this study concludes that the undergraduate students' in South-West, Nigeria has sound EI. Five variables were tested and all the variables depicted good relationship with EI except SN. These five independent variables were individually tested in a Hypothesis and all but SN has its Null Hypothesis rejected and the Alternate Hypothesis accepted. All the independent variables were also combined into a multiple regression equation and we affirmed that there is significant relationship between the variables and EI.

TPB also depicted to be a good explanation of the topic under discussion, likewise, the Rational Choice Theory. Undergraduates students' by relying on the positive image possessed by existing entrepreneurs (Aliko Dangote, Femi Otedola and co) with the creativity, innovation, uniqueness and invention that comes with business creation, it therefore lured them to have sound EI. Although, Business creation however also have its' bad side especially the difficulty experienced in starting and marketing goods/ services and acquiring patronization, the positives were still able to supersedes the negativities especially by looking at the huge population that can purchase from you if your business is disruptive which can transform into large amount of profit or surplus value as used by Karl Marx.

Useful recommendations' based on the findings of the study are listed as follows:

1. There should be family sensitization on media houses that, family and friends should change their orientation that students' are educated to seek for jobs, rather than maximize opportunities and create employment.
2. The EE in the educational institution should be hinged on teaching the students' on how to develop entrepreneurial projects', proposals', or a work-plan as it was a major constraint highlighted by the respondents. It should also positive cognitive and personality characteristics in students'.

3. Qualified consultants and support services for new and emerging entrepreneurs should be made available by the government at different and accessible locations in order to encourage the creation of business
4. All the interviewees were specific about the high interest, inflation and exchange rate in the country, the government should ensure that a solution is proffered to this problem.
5. Laws, policies, regulations and rules on entrepreneurs should be very lax in order to encourage the creation of business and therefore reduce the problem of unemployment.
6. The large extent of relying on collaterals to acquire loans should be reduced so that other forms of securities are used by the citizenry especially students to acquire easily accessible loans.

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RECONCEPTUALISING CONFLICT MANAGEMENT IN HIGHER EDUCATION: SCALE DEVELOPMENT

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Abstract

Conflict is said to be ubiquitous, meaning it is found everywhere there is an existence of human relationships. The differences in views among people or organisations can result to group competition on scarce resources, goal attainment, ideas generation, value creation and motives that may eventually reflect elements of conflict within the organisation. For disruptive innovation to take place in an institutional environment, also conflict is inevitable. However, there are conflicting views among scholars as regards the management of conflict in an enterprise especially higher education institutions. While some scholars considered conflict management as the same as conflict resolution strategies, few scholars opined that conflict could be managed through the basic functions of management such as planning, organising as well as controlling. This study draws its strength from the second school of thought as well as from dual concept theory. Extant literature were systematically reviewed and relevant concepts were reappraised and discussed. For the purpose of developing a measuring scale in this regard, interviews were conducted and the developed questionnaire was assessed by experts in the field. The necessary psychometric values were ascertained through the aid of SPSS. This study has contributed to the body of knowledge by providing a handy measuring scale for

he future researchers in the area of conflict management. The study recommends that management of an enterprise and that of higher education institutions must plan and put structures in place that will help to control conflict and harness the possible benefits of conflict for disruptive innovation.

KEYWORDS: *Conflict, Conflict Management, Higher Education and Scale Creation.*

1 Introduction

Meaning of concept

Organisation is the combination of group of individuals in various units who comes together to perform a task to achieve the organisational goals and objectives. An example of an organisation is the university otherwise called higher education in this context. Individuals from various beliefs, cultural background and ethics comes together under the same body of higher education and they interact with one another as social beings. Due to these differences, some individuals will never accept other person's opinion, some will even agitate within themselves. The interaction among these individuals or groups brings about disagreements in one way or the other which can results into grievances that may leads to conflict. The outcome of such conflicts can be negative which may affect the objectivity of the university or positive that may results to good performance of individuals or groups in the higher education institution. Conflicts cannot be prevented among any classification of human beings, but for tasks to be done in the institutions, measures on how conflicts can be minimised or resolved must be put in place by the management in higher education. Conflict is said to ubiquitous meaning it is found everywhere there is human relationship. Cross, Nenes and Beck (1976); Omisore and Ashimi (2014) defines conflict as "differences between and among individual." The differences gives rise to conflicts on goals, resources, ideas, values and motives. According to Folgers and Shubert (1995) cited in Fareo and Jajua (2018) colleges and universities are no longer seen as quiet enclosure free from conflicts that arises in all hierarchical organisational differences in goals or plans for the allocation of resources, misinterpretation or inconsistent application of instrumental regulations; breach of formal and informal contract, power struggles and personal antagonisms are all possible source of conflict.. Higher education is considered a learning organisation (Warkins & Marrsick, 1993; Igbino, Osibanjo & Salau (2016). On the other, scale creation according to Tay and Jebb (2017) is a process of developing a reliable and valid measures of a construct in other to assess an attribute of interest. They further explained that industrial organisational research involves the measurement of organizational and psychological construct which present unique challenges because they are generally unobservable. They cited examples like work attitudes, perception and personal traits. Unlike the observable characteristics like height, precipitation and velocity. Tay and Jebb (2017) added that unobservable constructs cannot be measured directly and must be assessed through indirect means such as self-report. Therefore, scale creation process is adopted for the study of conflict management in higher education as the construct of this depicts.

Characteristics of educational Services

Educational organisations are different from manufacturing organisations as they offer services which is strictly educational services (Keczer, 2014). Education is a service (Keczer, 2014; Kalenskaya, Gafirov & Novenkova, 2013). Furthermore, a service is an activity to performance offer to another and performance is intangible and does not entail the ownership of the resources of production. Service is therefore a business activity that create value and provide advantages to customer. Educational service is an example of a professional service. Gibbs & Maringe, (2008) cited in Kalenskaya, Gafirov & Novenkova, 2013) added that education is in a service sector that is characterised by intangibility, inseparability, heterogeneity and perishability. It is said to fulfilling the need for learning, acquiring knowledge-providing an intangible service (increment in knowledge, professional expertise, skills) produced with the tangible (structure) and intangible components (faculty expertise and learning) where the buyer of the service does not get any ownership.

Educational service is mutual service between the organisational management and the client. The author further stated the characteristics of educational services as it must comply with the principles of management service as it must make profit from the quality perceived by the client; prompt decision making; organisational culture must focus on efficiency and must be flexible; quality and performance with strict adherence to directives; the basis of performance and appraisal must be based on client satisfaction. In addition to these, the author enlist Henry Mintzberg five structural characteristics of organisation, they includes: simple structure; machine bureaucracy; professional bureaucracy; adhocracy; and division structure.

Overview of the Theory

The Dual Concern Theory

Dual concern theory is a theory that is applicable to conflict management at work as the name implies and most researchers are using (De Dreu, Evers, Beersma & Kluwer, 2001). Conflict is managed by the victims through conflict management says Van De Vilet, 1977; 646. The duality of the theory shows that there are practically two entities involved and consideration must be given to both. Studies by Puritt & Rubin (1986) shows that researches and theories seems to arrive at Dual Concern Theory. Deutsch (1973) indicates similarities between Dual Concern Theory and the work of Blake and Mouton (1964) and Deutsch Theory of Cooperation and Competition (Deutsch, 1973). It argues that conflict management is high or low concern for self and high or low concern for others. The resultant of these processes can either be forcing, yielding, avoiding or problem solving. Forcing is when there is high concern for self and low concern for others; Yielding is experienced when there is low concern for self and high concern for others; Avoiding is when there is low concern for both self and others and problem solving is a situation of high concern for self and others.

De Dreu et al (2001) shows the acceptance of Dual Concern Theory in organisational research by different authors; Blake and Mouton (1964); Thomas (1992); Van de Vliert (1997). Also social psychology researchers support this theory (Carnavvale & Puritt, 1992; De Dreu et al, 2000).

2. Conceptual Development

Concept of Conflict

According to Mukoro (2013) conflict means disagreement, strife, discord, hostility occurring in any human organisation. Coser (1967); Omisore and Ashimi (2014) says conflict is a struggle over values and claims to scarce status, power and resources in which the aims of the opponents are to neutralize, injure or eliminate the rivals. Fareo and Jajua (2018) says conflict is when two or more values, perspectives and opinions are contradictory in nature and have not been aligned or agreed to, including; within oneself when one is not living according to one's value; when values and perspectives are threatened; or discomfort from fear of the unknown or lack of fulfilment. Conflict is a positive force and necessary for effective performance (Robin, 1998; Ndum & Okey, 2013). This definition challenge the status-quo that usually result to positive performance.

Types of Conflict

Literature review shows different classifications of conflict and each categories exemplified the basis of their groupings but all are the same meaning; negative or positive (Haas, 1999; Igbinoba, 2016); intra-personal, inter-personal, intra-group, inter-group (Martin, 2001; Oladele & Arogundade, 2013; Ndum & Okey, 2013); subordinate, superordinate and lateral conflicts (Ndum & Okey, 2013), the classification is based on hierarchy; destructive or constructive (Donovan, 1993; Igbinoba, 2016). The adopted classification for this research includes the classification by Mukoro (2013) which includes;

Functional Conflict: According to Igbinoba (2016) conflict is considered functional if its result to positive effects. This means all parties channelled their energies positively towards good performance.

Functional conflict stimulates problem solving, innovation and creativity and positive impact on employees and the organisation. It also support the goal of the organisation and its performance by encouraging greater work effort among employees (Bankovskaya, 2012; Igbino, 2016).

Dysfunctional Conflict: According to Starks (2006) and Igbino (2016) “any conflicts that are not managed appropriately can degenerate to dysfunctional conflict.” Dysfunctional conflict is associated with negative energy. Conversely, there are precise triggers of dysfunctional conflict which include dysfunctional teams, stress, systems problems, favouritism, warring egos, heavy workload, unclear job requirements, a culture that is disabling and disempowering, stifling bureaucracy and abhorrent people. To avoid increases in negative key performance indicators and decreases in positive key performance indicators, dysfunctional conflict must be resolved expeditiously (Igbino, 2016). Ibukun (1997); Olaleye and Arogundade (2013) added that conflict can be dysfunctional if mismanaged, it may be desirable to the nature of change and a minimal level of conflict is optimal

Causes of Conflicts

Various factors and conditions have been identified as causes of conflicts in organisations. Some of these are explained based on their classification and categorisation by Mukoro (2013).

Communication Barrier: Communication is a process of sending message from a sender to a receiver. Communication process is only completed if the receiver on the other end is able to receive and interpret the message for the purpose it was sent, if not it becomes a noise. Organisations have several messages to be communicated to their employees through mails, memos, intergroup, intragroup, meetings, policies, regulations to mention few, if all of these information are not properly disseminated it will always result to conflict. Barriers are created in the communication links in organisations if there are interference like wrong perception, ambiguity in communication, poor communication, and total absence of information or feedback mechanism (Mukoro, 2013) in the communication media adopted in such organisational environment.

Situational Factors/ Issues: The situation at hand in educational institution can warrant conflict if not properly managed. Causes of conflict due to unresolved issues are traceable to conflicts because conflict undergoes different levels of processes which includes grievance, grift and conflict. Olagunju (1999) and Mukoro (2013) says conflict is a dynamic process which involves latent, perceived, felt, manifest and aftermath. All of these stage are attributed with different signals that might be visible or invisible to the parties involved.

Management Style: The style of the management can play a major role in conflict or conflict management. An authoritarian manager will dictate and control without putting the employees into consideration. This means that the employees does not have a say in decision making or contribute to development strategy of such organisation. This type of management make unilateral decisions. Examples are found in most private educational institutions. Management style is crucial to the psychological contract of the employees of an organisation. The McGregor’s X-Y theory also explains the choice of management style and it relationship with the psychological behaviour of the employees. Studies carried out by Haji Mohammed and Mohammed Nor (2013) reviewed that the Douglas McGregor in 1960 proposed two types of managers; These includes the “Theory X” managers who perceives that employees are lazy and need to be closely monitored with comprehensive control system. On the other hand, the “Theory Y” managers assumes that employees are ambitious, enjoy work and productive when given time to perform. In conclusion, Theory X managers are negative and this mind-set and can bring about conflicts. “Theory Y” managers are positive and allow participatory and democratic leadership style that fulfil the psychological contract of employees that prevent conflicts since decisions are usually made collectively.

Value Conflict: According to Mukoro (2013) divergent in value and interest among the various individuals and groups within the tertiary institutions can lead to conflict.

2.1 Theory

Dual concept theory is adopted in this study. Though, there are other theories of conflict management but dual concept is preferred for this study because the goal of the institution concerned is the same and it is a study of conflict management between the university management and the staff (academic and non-academic). Also, the research adopts scale development that tries to measure the variables used in the instrument for data collection.

2.1.1 Relationship between Dual Concern Theory and the Research Paper

The Dual Concern Theory of conflict management was adopted in this research work since data was collected from employees of a Higher education institution to explore how conflict can be managed in the academic environment putting into consideration the interest of the organisation and the human capacity of the business entity as their interest should be a concern to the establishment. The organisation provides job opportunity to individuals to earn their livelihood and in return the individual staff or employees of the same organisation must abide by the policies, regulations and conducts of the educational institution to promote productivity and good performance that results to profitability from client satisfaction of the service offered to them. The theory juxtaposed the interest of both parties involved. It guides the attitude and behaviour of employees among their groups, teams or interaction between two individuals in the same organisation which helps minimise conflict in the system.

2.1.2 Contribution of study to Dual Concern Theory

This study examined conflict management using Dual Concern Theory which has brought about the identification of management functions as variables in measuring higher education in this paper. It implies, conflicts can actually be controlled strategically from onset of the establishment of management of an organisation. Variables like Planning, Organising and Control can contain some precautions on how conflict can be prevented in such institution. The contents of the policies would have indicated punishments accrued to certain offence; proper planning of an organisation can also prevent conflict if it is properly laid out. Also, control measures that can as well prevent same. The availability of these variables with the required contents like management by objectives, discipline, punishment, motivation, reward system, appraisal, sanction, job description and so on can result into proper conflict management. Conflict management styles or strategies includes avoidance, yielding, forcing and problem solving.

2.2 Conflict Management

According to Bercovitch (n.d) conflict management in organisations varied with its causes, origin and contexts. Conflict affects the entire structure and results to negative effects like hostility and use of violence that can be destructive in nature. Managing conflict effectively involves minimising disruptions stemming from the existence of a conflict and providing solution that is satisfactory and acceptable. Different researchers propound various theories for conflict management in different dimensions.

2.3 Conflict Management Measures

Conflict management theory is used interchangeably as conflict management style which describes individual behaviour orientation (Rahim, 2002; Igbino, 2016). According to Igbino (2016) conflict management style is defined by Hocker and Wilmot (2011) as “patterned responses or cluster of behaviours the people use in conflict”. Riaz, Zulkifal and Jamal (2012) says the concept of conflict management is said to have its roots in organisational research and social psychology. The different theories include the under listed as stated by Igbino (2016).

Mary Parker Follett (1940) Conflict Theory: According to Igbino (2016), the theory suggests five ways of resolving conflicts which include compromise, integration, domination, suppression and avoidance. In domination, there is tendency for individual to override the other individual. The parties in compromising style tends to tolerate each other to arrive at solution, though people do not like giving up any of their concern. Integrating styles requires parties reaching a solution which will be beneficial and desirable to them.

Robert R. Blake and Jane Mouton (1964) Managerial Grid Theory: Conceptual scheme for interpersonal conflicts handling styles were first presented by Blake and Mouton (1964) , they presented two dimensional grids of concern for people and concern for production and further divided into five; forcing, withdrawing, smoothing, compromising and problem solving. The models are based on the attitude of the manager.

Thomas, K.W. (1976): Thomas (1976) identifies five different conflict handling styles based on the two dimensions propounded by Blake and Mouton, thereby reinterpreting Blake and Mouton's scheme. This was done in consideration of party for assertion which means an individual attempts to satisfy his needs or concern above other. Cooperation on the other hand measures the extent to which individual attempts to satisfy the needs or concern of others above his own. The two dimensions are further divided into five conflict styles;

- i. **Competing:** This is a “win-lose” approach. The parties involved tends to have low concern for others by seeking one’s own concerns at the expense of others by employing all methods to justify what is assumed to be correct. This strategy is adopted by people in position of authority or competitive advantage. This style is used when decision making is at the point of urgency. Also, it can be used when the party involved is unnecessarily domineering. This approach is at disadvantage because it can result to an offence if one party did not win anything (Victor, 2012). (High assertive and low cooperative).
- ii. **Collaborating:** It is a “win-win approach. Parties have high concern for self and others. The strategy make parties to be more participative by seeking solution collectively to resolve issues. There is consideration for parties involved as there is an acknowledgment of individual’s importance. The style is used when considering appropriate solution among alternative suggestions. (Assertive and cooperative).
- iii. **Compromising:** The strategy involves moderate concern for parties involved. It involves partial solution to the most concern issues while other irrelevant matters are discarded. It is a “give-and-take” strategy. The strategy requires parties to resolve conflict by giving up some issues. The style is used when the effect of conflict is more disadvantageous than accepting to resolve it. It is also used when parties are of equal rank or level and are both at a tight corner. (Moderately assertive and moderately cooperative).
- iv. **Accommodating:** Low concern for self and high concern for others. There is consideration for other by overlooking one’s concerns. It is a strategy that tolerate others more than self by accepting the wishes of the party to overrule. The style involves cooperation because consideration is given to the party for the purpose of relevance in matter that is more important than that of accommodator. Winning of conflict will be of no use if peace is maintained for other to achieve more desiring goal. (Unassertive and cooperation).
- v. **Avoiding:** There is low concern for self and others. This does not take cognisance to the existence of conflict. Both parties are selfless. The strategy is characterised by parties accepting unpalatable decisions because he does not want to hurt the other’s feelings. It is “lose-lose” approach and considered ineffective style in resolving conflict. (Unassertive and uncooperative).
- vi.

3. Methodology

This study adopted an exploratory research design. It is exploratory because the questionnaire is designed to create a new dimension in view of conflict management from a different perspective apart from the general concepts used by previous researchers. Hogan, Soutar, McColl-Kennedy & Sweeny (2011) was adopted because it was an explorative research and they used scale development to empirically analyse a construct to get components for questionnaire for further studies for other researchers. It is an innovative design of research survey that care to consider the organisational objectives and goals and the employees. Also, it is descriptive because the population is made up of staff and faculty of the selected University and the respondents were randomly selected covering the four colleges of the institution.

3.1 Item Generation and Content Validity

The instrument of data collection were 31 items of Likert-type questionnaire tagged "Conflict Management in Higher Education. Likewise, De Dreu et al (2001) and Igbino (2016) were adopted for this study. Section A of the questionnaire was on the bio-data of the staff or faculty details, Section B contain item which indicate accommodating strategy which can allow organisation plan against the occurrence of conflicts in the nearest future of the university, Section C contains items on Organising which signifies management function that can actually prevent conflict and Section D contain items on Control which depicts conflict management strategies. The response values were scored as follows: Strongly Disagree (1), Disagree (2), Undecided (3), Agree (4) and Strongly Agreed (5).

3.1.1 Study 1

Two different categories of individuals were interrogated before the questions of the instrument were generated. They include some researchers and three other lecturers in the department who are experts in the field of conflict management.

3.2 Item Purification

The Reliability of the instrument was done using test-retest method. The instrument was administered once on one hundred and fifty staff and faculty members of the selected University within two days. The Component Matrix and Composite and AVE were carried out using SPSS and exploratory factor analysis was further carried out to sort the items.

3.2.1 Study 2

Primary data collection was adopted by administering questionnaire to randomly selected members of staff and faculty of the selected University.

One hundred and fifty copies of questionnaire were administered to staff and faculty of the selected University across their various colleges.

3.2.2 Component Matrix

One hundred and thirty-six of the instrument were retrieved and fourteen were not returned. The contents of the questionnaire were divided into three apart from the demographic section which was on the section A of the instrument. The initial items includes the management's functions which were planning, organising and controlling. After careful analysis of the component matrix that shows the variables with similar scale. Table 1 indicates the component loading of the measurement of twenty-five scales which were the correlation between the variables and the component. It contains the original measure without measurement error (Comrey & Lee's, 1992; Tabachnick & Fidell, 2001).

Table1 Component Matrix^a

	Component		
	1	2	3
The vision of my university is clearly spelt out to all the employee to avoid divided loyalty.	.496		
The mission of my university gives no room to role ambiguity.	.557		
The shared value is properly entrenched in the strategic plan of my university	.534		
The shared value is properly entrenched in the strategic plan of my university	.518		
The shared value is properly entrenched in the strategic plan of my university	.647		
Different Departments have their roles spelt out by my university	.645		
Inter-departmental activities are well spelt out to avoid conflict.	.664		
My university has student disciplinary committee.	.485		
My university has staff appellant committee.	.309		
My university has student appellant committee.	.311		
The organisational structure promotes employee involvement in decision making.	.273		
The organisational structure promotes employee involvement in decision making.	.413		
The organisational chart of my university is made known to all employees.	.371		
I prefer to stay away from disagreement with my university.		.595	
I try to avoid confrontation with others.		.357	
I try to avoid unpleasant exchange with the university management.	.581		
I use my influence to get my ideas accepted			.700
I do everything to win.			.710
I fight for good outcome for myself			.738
I clarify issues with the management	.558		
I stands for my own and other's goals and interests.		.388	
I examine issues until I find a solution until I find the one that satisfy me and others.			.498
I try to concur to the management			.519
I try to accommodate the wishes of other party	.470		
I try to accommodate the wishes of other party.	.526		

Extraction Method: Principal Component Analysis.
a 3 components extracted.

3.2.3 Exploratory Factor Analysis

The components of the exploratory factor analysis itemized the measurements into three after running the analysis. This implies that some contents under 0.3 for example items with 0.273 (The organisational structure promotes employee involvement in decision making) and 0.309 (My university has staff appellant committee) should be discarded. On the other hand table 2 itemized the components of the factor analysis that selects items above 0.3 and re-grouped the items into new components; conflict management collaboration strategy on individual level with eleven items; conflict management avoidance strategy on individual level with four items and conflict management confrontational level with five items as against initial items which includes planning (7 items); organising (6 items) and controlling (12 items) respectively. The exploratory factor analysis helps rearrange the items and place them appropriately based on the degree of their measurement.

Table 2
Exploratory factor analysis for Institutional Conflict Management

Scale items	Factor loadings
Conflict management collaborating strategy at corporate level	
Inn_7 The vision of my university is clearly spelt out to all the employee to avoid divided loyalty.	0.496
Inn_8 The mission of my university is clearly spelt out to all the employee to avoid divided loyalty.	0.557
Inn_9 The shared value is properly entrenched in the strategic plan of my university.	0.534
Inn_10 The duties of each member of faculty or staff is clearly stated out to avoid conflict.	0.518
Inn_11 The functions attached to any role are clearly spelt out by the university.	0.647
Inn_12 Different Departments have their roles spelt out by my university.	0.645
Inn_13 Inter-departmental activities are well spelt out to avoid conflict.	0.664
Inn_14 My university has student disciplinary committee.	0.485
Inn_16 My university has student appellant committee.	0.311
Inn_19 The organisational chart of my university is made known to all employees.	0.371
Conflict management avoidance strategy at individual level.	
Inn_20 I prefer to stay away from disagreement with my university.	0.595
Inn_21 I try to avoid confrontation with others.	0.351
Inn_22 I try to avoid unpleasant exchange with university management	0.581
Inn_27 I stand for my own and other's goal and interest	0.388
Conflict management confrontation strategy at individual level.	
Inn_23 I use my influence to get my ideas accepted.	0.700
Inn_24 I do everything to win.	0.710
Inn_25 I fight for outcome for myself.	0.738
Inn_28 I examine issues until I find a solution until I find the one that satisfy me and others.	0.498
Inn_29 I try to concur with the management.	0.519

4. Discussion

The result of this research indicate the relevance of the component of the scale development adopted. As stated earlier that it is an explorative study, the result harvested from administering the questionnaire were explained and indicated above in the component matrix and exploratory factor

analysis. The comment section of the instrument were filled by a number of respondents and they are as follows;

- i. "There is need for management to further promote equity and justice among employees."
- ii. "I believe as long as the vision and mission of the higher institution is clearly stated and excellently communicated, no problem."
- iii. "Every organisation must maintain open door policy. The use of suggestion box system must be adequately used and sustained and management must open and harvest these suggestions so that management can begin to address the suggestion appropriately."
- iv. "For my university (CU) employees should always apply the tortoise strategy of conflict management to avoid escalation with management. That way they will be at peace with the organisation/institution"
- v. "The university needs to open up by engaging in constructive interaction with staff and faculty, with a view to address the areas of dissatisfactions. There seems to be no conflict in CU because people are engaging in malicious obedience. Faculty and staff deserve more welfare and respect than the school presently offers."
- vi. "The welfare of the staff and faculties should be worked on."
- vii. "I advise that the area of interest on both parties be taken into consideration and therefore there will be no bias or taken side with any party. Always think of the interest of other."
- viii. "The information are strongly adequate."
- ix. "Relating to doing everything to win (item 24), I do my part or I try to make sure I don't neglect any of my roles or responsibility; thereby making sure my department/the university wins. And in their winning, I win."
- x. "When policies are made in the university there should be ample time for people to adapt to them and the open door policy by management should be encouraged without any form of bias."

From these comments it can be deduced that the research has actually helped respondents to purge their grievances which is a sign of conflict and when not cautioned the ripple effect is usually conflict. The dual concept theory (De Dreu et al, 2001) among other theories clearly shows that conflict is typical of two entities and when needs to be resolved, it must consider both parties. It is a clear indication that a party can actually avoid, collaborate or confront when conflict arises.

5. Conclusion

This findings illustrate and showed the understanding of conflict management strategies and how it contributes to the theory as it adopts the scale development procedures to validate empirically the strategies of conflict management in higher education using management functions as contents of the variables. From the findings it can be deduced that conflict occurs between two parties and resolving same must revolve around the two because the dual concept theory showed that conflict involves two entity and consideration must be given to both when resolving it. Therefore, it can be inferred that for conflict to be managed in higher education institutions, both the organisation and individual workers are considered.

6. Managerial Implication

The major implication of this study is that managers of higher education institutions as well as entrepreneurs should put in place strategies, policies and other strategic planning issues that will help to avoid or minimise conflict to its barest minimum. In the same vein, functional structures should be put in place that will help to resolve issues of conflict. Control measures should also be put in place that shun conflict but give room for conflict that may lead to disruptive innovation. In other words, the basic functions of management should be adopted for managing conflicts within an organization. The

results show a unique conflict management strategy questionnaire originated from the concept of organisational functions. The conflict management strategy scale has twenty four items that measure three dimensions which shows an effective method to control organisational conflicts. The measure provides researchers with contents of questionnaire for easy formulation of instrument because it poses challenge for young researchers to develop. However, measurement helps management to determine the source of conflict, the role individual plays to manage it and to identify areas of challenges that require more attention and allow management to proffer solution where necessary inform of training and development to promote actual goals and objectives of academic institution. Also at individual level, it helps to understand what each parties stands to consider, analyse and strategy to adopt when conflict arises in the higher institution environment.

7. Limitation and Future Research

The institution for this study was a private institution where all rules and regulations are abided by the employees and the measure therefore may be subject to the perceptions of respondent which may be different from what is experience in other institutions. Though the limitation is recognised but do not disqualify the result of the finding but provide a foundation for further studies using another university from the list of state or federal institutions. The research can include running of confirmatory analysis and nomological validity on the measurements to further validate the items as laid in the foundation for future research. The items can also include other conflict management strategies like competing and accommodating (Thomas, (1976); Igbinoba, 2016) that were not included in this study to further test the practicality of their theory. The measurement of this study can further be adopted by other researchers working on any other organisations apart from educational institution to research on how to manage conflict between two parties in the organisation since conflict is inevitable and ubiquitous.

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ADVISORY SUPPORT FOR SMES AND BUSINESS SUSTAINABILITY: EMPIRICAL EVIDENCE FROM SMEDAN IN NIGERIA

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Abstract

The immense economic benefits that SMEs can contribute to national development is a key driver for government support initiatives, so as to facilitate the contribution of SMEs to create both economic and social values. Despite enormous effort by government to foster growth and development in the SMEs sector through various support programmes, both administrative and regulatory frameworks still appear quite inefficient in enhancing SMEs performance. This study empirically explored the impact of advisory service on the sustainable performance of SMEs in Kano state, Nigeria. Quantitative approach was adopted using the survey method. The study makes use of stratified and simple random technique to select the respondent of the questionnaire. A total of one hundred and eighty (180) copies of questionnaire were administered to owners/managers of SMEs, out of which only one hundred and forty four (144) were returned and adjudged usable for the analysis. Data analysis was carried out using IBM SPSS version 22 software. Regression analysis were used to test the stated hypotheses. The field data set is made available to the public for further critical assessment and evaluation

Key Words: Business Sustainability, Advisory service, SMEs and Performance.

Introduction

Commercial activities in the SMEs sector are often regarded as life wire of modern economy and a major driver of sustainable development. Advisory support for SMEs is viewed as a form intervention that strengthens the capability of SMEs to configure economic resources intelligibly for superior and sustainable performance (Emmanuel, & Owusu 2016). In support of this view, Bubou, Siyanbola, Ekperiware, and Gumus (2014) stressed that any effort geared towards advancing the course of SMEs without emphasis on adequate government support that target capacity building and post-intervention services such as access to markets, finance, workspace and technology for SMEs development, is likely not to produce acceptable outcomes in the long term. This is owe to the the fact that government support programmes foster the entrepreneurial environment necessary to enhance the

capability of SMEs to be resilient and make meaningful contributions towards the growth of the economy. Therefore, facilitating intervention programmes among SME operators is viewed as fundamental and strategic in many developed economies (Jahanshahi, Nawaser, Khaksar, & Kamalian, 2011). Moreover, World Bank Group (2004) affirmed that business [support programmes](#) and policies by different government have accounted for various levels of success in many countries across the world. One of such programmes is advisory services.

The justification for this form of intervention is to provide businesses with the set of skills required for business sustainability. Hence, unleashing their enterprise potential. The collaboration between government agencies and SME operators facilitates the creation of stock of valuable information that when efficiently deployed will enhance the capacity of SMEs to create economic values in a sustainable manner (Hjalmarsson & Johansson, 2003).

Over the years, the Nigerian government through Small Medium Development Agency of Nigeria (SMEDAN) has introduced a variety of developmental programs such as Conditional Grant Scheme which is in line with global best practice to refocus SMEs sector towards improved performance. It is important to state here that SMEDAN was established in (2003) to motivate, oversee and advance the growth of the SMEs through activities such as research, training, commercialization, innovation and advisory service (SMEDAN, 2013). However, for any support programme to achieve its goals, the structure and the framework of such programme must stimulate the SME operators to create values in a profitable and sustainable manner. This is premised on the fact that government developmental initiatives provide the platform for SMEs to grow and remain competitive (Fatoki, 2014).

Though the contribution of advisory services is not in doubt, however, there on few empirical evidences on the degree to which advisory service affect the performance of SMEs particularly those under Small and Medium Enterprises Development Agency of Nigeria (SMEDAN).

Review of Literature

Government Support and SMEs Performance

The effective implementation of intervention programmes to accelerate the growth SMEs is considered a fundamental strategy in many developed economies. Hence, government supports are viewed as salient mechanisms which provide the entrepreneurial environment for SMEs to leverage on in order to contribute to the gross domestic product (GDP). Most

governments of the developed economy give priority attention to development of SMEs in order to have a stable economy (Butler, 2008). Jan and Chen (2006) stated that government-supported R&D organizations are the major driving force in Taiwan's ability to radically innovate and transform industrially. Such institutions include Industrial Technology Research Institute (ITRI) which is playing a major role in advancing the course of SMEs (Amsden, 2003; Luo, 2001). Therefore, it is notable to state here that policy initiatives that promote innovation activity and success in small business can only produce result if they are designed to address those factors that are stimulating or constraining innovation in small business (Hewitt-Dundas, 2006; Mets, 2006).

Advisory Services

Advisory services is concerned with providing SMEs with access to knowledge and information they required to enhance performance. Scholars and governments have indicated a rising interest and focus on providing financial literacy to businesses in order to enhance collaboration and performance (e.g., Bernheim, Garret, & Maki 2001; Banks & Oldfield, 2007; Lusardi & Mitchell, 2009; Gerardi, Goette, & Meier 2010). Bennett and Robson (1999) stated that SMEs can increase their performance through accessing information and advice from expert outside the context of their business. Similarly, Ladzani (2001) stressed that performance of SMEs can be enhanced when they operate within an information-rich environment facilitated by experts. This suggests that the performance of SMEs can only be enhanced when they operate within information rich-environment that is driven by market signals, business opportunities and customer trends (Ladzani, 2000). The most important issue here is that identification of market signal on business opportunities, which is an expression of advisory services, is very vital for superior performance.

Finnegan (2000) has observed that there is lack of access to adequate knowledge, relevant skills as well as valuable information on different operational areas of small business that are germane to their survival. Therefore, engaging professional creates a platform for a better and robust one-on-one approach which brings in fresh perspectives and understanding of matter that otherwise would have been complex to understand (Bennett & Robson, 2004). It is important to state here that when an entrepreneur launches a new business he is faced with a lot of issues which include pricing and costing, market assessment and customer development. This process facilitate the building of valuable stock of information that SME operators can draw on pursue and sustain their business in a scalable manner. In the UK, US,

Australia and Canada, many empirical studies suggest that smaller enterprises consult professional expert as a source of advisory and support services (Berry, Sweeting, & Goto, 2006; Scott & Irwin, 2009).

It is premised on the aforementioned that SMEDAN has established business development services which provide platform for SMEs to leverage on the experiences of professionals. This is based on the fact that, there is no way advisory service can be separated from the development of SMEs in Nigeria. In agreement with this view Okello-Obura, Minishi-Majanja, Cloete, and Ikoja-Odongo, (2008) argued that SMEs owners/managers engaged informal institutions as sources of information as they are not aware of vital business information provided by established support centres or agencies. This is in alignment with the requirement that drive SMEs competitiveness in global market. SMEs required specific information and solutions. This implies the provision of business information services that evaluate, validate and utilise the information to address specific business problem (Okello-Obura et al, 2008). Therefore, this suggest that the subject of quality information becomes obvious and cannot be ignored.

Business Sustainability

Landrum and Edwards (2009) point out that a sustainable business is ‘one that operates in the interest of all current and future stakeholders in a manner that ensures the long-term health and survival of the business Hence, resource based view suggested that it is necessary for SMEs to acquire external support and advice to increase market share and remain sustainable (Marriott, Marriott, Collis & Son, 2008). However, it is notable to state that the need for advisory assistance is contingent on contextual conditions and dynamic nature of the business environment in which SMEs operate (Kanyabi & Devi, 2011). Johnson, Webber, and Thomas (2007), opined that a firm operating in local market might have the capacity to advance the fortune of the business based on the available internal resources and may need limited external support. Occasionally, the market conditions within which the SMEs operate may become fiercely competitive, consequently the demand for external advisory services becomes necessary (Blackburn & Jarvis, 2010). In some cases, operators of the SME may possess the marketing expertise but may be lacking in expertise in the area of accounting and financial management related issue or other vital areas (Collis and Jarvis, 2002). Therefore, SME operators must employ the services of professional in carrying out any complex

marketing and financial decisions (Blackburn & Jarvis, 2010). Empirical studies have shown that SMEs owners/managers who seek professional advice and support services from professional accountant where necessary, achieve competitive advantage (Sian & Roberts 2009).

The professional knowledge that these advisory centres offer can go a long way to facilitate the managerial capability of businesses, consequently indicating how other crucial segments of the innovation process is monitored. Consequently, small businesses can maintain competitiveness when they are actively involved in effective alliances. Though the cost associated with innovative product may decline; the outcome of alliance will remain uncompromised. The concentration of information and knowledge available for firms or organizations that drives this form of linkage is considered crucial for the survival of such an alliance and competitiveness of such firms. Hence, partners actively involved must possess the required information and skills to boost the strength and weakness of the partners involved (Tether, 2002). Also, it is important to state that effective synergy between advisory service center and firm foster better, efficient and secured transfer of knowledge and skills to targeted small and medium enterprise.

The sharing of information, skills and technology among firms supports small and medium enterprises in boosting their innovative capability to achieve high productivity and growth (Bennett & Robson, 1999; Afolabi, & Macheke, 2012). Currently, the demand for advisory service has greatly increased. Most firms seek advice from firms providing various business advisory services such as accounting, tax and legal related issues among others. Therefore, engaging professionals to perform advisor services create the needed value for businesses to gain competitive advantage over other firms (Bennett & Robson, 1999). This implies that the different form of services that is provided by business advisory firms is a form of value added service (Berry et al, 2006). This social interaction among firms especially small and medium enterprise and professional business advisory service firms resulted in the creation of pool of information and knowledge required by them to sustain competitive advantage. In other words the volume of information shared within these social network further gives firms with the social capital required to boost its internal strength.

The business environment is constantly changing; taste of consumers are becoming more sophisticated. In order to remain competitive, SMEs need to be responsive and proactive to changes by evaluating the opportunities and threats presented by the external environment. This suggest that firms must marshal all available resources to enhance its innovativeness. Thus the urgency for engaging external professional service to complement internal capacity of firms has resulted in the identification and collaboration with professional. The collaboration of resources in this context enables SME owners to transform ideas into viable commercial product of high value. Similarly, viable collaboration between these various actors encourages learning and enable businesses to adapt to business environment that is constantly changing (Afolabi and Macheke,2012).

Despite the critical role played by advisory service that allow firms to marshal divers resources to be innovative, some firms still lack all the needed human capital and resources to effectively utilize these resources. Consequently, small businesses usually seek support from other entities to acquire the necessary skills to boost internal innovation cycle (Kamyabi & Devi, 2012).

Methodology

The major objective of this study was to determine the impact of Advisory service on the performance of SMEs. Based on the nature of the study as captured in the objective of the study. mixed methods approach using both questionnaire and semi-structured interview was adopted. The study makes use of stratified and simple random technique to select the respondent of the questionnaire. A total of one hundred and forty four (144) copies of questionnaire were administered to owners/managers of SMEs, out of which only one hundred and forty four (144) were returned and considered valid for the analysis, while 20 semi-structured interviews were conducted among owners/managers of SMEs. Descriptive statistics and Multiple Regression were used to facilitate the estimation process. In addition, thematic analysis was used to analyze the qualitative interviews.

Hypothesis Testing

H_{01} – The provision of advisory services does not influence SMEs production performance of SMEs in Nigeria

Table 1a: Model Summary of provision of advisory services and SMEs production performance of SMEs in Nigeria

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.635 ^a	.403	.398	.53708

a. Predictors: (Constant), Advisory Assistance

Source: Researcher's Field Survey Result (2016)

The model summary table shows how much of the variance of the dependent variable (production performance) is explained by the model. In this case the R square is .403 if expressed by a percentage will be 40.3%. This means that our model explains 40.3% of the variance in the levels of production performance.

Table 1b: ANOVA^b of provision of advisory services and SMEs production performance of SMEs in Nigeria

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.298	3	23.099	80.079	.000 ^a
	Residual	102.691	356	.288		
	Total	171.989	359			

a. Predictors: (Constant), Advisory Services

a. Dependent Variable: Production Performance

Source: Researcher's Field Survey Result (2016)

The F-value is the Mean Square Regression (23.099) divided by the Mean Square Residual (0.288), yielding $F = 80.079$. From the results, the model in this table is statistically significant ($Sig = .000$) and hence the null hypothesis should be rejected. Therefore, the provision of advisory/extension services has influence on SMEs production performance at $F_{(3,359)} = 80.079$. Hence, the alternative hypothesis is accepted.

Theme: Advisory Service and Production Performance

Most of the SMEs owners/managers were of the opinion that advisory assistance has improved production performance. However, access to this service is often slow and in some cases not available. The responses implied advisory service is cumbersome to access and does not cover area such as knowledge about industries, laws and politics of both local and foreign countries, international expansion which enable SMEs operators to identify or explore business opportunities in a manner that is scalable and sustainable. This was considered as a crucial aspect of government assistance as performance can be increased via receiving information and professional advice.

The advisory service provided to encourage mentorship and networking with expert has helped our business to improve. Nevertheless, access to this service is often cumbersome and limited in scope. Effort must be made to strengthen this area by providing integrated advice in identification of opportunities and linkages.

The advisory service put in place is very cumbersome to access, hence I don't feel encourage to pursue this service. I believe that the advisory service should be improved upon by ensuring that real mentors are used to provide helps in the area complexities of launching and managing a new venture, raising capital, building credibility and forming strategic partnership

“The advisory service is not serving our interest. I believe that only people with commercial and technical expertise in SMEs sector should be engaged to drive this programme”
(Participant 8)

Findings from the hypothesis indicated that the provision of advisory services has significant influence on SMEs production performance. This suggest that if effective advisory service is in place in the area of internal planning, decision-making and control it will improve firm performance. This is supported by the work of (Njaramba & Ngugi, 2014) which indicated that effective and efficient external collaboration to acquire knowledge and expertise has implication for SMEs innovative and production performance.

Likewise, Theme result shows evidence advisor/extension service has improved performance. This concur with the findings of hypothesis result of this study indicating that advisory service has significant impact performance. However, there was indication that was not provided by real life mentors who have the both the commercial and technical expertise. This

is considered as vital area that enable SMEs to enable bridge the knowledge action gap. This is in validated by the work of (McKernan, 2002; Ketley et. al., 2012) which suggest that many institutions have demonstrated weak capacity to provide advisory service to this sector.

Conclusion and Managerial Implication

The study also provides valid evidence to show that advisory service can facilitate performance. But, there are also indications that advisory service is inadequate and may impede SMEs potentials to create economic values.

The use of real life mentors is recommended particularly noting the fact that mentors can give valuable insights about the complexities of launching and managing a new venture, raising capital, building credibility and forming strategic partnerships. These relationships provide outlet platform test to concepts and ideas and learn from the valuable past experience (both positive and negative) of successful entrepreneurs. SMEs operators can leverage on their available networks towards the sustainability of their businesses, and the creation of wealth for themselves and their broader local and global communities.

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**INTRAPRENEURSHIP AND INNOVATIVE BUSINESS
DEVELOPMENT USING SELECTED SMALL AND MEDIUM SCALE
ENTERPRISES (SME's) IN UVWIE LOCAL GOVERNMENT OF
DELTA STATE.**

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ABSTRACT

The study evaluates intrapreneurship and innovative business development using selected small and medium scale enterprise (SMEs) in Uvwie L/govt. of Delta state. It examine the concept of intrapreneuship as the act of behaving like an entrepreneur while working within an organization. The problem of SME's to allocate special resources to its

employees and need to recognize innovativeness as a means of small firm contributing to the society at large precipitated the need for this research. The main objective of the study is to determine whether risk taking, using organizational resource have effect on sales partnering for business development among others. Several related literatures and articles were consulted and a thorough review of the topic was carried out. Survey was carried out with a population of 150 SMEs and a sample size of 110 was adopted, using Taro Yamane (1967). The purposive sampling technique and stratified sampling was used to select the respondents. The instrument used for the study was questionnaire and was validated. Cronbach alfa reliability for construct show approximation of 0.7. Four hypotheses were stated and tested based on the objective study. The data collected was analysed using pearson correlation and regression analysis. Findings reveals that there is a significant relationship between risk taking, using organizational resources, and business development ($r=.826, P=0.00 < 0.05$), and there is significant effect of employees drive for self vision on new job techniques in firms ($R=0$). Based on the finding, the study recommend among others that SMEs should develop flexible policies by allocating special budget and have tolerance for risk and failures as a means of intrapreneurship support.

Keywords: Intrapreneurship, Disruptive Innovation, Business development, Risk-taking, Small and medium scale enterprise, creativity, new job design, intra-capital.

1. INTRODUCTION

A more recent approach of the issue in organizational theory is the intrapreneurship practice among business organizations. It is a contemporary concept with pressing relevance for corporate managers.

Intrapreneurship is the act of behaving like an entrepreneur while working within an organization Antoncic and Hisrich (2001,2003). It is the type of management practice that integrates risk-taking and innovative approaches while using organizations resources, as well as the reward and self motivational techniques in achieving business growth.

As business environment continue to be more competitive, demands and challenges of many organizations increases and companies tend to support intrapreneurs with finances (intra-capital) and access to organisational resources through special units while intrapreneurs create innovation for companies that will help to achieve a sustainable

business growth. It is a discretionary budget that can be accessed by employee who have innovative ideas to develop.

Intrapreneur earn special reward when their new ventures succeed for the cooperation.

Today, intrapreneurship has found its way into small and medium sized enterprise (SME's) through its dynamic nature as cited in the work of Bidyut and tony (2014) who highlighted the differences in terms of characteristic between SMEs and large firms. Antoncic and Hisrich (2001, 2003) then gave significant evidence to demonstrate that intrapreneurship has substantial impact on organizational and economic development regardless of the size of the business, they believe that intrapreneurship should be viewed essentially as an activity-based or activity-oriented concept that takes the organizational product and services, technology, structure or operation into new directions.

Business development entails task and process to create customer value and implement growth opportunities within and between organizations through market and relationships. It is related to discrete projects, specific modes of growth and organizational units activities and practices. It helps in support (through new job design) and monitoring of the implementation of growth opportunities, but does not include decisions on strategy and implementation of growth opportunities.

The emerging business development function with unique role in the innovation management process has made the concept of intrapreneurship to have an alignment with the study.

Most companies are characterized as small or medium size, which means that the role of initiator of change and innovation customarily resides in the figure of the manager. So the intrapreneur may be represented by leading manager of the company who is responsible for taking risk through "intracapital", creating new job design and customer value. The intrapreneurs bridge the gap between inventors and manager. They take new ideas and transform them into profitable realities without being ask to do so. Without them there is an innovation gap. They have vision and can cross organization boundaries (or go out of established pattern) to do other people's jobs in achieving business development. It is evident that intrapreneurs are self-motivated because they are driven by a need to realize their vision, not desire for wealth, hence failure by corporate organizations in Nigeria to support freedom to act on new projects and lack of venture capitalist to guide intrapreneur has be the bane of intrapreneurship practice in Nigeria (Ulo and Agha 2014).

Statement of problem

Research on organizations has shown that the survival and growth of enterprise in dynamic business environment would depend largely on their ability to boost the processes that allow employees, within an organization, to turn opportunities into innovation for the company (Histrich & Kearney 2012). According to Markatou, (2012), Arnold & Hockerts, (2011) and Ozaki, (2011) many of the previous works carried out to study risk taking using organizational resources, with no impact to the end users, has focus more on large firms because of their huge capital base and structure and the prominence of radical high technological involvement.

However, The problem of SME's with inadequate resources to allocate to its employees for special project and need to recognise innovation as a means of small firm contributing to the society at large precipitated the need for this research. It is evident that most of the decisions on strategy formulations relating to specific modes of growth and activities on monitoring of the implementation of growth opportunities (through new job design) and risk taking in SMEs are carried out by top managers due the size of the firm, hence the research tends to look at the problem of why SME's are not taking risk taking, using organizational resources, for innovativeness.

According to Berthold (2011), it has been established that the concept of intrapreneurship in many Nigeria enterprise is considered limited particularly in small firms. Hence SMEs has not been able to explore the innovative and creativity of its workers that can help to create new market, long term customer relationship and sustainability of the business enterprise due to lack of empirical studies which this research is set out for.

Objectives of the Study

The main objective of this study is to investigate the relationship between intrapreneurship and innovative business development using SMEs in Uvwie L/Govt. of Delta State.

The specific objectives are:

1. To determine whether risk taking, using organizations resources, have effect on business development in small and medium sized enterprise
2. To examine the relationships between self motivation and new job design in SME's
3. To determine whether idea transformation out of established pattern (freedom) help to expand organizational reach into a new market.

4. To find out whether the level of employee's curiosity can help in prospecting for new customers.

Research Question

1. Does risk taking, using organizations resources, affect business development in SMEs?.
2. What is the relationship between self-motivation and new job design in SME's .
3. Does idea transformation out of established pattern affect the creation of new market?
4. Does employee's self-initiative help to create new customer for the organizations?

Research Hypotheses:

Ho₁: There is no significant relationship between risk taking, using organization's resources and sales growth in SMEs.

Ho₂: Employees drive for self-vision does not affect new job techniques.

Ho₃: Idea generation by employee does not affect product innovation.

Ho₄: There is no significant relationship between employee's level of curiosity and prospecting/qualifying leads for new customers.

2. LITERATURE REVIEW

Conceptual framework

Intrapreneurship

Intrapreneurship is entrepreneurship in the company. According to Rojuaniah, Ernie, Joeliaty (2016) intrapreneurship is a sub field of entrepreneurship. The multidimensionality of the field of entrepreneurship encouraged the development of several forms of entrepreneurship beyond the traditional, neoclassical or Schumpeterian notion of business/economic entrepreneurship. In this respect, the new streams in entrepreneurial concept include forms such as social-entrepreneurship, intrapreneurship, sustainable entrepreneurship, environmental entrepreneurship, institutional entrepreneurship, women entrepreneurship, philanthropic entrepreneurship and distributed entrepreneurship. Among the new streams, international literature puts special emphasis on intrapreneurship, a term used to describe entrepreneurship within existing organizations, recognizing it as a fundamental element of the performance of large

companies, small and medium sized enterprises and firms in general irrespective of their size. On the whole, the increased interest in intrapreneurship over the recent years is derived from the large firms' will to compete seeking their competitive advantage in the area of flexibility, growth and innovation associated with entrepreneurship. A Definition From a historic perspective, the ideas that supported the existence of entrepreneurship within existing organizations can be traced back to the mid-1970s. In 1976 Macrae wrote an article in the Economist and predicted a number of new trends and changes in business. According to Wikipedia (2014) the term "intrapreneurship" was first introduced in the academic community by Gifford and Elizabeth Pinchot, in an article in 1978 and since then the concept of intrapreneurship was popularized and became a separate research topic. Although evolving over the last 25 years, the concept of intrapreneurship is considered to be new as there is still no consensus, not only, on the content of the concept, but also, on the use of a common term to describe it. Studying the international literature we observe that the terms used to depict the phenomenon of intrapreneurship vary from corporate entrepreneurship, to corporate venturing, internal corporate entrepreneurship and finally intrapreneurship . The fact that the researchers who dealt with intrapreneurship used different terms to describe it reinforced the lack of consensus regarding the definition of the concept. Every writer, scholar or researcher provided a different definition of the concept and we may conclude that there are so many attempts to define intrapreneurship, as there are researchers who have addressed this issue. More specifically, Pinchot described intrapreneur as "the person who focuses on innovation and creativity and who transforms a dream or an idea into a profitable venture by operating within the organizational environment". Guth &Ginsberg (2008) argues that intrapreneurship can be expressed in two forms: new venture creation within existing organizations and the transformation of organizations through strategic renewal. In the same line of argument Zahra defined intrapreneurship as "the process of creating new business. However, apart from new business ventures creation, intrapreneurship also refers to other innovative activities such as development of new products, services, technologies, administrative techniques, strategies and competitive postures approach. In more detail, literature recognizes three main entrepreneurial activities: new venture formation, product/service innovation and process innovation.

Employee intrapreneur

Intrapreneurship refers to employee initiatives in organizations to undertake something new, without being asked to do so. They are secret weapon, hence, the intrapreneur focuses on innovation and creativity, and transforms an idea into a profitable venture, while operating within the organizational environment Koch (2014). Thus, intrapreneurs are inside entrepreneurs who follow the goal of the organization. Intrapreneurship is an example of motivation through job design, either formally or informally within the firm which is driven to produce social capital in addition to economic capital. Employees, such as marketing executives or perhaps those engaged in a special project within a larger firm, are encouraged to behave as entrepreneurs, even though they have the resources, capabilities and security of the larger firm to draw upon. Capturing a little of the dynamic nature of entrepreneurial management (trying things until successful, learning from failures, attempting to conserve resources, etc.) adds to the potential of an otherwise static organization, without exposing those employees to the risks or accountability normally associated with entrepreneurial failure.

Another characteristic of intrapreneurs is their courage and flexibility to think outside of the box, which allows them to work on ideas that may change strategic direction.

Intrapreneurs are both employees and leaders of a large organizations that act similar to entrepreneurs in terms of innovation e.g. self-motivation, creativity and pro-activity(Rojuaniah & Ernie 2016).

Pinchot et al (2010), claims that while intrapreneurs must be leaders, they differ very much from managers. Strong leadership skills are needed to strengthen teams and to persuade others to follow and execute their ideas. Leadership skills are also important to support rapid decision making under uncertainty. Managers, on the contrary, consider more risks than uncertainty and often work within established patterns. Moreover, traditional managers get their authority from the above; intrapreneurs, by contrast, start without the recognition of the same degree of power.

Intrapreneurs are able to search for opportunities and shape them into high-potential innovations through teamwork and with access to corporate resources. This assumes the right conditions of good leadership, communication and the appropriate environment to support creativity, these are essential for entrepreneurial outcomes to take place .The win-win situation of intrapreneurial motivation leading to corporate benefits are considered

idealistic by some. According to Smedley (2010) only a few companies know how to encourage intrapreneurs.

Intra-Capital (freedom as a Reward)

The most fundamental measure of progress for an intrapreneur is the increasing freedom to use corporate resources to build new business for the corporation. This reward can be given (earned, actually) in the form of “**intracapital**”.

Intracapital is a permanent discretionary budget; like a bank account, it is there until used. It is a powerful motivator because it conveys a sense of ownership and guarantees freedom. It is advantageous to the company because it encourages frugality and allows the firm to bet on proven winners. Intrapreneurs earn intracapital when their new ventures succeed for the corporation. In a formal system, intrapreneurs also take some risk, such as foregone salary increase and extra unpaid labour. There is an agreed-upon method of measuring success. Profits are allocated to sponsors and team members as well, in an agreed-upon manner, and earned rewards autonomy cannot be taken away.

Business development

Business development entails tasks and processes to develop and implement growth opportunities within and between organizations. It is a subset of the fields of business, commerce and organizational theory. Business development is the creation of long-term value for an organization from customers, markets, and relationships.

In the limited scholarly work available on the subject, business development is conceptualized as or related to discrete projects, specific modes of growth, and organizational units, activities, and practices. Business development is defined as the tasks and processes concerning analytical preparation of potential growth opportunities, and the support and monitoring of the implementation of growth opportunities, but does not include decisions on strategy and implementation of growth opportunities (Sorensen 2008).

In practice, the term business development and its actor, the business developer, have evolved into many usages and applications. Today, the applications of business development and the business developer' or Marketer tasks cut across industries and countries, covers everything from IT-programmers, specialized engineers, advanced marketing or key account management activities, and sales and relations development for current and prospective customers. For this reason, it has been difficult to discern the

unique features of the business development function and whether these activities are source of profit.

Business development is the creation of long-term value for an organization from customers, markets, and relationships.

There is elegance in simplicity, but perhaps this definition leaves you wanting more. At its heart, business development is all about figuring out how the interactions of those forces combine together to create opportunities for growth. But a theorem requires a proper proof, so let's break that statement down.

New Job Design and Business Development

One of the cardinal area of business development is new job design. The shape of job is closely related to how happy and fulfilled an employee feels doing it. Job design is the specialization, Enrichment and rotation of task that individual workers perform in doing their jobs.

Small and Medium scale Enterprises(SMEs)

In categorizing organizations as small, medium or large, it means that businesses can be classified by means of their sizes. It is difficult to determine when a business transits from small to medium or large. To facilitate our discussion, this work shall look at some definitions and thereafter, attempt a definition for each of the three groups based on capital or assets base, the skill of the managerial team and the total market share, other criteria notwithstanding.

The International Labour Organisation (ILO, 1999) defines micro enterprises as those having 1-10 employees and small scale enterprises as those having 11-50 employees, and did not bother to talk about the market spread and capital base. The world bank (2010) defines SMEs as those enterprises with a maximum of 300 employees and 15million dollar in annual revenue and asset. The European union (2012) defines SMEs as the category of micro, small and medium sized enterprise made up of enterprises which employ fewer than 250 persons and an annual turnover not exceeding 50million Euros and annual balance sheet total not exceeding 43million Euros annual balance sheet.

According to Yinka Fisher, coordinator of Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) in Lagos in an interview with Daily Independent (2012), Micro Small and Medium Enterprises (MSMEs) were defined as follows:

- **Micro Enterprise:** Any enterprise employing between one to nine people and having a capital base from one naira to ₦5 million excluding cost of land.

***Small Enterprise:** Those that employ between 10 and 49 employees and having a capital base from ₦5 million to ₦50 million so once a business is within that confine, it is running a small enterprise.

- **Medium Enterprise:** Any enterprise that employs from 50 to 199 employees and having a capital base from ₦50 million to ₦500 million. If a business is within that confine it is running a medium enterprise and if it has anything above that, it is a large enterprise or a multinational as the case may be.

The National Policy on Micro, Small and Medium scale enterprise (MSMEs) adopts a classification based on dual criteria: employment and assets (excluding land and buildings), as follows:

Table 1 : Classification adopted by National Policy on MSMEs

SIZE	CATEGORY	EMPLOYMENT	ASSETS (₦million) (excluding land and buildings)
1.	Micro enterprises	Less than 10	Less than 5
2.	Small enterprises	10-49	5-less than 50
3.	Medium enterprises	50-199	50-less than 500

Source: National policy on MSMEs, 2006.

- It is possible under these criteria that a conflict of classification may arise. In such cases, the employment-based classification will take precedence. Eg. If an enterprise has assets worth seven million naira (N7M) but employs 7 persons, the enterprise would be regarded as micro.

In terms of size, the organization for Economic Cooperation and Development (OECD, 2005) described SMEs as any company that has not more than 250 employees

Generally, small businesses are usually associated with little capital outlay, minimal fixed assets, highly localized in the area of operation, and often with unsophisticated management structure. The SMEs are noted for their ability to adapt to changes because the decision process is not complex and the owner-manager does not need anyone's

permission to adapt to change. They are also noted for greater use of local raw materials, simplified record keeping and a good relationship with consumers and employees.

In Nigeria, small scale business, small scale industries and small scale entrepreneurship are used interchangeably to mean a small scale industry firm. Today, there seems to be no specific definition of small business. Different authors, scholars, and schools have different ideas as to the differences in capital outlay, number of employees, sales turnover, fixed capital investment, available plant and machinery, market share and the level of development. These features equally vary from one country to the other. In Nigeria, the third National Development plan defined a small scale business as a manufacturing establishment employing less than ten people.

However, a new act of parliament 2018 has repel the Company and Allied Matters act (CAMA) 1990, (CAP C20,LFN2004) which gives a legal identity for an individual to operate small scale businesses in Nigeria. In this case a small scale business can be owned and run by one person and are not mandated to hold annual general meetings or required to have a company secretary thereby making it possible for SMEs to have one shareholder.

Innovation.

Ogundele (2012), described innovation as differentness in at least one aspect of the organizations features which set it apart from other organization in its environment. He found that innovation affected the process of emergence, behavior and performance of indigenous entrepreneur organization in Nigeria. According to him, one distinguish feature of innovative firms from non-innovative ones is the need to undertake research and development (R&D), which is expensive in terms of time and fund. Others are degree of internationalization of their market and application of technology which are external in nature.

Creativity

Osifeso (2012), define creativity as the ability to come up with something new. She stress further that some people tend to have more originality than others and to have the ability to come up with solution that fly in the face of established knowledge. They are also inclined to be more adaptable and prepare to consider a large range of alternative approaches.

Theoretical Framework

The Knowledge Spill over Theory of Intrapreneurship

Knowledge is partly embodied in employees, which makes labour mobility relevant from a growth perspective. Poritus (2014) argue that Increased labour mobility is a way to enhance intrapreneurial activities through improved matching, higher allocation efficiency and extended network effects, thereby accelerating innovativeness.

According to the endogenous growth theory, R&D-investments and knowledge spill overs can be expected to generate innovation, increased productivity and higher growth (Aghion& Howitt 1990). Building on the endogenous growth theory, but emphasizing that the spill over mechanism were not well explained, Acs et al. (2009) presented a model where intrapreneurs were shown to constitute that missing link. Here they argue that labour mobility of certain professions or skills, is a complementary channel to diffuse knowledge and to spur innovation that falls outside the scope of the present analysis .

This theory help in the understanding of how innovation can be brought into the business operation of small scale businesses through hiring of experience intrapreneur as relate to this study.

Human Capital Theory

According Olaniyan&Okemakinde(2008), Spending on human capital(workforce) is a worthwhile and productive investment similar to investment in nation's physical asset as cited by Akingbade and Aberuagba(2017) .Therefore there is need for many employers to invest in their workers for improvement in their output and contributions to the firm success through the provision of intra-capital which form the basis of this research work.

Small Is Beautiful Theory

The small is beautiful theory is a classic critique of the trends towards centralization, corporation, and globalization's non-sustainability nature. The theory advances the promotion of small-scale economic market and system, co-operatives and greater decentralization (Schumpeter,1973). In similar vein, Paulson (1980), found that the relative size of small retail firm is associated with horizontal differentiation and levels of complexity. Also, Fullerton (2008), appreciated the observation of schumpeter's lead in his best-selling book "Small is beautiful-Economic" as if people Mattered, with the

option that global system is broken not because of the credit crisis, it is broken because it is predicated on perpetual, resource driven with no recognition of scale limitation. It points out very skillfully what is exactly wrong with the modern industrial society, and offers an alternative, appropriate technology, respect for human values, and especially bringing things back to the small scale. This theory will help the researcher to comprehend and appreciate the importance of small scale business (SMEs) for the purpose of this study.

Theory of innovation

Schumpeter was one of the foremost scholar in economic and behavioural profession that created the awareness of technological advancement as a central feature of modern organization at the time many professions was focusing on static or short-term models. His major work on innovation has been supported by recent researches showing the importance of incremental advances, particularly after a radical new technology had settled into mold.

Disruptive innovation

This theory was developed in academic research of Harvard Business school professor Clayton Christensen. The theory of disruptive innovation describes a process by which an existing product or services, that is historically expensive and complicated which only few people can afford in the market, is transformed by introducing simplicity, convenience, accessibility and affordability to attract a large market. it is not a breakthrough in innovation that makes good product to be better but access to a larger market.

This theory, if well implemented, can help many small business to develop on their investment.

Diffusion theory of innovation

Diffusion is a process by which an innovation is adopted and gains acceptability by members of a certain community. Four features that influence the diffusion of an innovation are: (i) features of innovation itself, (ii) how information about innovation is communicated, (iii) time and (iv) the nature of the social system into which innovation is been introduced. This theory help the researcher to understand how owners of small scale businesses can improve on their businesses by communicating the new innovation discovered by the intrapreneur, in the areas of manufacturing process, new job design and customer value, to other worker and customers.

Expectancy Theory

Vroom originated what is now generally referred to as 'Expectancy Theory', he suggested that the strength of an individual motivation is the product of two factors valence and expectancy.

Valence refers to the strength of a person's performance for one outcome in relation to others. Expectancy is the belief that a particular act will be followed by particular outcome. It is the employee's judgment of the probability that achieving the result will lead to another result.

Motivation in the expectancy model is defined as the strength of drive towards action. The model shows that a person's motivation towards an action at a particular time is determined by the anticipated value of all the outcomes (valence) of the action multiply by the strength of the person and expectation that the action will lead to the outcomes.

For example, a worker who wants promotion or an increase in salary has valence to be promoted or to get increase in salary. He can only be motivated by working harder if he has strong expectancy that improvement in productivity will bring about promotion or salary increase, thus satisfying his personal needs.

On the other hand, if the worker have no need for promotion (valence is zero) or wishes to avoid promotion (valence negative), he will not be motivated to do anything that can lead to promotion.

Vroom's Expectancy Model has been extended further by separating expectancy into two:

Expectancy 1: The belief that effort will lead to performance, and

Expectancy 2: The belief that good performance will be rewarded.

Thus, Motivation = f(Expectancy 1) (Expectancy 2) x Valence

Empirical Review

Among recent developments, Gündoğdu (2012) has offered some new insights into these fields by proposing a new metamorphosed term called 'innopreneurship'. This is more of prototype concept that harmonizes its predecessors: entrepreneurship, intrapreneurship and innovation through an integrative perspective. Taking into consideration the challenges of the current economic situation, Gündoğdu (2012) opines that traditional entrepreneurs are not sufficient for SMEs as they are unlikely to succeed. Innopreneurs show the balanced potential and talent to adapt in this dynamic environment while responding to evolutionary expectations of different customers. They thereby can be the suitable solution for the problems faced by different SMEs. This writer has deemed them

as a new type of innovation hunter demonstrating powerful characteristics of a traditional entrepreneur along with the skills of an intrapreneur. Although this concept is at a very preliminary stage of practicality, Gündoğdu (2012) believes that this innopreneurial mindset will take different organisations towards sustainable competitive advantage in the long run.

The concept of intrapreneurship is strongly related to, and expands on, the notion of entrepreneurship. Whereas the latter traditionally focuses on improving one's ability to set up and maintain a (small) business, recent views elaborate on the concept of entrepreneurship by also including the development of certain personal qualities and mind-sets, irrespective of whether one owns a business or is self-employed, an individual's ability to turn ideas into action. It includes creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve objectives. The third supports individuals, not only in their everyday lives at home and in society, but also in the workplace in being aware of the context of their work and being able to seize opportunities, and is a foundation for more specific skills and knowledge needed by those establishing or contributing to social or commercial activity." (European Communities, 2007). This expanded definition of entrepreneurship applies to large segments of the contemporary labour market. To underscore this move to a new and broader meaning of entrepreneurship the term intrapreneurship has been proposed recently to better reflect the idea that even when not involved in a business start-up, people can nonetheless act in an entrepreneurial fashion in their own work setting (De Jong &Wennekers, 2008).

Methodology

The paper uses survey design to study the relationship between intrapreneurship and innovative business development using selected small and medium scale enterprises (SMEs) in Uvwie local government of Delta State. The SMEs were selected based on the number of registered business in Uvwie L/govt. as provided by Warri Chamber of Commerce Mines and Agriculture (WACCIMA).

The population of study for this research work consist of One hundred and fifty (150) small and medium scale enterprise(SMEs) operating in Uvwie local government area of Delta state. The research was conducted among small and medium scale businesses with less than fifty employees (using SMEDAN,2014, report) and are categorized under

manufacturing, services and marketing/ sales . The sample size of 110 was selected using the formula derive by Yamani (1967) and supported by Oyeniya, Abiodun, Obamiro, Moses, & Osibanjo (2016), published table at 5% error margin and 95% level of precision. The formula is given as follows:

The purposive sampling technique was used to select six (6) areas of Warri metropolis comprising of airport road, Jakpa road, Enerhen units, Ekpan, Effurun/Sapele road, Shoprite, PTI road/ Alegbo axis due to the concentration of small business firms in these areas while the stratified sampling technique was used to select respondents (i.e. owners and workers in SMEs in these areas). The instrument used for the study was questionnaire and empirical study was carried out in order to test the four (4) hypotheses provide answers to research questions earlier stated.

Section A of the instrument covers the socio-demographic characteristics of age, sex, marital status, employment status, work experience and qualification while section B made use of a five points Likert scale which was further sub-divided into four parts of Risk taking, self-motivation, innovation and creativity variables.

The instrument was validated using previous work on intrapreneurship (Bidyut & Tony, 2014), while the use of Cronbach's alpha coefficient showed a figure of approximately 0.7 which is considered relevant and acceptable in academic research (Osugwu,2002) . The data generated was subjected to Pearson Product Moment Correlation coefficient to prove the consistency of the instrument. (see table2 below).

Reliability Statistics

Cronbach's Alpha	N of Items
0.7	29

Source: Field Survey, 2018

The first and last hypotheses (H_1 and H_4) were analysed using Pearson product moment correlation to test the direction and strength of the relationship between the dependent and

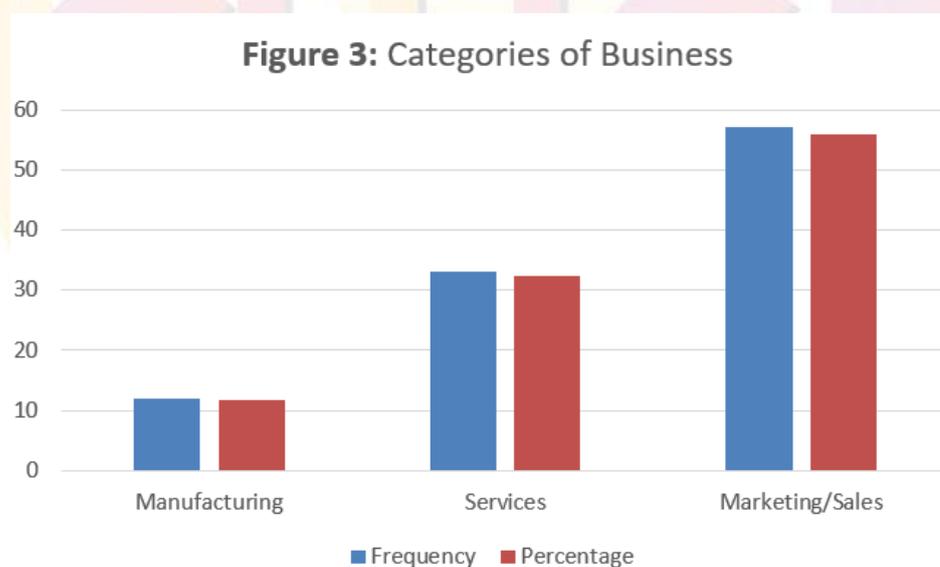
independent variables while regression analysis was used to test the causal effect of second and third hypotheses (H_2 and H_3) using statistical package for social science (SPSS) version 23.

4.0 Results and Findings

Table 3: Categories of Business

	Frequency	Percent	Valid Percent	Cumulative Percent
Manufacturing	12	11.8	11.8	11.8
Services	33	32.4	32.4	44.1
Marketing/Sales	57	55.9	55.9	100.0
Total	102	100.0	100.0	

Source: Field survey 2018.



From the responses of the questionnaire majority of the respondent are in the marketing/sales business category and was represented by 57 (55.9%), also, 33 of the respondents were in the service business while the remaining 12 (11.8%) were into the manufacturing business.

Table 4: intra-capital

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	38	37.3	37.3	37.3
Valid No	64	62.7	62.7	100.0
Total	102	100.0	100.0	

Source: Field survey 2018.

The above table reveals that a majority of the respondents which is 64 represented by 62.7% said “No” when asked whether their organisations have a special vote/budget (intra-capital) for employees that want to venture into a new product in your organization, and the remaining 38 represented by 37.3% said yes. This depicts that their organisations does not have a special vote/budget for employers that want to venture into a new product in their organization.

4.1 Test of Hypotheses

Hypothesis One

H₀₁: There is no significant relationship between risk taking, using organization’s resources and sales growth in SMEs.

Correlations

		Risk taking	Sales growth
Risk taking	Pearson Correlation	1	.826**
	Sig. (2-tailed)		.000
	N	102	102
Sales growth	Pearson Correlation	.826**	1
	Sig. (2-tailed)	.000	
	N	102	102

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Field survey 2018.

Findings

The Correlation analysis showed the result of the relationship between risk taking using organization's resources and sales growth in SMEs using Pearson's Product Moment Correlation (PPMC). The result in the table is consistent with the apriori expectation of positive relationship between the variables. The table indicates that there is a positive and significant relationship between the variables. The table indicates that there is a positive and significant relationship between risk taking and sales growth ($r = 0.826$; $p < 0.05$; $N = 102$). This means that the higher the risk taking the higher the sales growth. Based on this result, the null hypothesis one (H_01) which states that there is no significant relationship between risk taking, using organization's resources and sales growth in SMEs is hereby rejected and H_{i1} accepted.

Hypothesis Two

H₀₂: Employees drive for self-vision does not affect new job techniques.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.341 ^a	.116	.107	.946

a. Predictors: (Constant), Employee Drive

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	11.746	1	11.746	13.134	.000 ^b
1 Residual	89.431	100	.894		
Total	101.176	101			

a. Dependent Variable: New Job Techniques

b. Predictors: (Constant), Employee Drive

Coefficients^a

Model	Unstandardized		Standardized	T	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	2.400	.372		6.444	.000
1 New Job Techniques	.361	.100	.341	3.624	.000

a. Dependent Variable: New Job Techniques

Findings

The model summary above shows the extent to which employee drive affects new job techniques. The coefficient of determination ($R^2 = 0.116$, $p\text{-value} < 0.05$) shows that 11.6% of the variance observed in employee drive is accounted for by new job techniques. This result is statistically significant because the calculated F ratio of 13.134 is greater than the tabulated F ratio value of 4.0 of ($F_{1,83} = 4.00$) and the p-value (0.000) of the generated result is less than the level of significance (0.05) used for the study. It is as a result of this, that we reject the hypothesis (H_{02}) that says that Employees drive for self-vision does not affect new job techniques and accept the alternate.

Hypothesis Three

H_{03} : Idea generation by employee does not affect product innovation.

Model Summary

Mode	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.339 ^a	.115	.106	.692

a. Predictors: (Constant), Idea generation

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	6.224	1	6.224	13.007	.000 ^b
Residual	47.854	100	.479		
Total	54.078	101			

a. Dependent Variable: Product Innovation

b. Predictors: (Constant), Idea generation

Coefficients^a

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
1 (Constant)	3.153	.297		10.611	.000
Idea generation	.279	.077	.339	3.606	.000

a. Dependent Variable: Product innovation.

Findings

The model summary above shows the extent to which idea generation affect product innovation. The coefficient of determination ($R^2 = 0.115$, $p\text{-value} < 0.05$) shows that 11.5% of the variance observed in idea generation is accounted for by product innovation.

This result is statistically significant because the calculated F ratio of 13.007 is greater than the tabulated F ratio value of 4.0 of ($F_{1,83} = 4.00$) and the p-value (0.000) of the generated result is less than the level of significance (0.05) used for the study. It is as a result of this, that we reject the hypothesis (H_03) that says that Idea generation by employee does not affect product innovation and accept the alternate one.

Hypothesis Four

H_{02} : There is no significant relationship between curiosity and prospecting/qualifying leads for new customers.

Correlations

		Curiosity	Prospecting /qualifying leads
Curiosity	Pearson Correlation	1	.665**
	Sig. (2-tailed)		.043
	N	102	102
Prospecting/ qualifying leads	Pearson Correlation	.665**	1
	Sig. (2-tailed)	.043	
	N	102	102

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Field survey 2018.

Findings

The Correlation analysis showed the result of the relationship between curiosity and prospecting/qualifying leads for new customer using Pearson's Product Moment Correlation (PPMC). The result in the table is consistent with the apriori expectation of positive relationship between the variables. The table indicates that there is a positive and

significant relationship between curiosity and prospecting/qualifying leads ($r = 0.665$; $p < 0.05$; $N = 102$). This means that the higher the curiosity of an employee's, the higher the prospecting/qualifying leads for new customers. Based on this result, the null hypothesis four (Ho4) which states that there is no significant relationship between employee's curiosity and prospecting/qualifying leads for new customers is hereby rejected.

5. Conclusion

Attaining sustainable innovation within SMEs are needed with regards to the sustainable development goals for future generation. Despite government policy, initiative of firms may also determine sustainability achievement. For this purpose, this research is the first research to investigate a firm-specific capability of intrapreneurship as antecedent of risk taking that contribute to sustainable business development. Today the current economic environment has been described by different organisations as highly competitive, demanding and challenging which lead to several organizational complexities. However, the benefits small firms can derive from intrapreneurship are tremendous especially in this complex economic environment. Intrapreneurship comes across as an effective solution to effectively tackle and manage these organizational hurdles and complexities associated with innovation progression. The adoption and practice of intrapreneurial initiatives should therefore be highly encouraged by small firms to attain a competitive advantage and this is the responsibility of both the company's owners as well as intrapreneurs. Intrapreneurship, initially started as a concept to illustrate the innovations inside large enterprises, has now evolved and established itself as a way of improving business performance which is why organisations regardless of their sizes should prioritize it as one of their key management strategies.

Recommendations

Based on the findings of the study, the following recommendations were made:

- SMEs should embrace intrapreneurship practice in their operations to be able to achieve sustainable business development.
- SMEs should develop flexible policies by allocating special budget and having tolerance for risk and failure as a means of intrapreneurship support.
- SME owner/managers must be aware of the dangers likely to arise from the loss of a rejected intrapreneur. Where they decide to use their intrapreneurs to the full, they should thus, bear in mind the limits of intrapreneurial theories that were developed originally from a big business context

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EFFECT OF DISRUPTIVE INNOVATION ON ONLINE MICROCREDIT FIRMS GROWTH IN NIGERIA.

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Abstract

The phenomenon of disruptive innovation, which described a process whereby new entrants with smaller resources successfully challenge an incumbent enterprise in the same market by focusing on the overlooked products and services at a lower price has led to the creation and growth of many firms across the globe. However, the effect of disruptive innovation on the growth of firms in Nigeria has not attracted adequate research interest. Attributes of disruptive innovation is noticeable in some sectors in Nigeria, like the electronic commerce and online microcredit sub-sectors. This study explores the effect of disruptive innovation on the growth (measured by: credit advancement and customers' base) of online microcredit firms in Nigeria. The study employed survey research design through self-administered structured questionnaire. The research instrument (questionnaire) was validated using content, construct and expert validity index while the reliability of the instrument was

ascertain through test re-test method. The instrument was administered on some selected staff of *paylater.ng*, *alat.ng* and *loandey.com*. The findings revealed that the introduction of disruptive innovativeness has positive significant effect on the credit advancement ($\beta_1=0.861$, $p<0.05$) and customers' base ($\beta_2=0.892$, $p<0.05$) of the online microcredit firms. It can be concluded that disruptive innovativeness has enhanced the growth of the business activities of online microcredit firms in Nigeria, particularly, their credit advancement and customers' base. It is recommended that microcredit firms should consider two kinds of market that existing firms overlook, this are; Low-end and new market segments, Low-end segment exist because existing firms characteristically try to provide their most profitable and demanding customers with ever-improving goods and services, and they pay less attention on less-demanding customers. This opens the door to a disrupter focused (at first) on providing those low-end customers with a "good enough" product. In the case of new-market footholds, disrupters create a market where none existed. The microcredit firms in Nigeria should enhance their focus on the low-end segment of the credit-market that has been abandoned by commercial banks and microfinance banks; this segment holds a lot of potential for growth for the online microcredit firms. The creation of new market segment should also be embarked on by online microcredit firms in Nigeria.

Keywords: Disruptive Innovations, Online Microcredit, Growth, Credit Advancement, Customers' Base

1. Introduction

Innovation is becoming an important aspect in today's globalized and competitive environment which drives the success of every sectors of the economy. Firms that engage in innovation are more likely to gain competitive advantage and sustain themselves both internally and externally for a longer period of time (Akinwale, Adepoju & Olomu, 2017). However, environmental factors such as economic, social, political and technological factors (disruptive innovation) also determine the success and establishment of newcomers or start-up firms by bringing them to top rank position in the market and disrupting the position of the incumbents.

Disruptive innovation is best described as a process whereby new entrants that posses advance technology with a smaller resource successfully challenge incumbent enterprises in the same market by focusing on the overlooked products and services at a lower price. Hence,

microcredit firms' can grow through an enhancement in their customers' base, loan advancement, profitability, return on investment, efficiency and effectiveness in service delivery to their clients.

Scholars (Christian, David, Jermain & Torsten, 2018; Dominic & Wilhelmina, 2012) found that disruptive innovation is more useful in reinventing business model as well as positively impacting the success of small and medium enterprises. However, studies examining the effect of disruptive innovation on the growth of online microcredit firms in Nigeria seem not to have been examined. In addressing this research gap, this study examines the effect of disruptive innovation on the growth (measured by: credit advancement and customers' base) of online microcredit firms in Nigeria.

In line with the research objective the following hypotheses were formulated:

H₀1: Disruptive innovation does not significantly affect the credit advancement of online microcredit firms.

H₀2: Disruptive innovation does not significantly affect the customers' base of online microcredit firms

2. Literature Review

Disruption has been define in different ways by different scholars, some scholars argue that it is initiated by a new business model rather than by new technology (Ghezzi, Cortimiglia & Frank, 2015; Pisano, 2015; Sabatier, Craig-Kennard & Mangematin, 2012; Sosna, Trevinyo-Rodriguez, Velamuri, 2010). Innovation deals with the companies' ability to proposed new ideas, improving existing offering. Innovation is also defined as the implementation of new or significantly improved product or services in a workplace, organizations or institutions. Disruptive innovation has different meaning based on each perspective. The term disruptive technology has been replaced with disruptive innovation which has to do with technological advancement or improvement, used by the new entrants with fewer resources to challenge the incumbent firm product and services at a lower price and gain a sustainable development in the same market (Ghezzi, Cortimiglia & Frank, 2015; Pisano, 2015)

Similarly, disruptors may create a new market by turning non- consumers to consumers. According to Christensen, Raynor and McDonald (2015) disruptive innovation is an innovation with high significant impact on a market and economy activity of firms in that

same market such as creation of new markets or rendering the existing market products and services obsolete, change the structure.

Online microcredit firms observed the new way or ideas of exploring and expanding their market (credit advancement 'loan', payment, services) through the internet in reaching out to their customers in the technological world of today which most incumbents' commercial and microfinance banks failed to do by ignoring this market segment. Online microcredit firms exploit the opportunity of rendering services to the public through the internet and enhance the growth of their services. Online Microfinance is a special category of micro financial services providers, which majorly focused on the provision of micro credit services to clients over the internet by making it easier for their client to access credit online rather than going to bank, to have access to a wide range of affordable, high quality financial products and services including not only credit but also savings, insurance, payments services and fund transfers.

2.2. Disruptive Innovation Theory

This theory generate market shift in demand of a consumer due to advancement in technology that is bringing up new ideas to replace the existing ones in a Schumpeterian world of innovation- based competition, Many industries that are incumbents focus mainly on profitability of their product and services while ignoring the customers' requirement and satisfaction most especially the technological involvement which the new entrants endeavour to establish by improving and developing new technologies in such market segments (Christensen, Raynor & McDonald, 2015). Christian, David, Jermain, and Torsten (2018) argue that disruption is likely to be more useful in reinventing business model. This show that in the digital age businesses can regain their strength by focusing on the product and services rendered to consumer in the competitive business environment rather than profit to be made from such ventures.

However, Kapoor and Klueter (2015) argue that existing companies (incumbents) tend not to invest in disruptive systems and maintain a skills-enhancing approach. In some industries, such as the biopharmaceutical sector, the current wave of research alliances and acquisitions can help the existing companies overcome this "sluggishness" in both the first phase of research and in the later stages of development. However, the success of every organization comes from adaptation to new things and changes which is the most paramount and constant

thing in life. Small firms' that are able to achieve their aims and objectives make change their priority and maintain their strength in the same market with the incumbent's companies.

2.3. Empirical review

Christian, David, Jermain, and Torsten (2018) revealed the conceptual foundations, empirical evidence, and research opportunities in the digital age on disruptive innovation. The authors found that disruption are more useful in reinventing business model and recommended that future studies should enhance more on empirical analysis to harness the potential of disruption topic in providing solution. Andrea, Davide, Vittorio, Simone and Federico (2018) explored the contextual factors that influence disruptive innovation: The case of Uber. The exploratory study identified the impact that Uber has had on the taxi industry.

Titien, Grahita and Abdul (2017) investigated MSMEs Challenges in Phenomena of Disruption Era. The research aim is to examine the effect of locus of control and motivation on learning and the impact on MSMEs performance in Nokia Company. Using survey research design, through purposive sampling technique. The study finds out that micro, small and medium entrepreneurs must adapt to changes quickly through personal character based on the focus of control, motivation and learning.

Eneji, Nnandy, Gukat, and Odey (2018) seek to study the impact of technology innovation on sustainable entrepreneurship development in Nigeria in Central Nigeria. The study employed survey method, through interview with sampled stakeholders in Central Nigeria and the analysis was done using simple percentages statistical technique. Supplementary multiple regression analysis was carried out using secondary data. The study shows that the level of technology innovation in Nigeria is low and entrepreneurship is weak, this is caused by political, economic, socio-cultural and environmental factors but the study focused mainly on economics factors.

Dominic and Wilhelmina (2012) analyse the impact of disruptive technology on the success of small and medium enterprises (SMEs) in South Africa. The study used survey research design through a self-structured questionnaire, the questionnaire was administered to both owners and managers of SMEs in King Williams Town and the findings revealed that disruptive technology has a positive impact on the success of SMEs in South Africa

3. Methodology

The study employed survey research design through self-administered structured questionnaire, administered on thirty four purposively selected staff of paylater.ng, alat.ng and loandey.com. The research instrument (questionnaire) was validated using content validity index (CVI), through the independent evaluation of three academic staff of Olabisi Onabanjo University. The independent evaluators rated the instrument on two scales (Relevant and not relevant), using the CVI formular:

$$CVI = n/N$$

Where;

n= number of questions rated as relevant

N= total number of the questions

A CVI of 0.889 was obtained, which indicated that the instrument is valid,

Test-retest method was employed to test the reliability of the instrument, by conducting a pilot study, whereby the instrument was administered twice on five employees of www.fairmoney.com.ng within an interval of fourteen days, the result of the first pilot study was correlated with that of the second, which gave a value of 0.707, 0.803 and 0.872 for disruptive innovation, credit advancement and customers' base respectively, which implied that the instrument is consistent. The data was analysed using simple regression analysis with the aid of STATA version 14 at 5% level of significance.

3.0 Results and findings

Table 4.1: Result Summary (Dependent Variable – CREDIT ADVANCEMENT)

Variable(s)	Coefficient	t	P-Value
Disruptive Innovativeness	0.861*	9.275	0.000
F-Statistics = 14.109 (0.0000)		R-Square =0.591	

N.B.*: Significant at 5 percent level
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Author's computation from STATA 14

Source: Field Survey (2019)

The result on table 4.1 above revealed that the introduction of disruptive innovativeness has positive significant effect on the credit advancement ($\beta_1=0.861, p<0.05$) of online microcredit firms in Nigeria. The coefficient of determination (R-Square =0.591) indicates that disruptive innovativeness accounts for 59.1% variation in the credit advancement of online microcredit firms in Nigeria.

Table 4.2: Result Summary (Dependent Variable – CUSTOMERS' BASE)

Variable(s)	Coefficient	t	P-Value
Disruptive Innovativeness	0.892*	11.041	0.000
F-Statistics = 20.132 (0.000)		R-Square =0.710	
N.B.*: Significant at 5 percent level			

Author's computation from STATA 14

Source: Field Survey (2019)

The result on table 4.2 above revealed that the introduction of disruptive innovativeness has positive significant effect on the customers' base ($\beta_1=0.892, p<0.05$) of online microcredit firms in Nigeria. The coefficient of determination (R-Square =0.710) indicates that disruptive innovativeness accounts for 71% variation in the customers' base of online microcredit firms in Nigeria.

5.0 Conclusion and Recommendation

This study explored the effect of disruptive innovation on the growth (measured by credit advancement and customers' base) of online microcredit firms in Nigeria. The study employed survey research design through self-administered structured questionnaire. The findings revealed that the introduction of disruptive innovativeness has positive significant effect on the credit advancement ($\beta_1=0.861, p<0.05$) and customers' base ($\beta_2=0.892, p<0.05$) of the online microcredit firms.

It can be concluded that disruptive innovativeness has enhanced the growth of the business activities of online microcredit firms in Nigeria, particularly, their credit advancement and customers' base. It is recommended that microcredit firms should consider two kinds of market that existing firms overlook, these are; Low-end and new market segments, Low-end segment exist because existing firms characteristically try to provide their most profitable and demanding customers with ever-improving goods and services, and they pay less attention to less-demanding customers. This opens the door to a disrupter focused (at first) on providing those low-end customers with a "good enough" product. In the case of new-market segment, disrupters create a market where none existed. The online microcredit firms in Nigeria should enhance their focus on the low-end segment of the credit-market that has been abandoned by commercial and microfinance banks; this segment holds a lot of potential for growth for the online microcredit firms. The creation of new market foothold should also be embarked on by microcredit firms in Nigeria.

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**EFFECTS OF INSTAGRAM MARKETING ON FEMALE
ENTREPRENEURIAL PERFORMANCE
IN LAGOS NIGERIA: AN EXPLORATORY STUDY.**

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Abstract

Lagos is called the commercial capital and the most populous city in Nigeria, with an estimated population of 21 million in 2016. This makes it the largest city in Africa. The city is full of diverse opportunities for business and service delivery, majority of its population are social media savvy. Lagos hosts millions of female entrepreneurs who contribute to its GDP

via product and service delivery. The study also seeks to understand the experience of female entrepreneurs in Lagos who chose Instagram to market their small businesses. Ten successful young ladies were identified and their experiences with Instagram were analyzed. The study found that Instagram is effectively used by female entrepreneurs, especially those of them who do not have a shop or an office. Some female entrepreneurs identified in this study, opined that Instagram is user friendly, however data consuming. Instagram marketing provides high exposure of products or services which gives room for sharing product pictures and creating an engaging content. This study is aimed at exploring Instagram, a type of social media platform used for social interactions, but now used for marketing by startups and entrepreneurs. Hence the exploratory method employed by the authors.

KEYWORDS- Instagram; Instagram marketing; Social media; Entrepreneurs.

Introduction

Technology has made it possible for social media networks to thrive, and since the world has become a global village due to the advent of technology; people can now connect with one another at the speed of light to carryout transactions and other engagement. Kaplan & Haenlein, (2010) as cited in Noor. (2017) said it has made the world change faster and wider. Technology is evolving at a fast rate, and that what most people did not even think could be real a few years ago, is now becoming a reality, they said seems hard to escape the presence of technology in today's world. That People are becoming more and more dependent on technology, that many people praise technological gadgets that they use in their everyday lives, and many depend on it to get us through the day, to do jobs, to get around the world and to find certain things.

With the rise in digital and mobile technologies, interactions on a large scale became easier for individuals than ever before; and as such, a new media age was born where interactivity was placed at the centre of new media functions. One individual could now speak to many, and instant feedback was a possibility. Where citizens and consumers used to have limited and somewhat muted voices, now they could share their opinion with many. The low cost and accessibility of new technology also allowed more opinion for media consumption than ever before-and so instead of only a few news outlets, individuals now have the ability to seek information posted. At the core of this ongoing revolution is social media. Manning, (2014).

Wan, Ziti, & Nurul, (2016) said social media have become a phenomenon since the boom of the internet and smart gadgets and that It a need today. According to Jenkins, (2015), Instagram is an application of social media, one of the changes in communication technology that is commonly used on smart phones has become a widespread application nowadays especially among young people. It is a mobile, desktop and internet based photo-sharing and service that allows users to share pictures and videos to individuals or groups of friends either publicly or privately at no cost as long as their phones are connected to the internet.

The use of Instagram as a marketing tool is becoming a common num among start ups and business organizations today, this application of social media allows the user to market his or her offering to the other user as long as they are on the application as a user and a follower of the one who is trying to market their offerings.

Lagos is a mega city that host a lot of entrepreneurs, especially women and as a city that is internet enabled, these entrepreneurs leverage on Instagram to communication their products and services to the public or their potential subscribers and buyers.

The goal of this study is to identify the effect of the use of the Instagram application as a marketing tool on Lagos female entrepreneurs. It has identified ten of such entrepreneurs who deal in various products and services. This paper is orderly arranged as follows, the introduction, and literature review, methodology of the study, sample description, participant experience, recommendations, conclusion and references.

Literature Review

SOCIAL MEDIA

Julian, (2017) define social media, citing the definition of Kaplan & Heinlein (2010). They define social media as an internet –based channels that allow users to opportunistically interact and selectively self-present, either in real time or asynchronously, with both broad and narrow audiences who derive value from user-generated content and the perception of interaction with others. McCay-Peet and Quan-Haase (2017) define social media in the work of Julian as a web-based services that allows individuals, communities, and organizations to collaborate, connect, interact, and build community by enabling them to create , co-create, modifies, share, and engage with user-generated contents that is easily accessible. According to Maya, (2019) social media is a computer-based technology which facilitates the sharing of ideas, thought, and information through the building of virtual networks and communities. Maya went further to say that social media originated as a way to interact with friends and family but was later adopted by businesses which wanted to take advantage of a popular new communication method to reach out to customers. She said globally, there are roughly 1.96 billion social media users and that most likely, as at the end of 2108, it should have risen to 2.5billion.

In a nutshell, social media is a platform that makes for engagement and interactions between two parties, businesses and organizations.

Types of Social Media

Seeing the popularity and power of social media channels, businesses and Marketers look for different types of social media networks that they can use to target and convert their audience. Garima, (2018). In her work, identifies the different types of social Media Networks as follows.

- I. **Social Networks: Facebook, Twitter and LinkedIn.** These types of social media are used to associate with individuals and brands on the web. They help businesses via branding, social awareness, relationship building, customer service, lead generation and conversion. Different social media campaigns can be channelize on these networks that can help widen your reach. They encourage individuals and businesses to interact online and share data and thought for ensuring mutually productive relationship.
- II. **Media Sharing Networks: Instagram, Snapchat, YouTube.** They are used to find and share photographs, live videos, Videos and other kinds of media on the

web. They help in brand building, lead generation, targeting etc. They give individuals and brand a place to discover and share media so that targeted audience can be targeted and converted into a convincing and result driven way possible.

- III. Discussion Forums: Reddit, Quora, Digg.** These Channels are used for finding, sharing and discussing different kinds of information, opinions and news. They help businesses by being topnotch resource for doing immaculate market research. These forums are the oldest ways of running social media marketing campaigns, before the entry of popular social media players like facebook. These forums are used by professionals, experts and enthusiast to discuss on variety of fields.

The above are the different types of social media that are in used, but the popular ones are facebook, twitter, LinkedIn, Instagram, Snapchat and Whatsapp.

Social Media Marketing and Its Benefits

Social Media Marketing can be said to be the use of the various social media platforms and websites to promote and create awareness for a product and service.

Daniel,(2019) opine that, social media marketing is the process of marketing through social media sites like twitter, facebook, Instagram, and YouTube. He said by utilizing the social aspect of the web, social media marketing is able to connect and interact on a much more personalized and dynamic level than through traditional marketing. Big Commerce researchers, define social media marketing as the process of leveraging social media networks to interact with prospect and ultimately increase traffic and sales to a website. Social media marketing is any marketing that takes place on social media platforms. Brand, (2018).

Alfred, (2019) listed the following social media sites that can be used for social media marketing.

- I. Facebook:** The biggest social media site that has over 2.23billion monthly active users.
- II. YouTube:** A video sharing Platform where users watch videos. It has over 1.9 billion monthly active users.
- III. WhatsApp:** A messaging app that has about 1.5billion users, it is used by people in over 180 countries. This app was only used by people to communicate with their family and friends, gradually people started communicating business via it.
- IV. Messenger.** This used to be a messaging feature with facebook, and since 2011, facebook has made messenger into a standalone app by itself and greatly expanded on its features. It has about 1.3billion monthly active users.
- V. We chat:** We chat grow from a messaging app, just like whatsapp and messenger into an all-in-one platform. Beside messaging and calling, users can use it to shop online and make payment offline, transfer money, make reservations, book taxis, and more
- VI. Instagram:** A photo and video sharing social media app that allows you to share a wide range of content such as photos, Videos, stories and live videos. Instagram has

1 billion monthly active users. Instagram Marketing is the core of this research; more details shall be looked into in the work.

The diagram below gives a breakdown of some of the various social media marketing strategies.

Social Media Marketing Strategies



Source: Buffer.com 24th January 2019

Benefits of Social Media Marketing

Brady, (2018) highlighted the following benefits of social media marketing.

- I. It Create Brand Recognition- Customers wants to buy from the brand they recognize.
- II. It helps to generate a conversation around the brand-A strong media marketing strategy will generate conversation about a brand, products and partners.
- III. It makes you learn how to connect with your audience through social listening. Social listening is the act of social conversations around certain topics, it helps you understand what's important to your audience and identify trends your target audience is following. You can learn about what they are struggling with, which can help you create content addressing those pain point. You can also identify the tone and language that your target audience uses.
- IV. It tells your Brand's Story- It can help share your brand's mission and stories.
- V. It gathers Data from Audience Research to improve.

- VI. It provides exceptional customer service that keeps your followers happy- A strong investment in customer service can build meaningful relationship between your company and your customers. Social media allows for immediate interaction and customer feedback. Businesses can also respond to their customers right away.
- VII. Build customer Loyalty- Customers follow and interact with the brand they enjoy. It's an obvious direct correlation, if customers follow you, they are more likely to choose you versus your competition, and furthermore, if they are loyal customers, they will increase your traffic.
- VIII. Direct Referral Traffic to your site or blog. Social media marketing can assist in sending customers directly to your site.
- IX. Social Media can assist with link building.
- X. It's (Mostly) free- it is free to create social media profiles and post organic content.

Instagram and Instagram Marketing

Instagram

Instagram is a photo and video-sharing social networking service owned by facebook, it was created by Kelvin Systrom and Mike Kriegar, and launched in October 2010 exclusively on IOS.

Elise, (2018) said Instagram is a social networking app made for sharing photos and videos from a Smartphone. He said the app is similar to facebook and twitter, that everyone who creates an Instagram account has a profile and news feeds. When you post a photo or video on Instagram, it will display on your profile, other users who follow you will see your post in their own feed, likewise, you will see from other users whom you choose to follow. Just like other social networks, one can interact with other users on Instagram by following them, being followed by them, commenting, and liking, tagging and private messaging.

Instagram is available for free on IOS and Android devices. It can also be accessed on the web from a computer, but users can only upload and share photos or videos from their devices.

Over the past few years, Instagram has seen exponential growth-from one million users in December 2010, to over one billion in 2018. Caroline, (2018).

Instagram has some unique features that its users can explore.

According to Kayla, (2018) the following are some of the features of Instagram app.

- I. Video Features:** This feature allow for video up to 60 seconds long. Video posts generate more user engagement than photos.
- II. Live Video:** This is different from Instagram video, here it is live. Your followers are notified when you want to go live.
- III. Stories Features:** Stories are similar to snapchat in that users add clips of video to a story which is viewable for 24 hours before it vanishes.

- IV. Activity Status Tracker:** It is a green dot that indicates that your contacts are active on the app. Activity status can be seen from the direct message page. It can be turned off, if users don't want to be seen active on the app.
- V. IGTV:** Instagram TV is an app within Instagram that gives users the ability to share videos that are up to an hour long like a TV episode. It gives business owners and marketers the opportunity to share longer video content with the advantage of your users being notified when you share a new video.
- VI. Muting Ability:** This feature lets you mute posts from certain accounts without having to unfollow the user. This way, you can stay up to date with whatever your favorite accounts are up to without the interruptions to your work day.
- VII. Hyperlink Username and Hash tags:** In your bio-when you type @ or #, the user or hash tag that follows will automatically be hyperlinked. This will enable your followers to engage with other accounts you own or branded hash tags your company uses.
- VIII. Algorithm Updates:** This feature helps users to see family and friend posts 90% of the time.
- IX. Emoji Slider Polls:** Instagram puts Emojis to use as a way of polling how much users like or dislike a post.
- X. Shoppable Tags in Stories:** This feature allows businesses to tag their products in their photos.
- XI. Bulk Upload Stories:** Ability for users to upload photos and videos to stories in bulk. This feature will be a time saver for businesses and social media managers.

Instagram Marketing

Clair, (2018) defines Instagram marketing as the way that brands use Instagram to connect with their target audience and market their offerings. She said recently, Instagram has gained popularity as an exciting method for brands to show off their culture, recruit new employees, engage with customers, and show off products in a new light. According to Eddie, (2018) Instagram marketing is competitive, that more than 25 million businesses use the platform to capture attention, incite interest, create desire, and compel action.

Iconosquare, (2019) said Instagram marketing is no longer something to consider, but something to do because it comes with the jobs now. Those who understand this are no longer asking themselves why they should do it, but rather how they should do it correctly in order to get the results they want. Ana, (2019) is of the opinion that Instagram marketing is a staple part of many e-commerce businesses marketing campaigns and for good reasons it has a large and diverse audience that is happy to engage with brands resulting in high engagement overall.

We like to define Instagram marketing as the marketing done by business owners and organizations in order to create products and service awareness to their potential customers and clients using Instagram a social media type that gives room for photo and video sharing.

Entrepreneur

Chinonye, (2015) defines an entrepreneur as someone who sees a gap or a need in his or her immediate environment and brings resources together to meet such needs for rewards.

From the above definition, an entrepreneur can be said to be someone who is visionary, who creates and explore opportunities to do business in order to proffer solutions to numerous challenges of mankind so as to make money.

Female Entrepreneurs and Their Characteristics

A female entrepreneur is any woman who owns and runs a business or provides services. Therefore, female entrepreneurs are women who do business or render services.

Carmen. (2013) is of the opinion that female entrepreneurship represent a vast untapped source of innovation, job creation and economic growth in the developing world. Women entrepreneurship means an act of business ownership, creation and controlling which empowers women economically, increase their economic strength as well as position in the society. Kavita & Mallikajum (2016). Female entrepreneurs are said to encompass approximately 1/3 of all entrepreneurs worldwide.

Colette, (2017) enumerated some of the characteristics of female entrepreneurs. Such as

- I. **Courage:** Making the jump from corporate to CEO is scary, it courage to do such, because there are no more paid expenses, no more annual bonus and company pension scheme. No more stable monthly salary. Then there is the long learning cure that you have to go through as the business takes shapes and starts to grow. It takes courage to quite an 8 to 4 Or 9am to 5pm job, especially if it pays well.
- II. **Thick Skin:** For the business to be successful, you need to be visible, putting yourself out there and sharing your message, your brand, and to a certain extent your soul.
- III. **Perseverance:** The ability to pick yourself up after every knock-back and every failure.
- IV. **Creativity:** Female entrepreneurs have the ability to think outside the box. Creativity drives the world and business, therefore female entrepreneurs are always thinking at a go and out of the box so as to remain relevant as her own brand representative.
- V. **Empathy:** The ability to use a particular knowledge and skills to solve a specific problem for people.
- VI. **Curiosity:** Most of the female entrepreneurs who are successful have an element of explorer in them. They want to test new theories and push new boundaries to see what happens. This is how innovation takes place, and innovation is an important ingredient in any successful business.
- VII. **Passion:** Female entrepreneurs have the ability to feel personate and excited about their business at the starting stage of the business.
- VIII. **Organized:** They are very organized in terms of planning and setting goals.
- IX. **Confidence:** Female entrepreneurs are very confident, they believe in their products and services.
- X. **Humility:** Humility is vital to the success of any enterprise, most female entrepreneurs are very humble, they willing to learn and unlearn at any point in time in their businesses and personal life.

The Rise of Female Entrepreneurs in Lagos Nigeria

According to world-bank report as written by guardian woman on the 22nd of July 2017, the rate of female entrepreneurship in Africa is higher than any other region in the world.

As at February 2017, BBC, in a news report stated that “Nigeria has the highest number of female entrepreneurs in the world, as forty percent of Nigerian women are entrepreneurs, which is higher than anywhere else in the world” the report said.

The report went further to say that emphasis on small scale and subsistence entrepreneurship for women is gradually fading away and replace it is a more daring and relentless form of female entrepreneurship.

There are many female entrepreneurs in Lagos who are doing businesses and impacting their immediate environment and world positively. Here are 6 Nigerian women amongst many others. Who are thriving in the entrepreneurial space?

I. Linda Ikeji

Linda began working at the age of 17, working jobs as waitressing and ushering to modeling and bartending. She started modeling in 1998 and worked as a fashion columnist for a struggling celebrity magazine.

In 2006, she started blogging as a hobby. At that time, the internet was not as prominent in Nigeria and she had to make her post at a cyber-café. Before starting her popular blog lindaikeji.com, Linda tried her hands at starting her own media company, modeling agency and event management outfit. Linda Ikeji was the biggest Google search trend in Nigeria for 2014 and currently the highest paid blogger in Nigeria.

II. Bilikiss Adebisi

Bilikiss Adebisi is a Nigerian businesswoman and founder of wecyclers. Wecyclers is a Lagos-based company which is mainly focuses on recycling waste and cleaning up neighborhoods through a recycling program. She first came up with the idea for a recycling business in her second year masters programme at MIT, where she was studying waste as her specialist project. Wecyclers collects recyclable waste items like plastic bottles, aluminum cans and plastic sachets from thousands of low-income house hold in Lagos, after which the contributors receives points via SMS which can then be exchanged for rewards like food products, blenders, bowls, mobile recharge cards, and a whole lots more.

III. Stephanie Obi

CEO of ST HUB Limited, she is popularly referred to as the queen of online courses, as she help woman entrepreneurs create, lunch and sell online courses. She has an online business school, Steph B-School, that teaches women entrepreneurs how to get more customers online. Through her website, www.stephanieobi.com, she has reached over 82,000 people in over 10 countries. She has also been recognized as one of the most inspiring women in Nigeria, and won first prize at the wimbiz impact investment competition.

IV. Yasmin Belo-Osagie

Yasmin Belo-Osagie is the co-founder of she Leads Africa (SLA), a Nigeria based social enterprise that equips female entrepreneurs in Africa with the knowledge, network, and financing needed to build and scale strong business. In 2005, Belo-Osagie took five female entrepreneurs to China to meet with successful women entrepreneurs and China-based investors interested in Africa. While continuing to grow her Leads Africa, Belo-Osagie is also pursuing a joint JD/MBA from Harvard Law School and Stanford Graduate School of Business.

V. Yemisi Odusanya

'Sisi Yemisi' as she is popularly called is a lifestyle blogger at Sisiyemmie.com, she is also a photographer and a vlogger (Sisi Yemmie TV) and the editor of cosmopolitan Nigeria which is an online magazine and a part of cosmopolitan worldwide, she studies mass communication at the tertiary level, and an MA in international Diplomacy from the University of Birmingham. She started blogging in 2009 after been encouraged by her boyfriend to start a blog. Sisi Yemmie's blog covers topics ranging from beauty, food, relationships, reviews and her life as a mom & wife. She currently has over 40,000 followers on her Instagram page and over 30,000 subscribers on her YouTube channel.

VI. Ola Orekunrin

Dr Ola Orekunrin is a medical doctor, helicopter pilot and the founder of flying Doctors Nigeria, West Africa's First Air Ambulance Service. She's dedicated to bringing trauma care to the most remote part of West Africa. She was motivated to start the company after her younger sister tragically died whilst traveling in Nigeria as a consequence of there being no medical air services available to transport her to the hospital. She is considered a national expert of disaster medicine and pre-hospital caring Nigeria. Her company has been featured on various local TV and radio stations as well as the BBC and CNN.

The above information is an extracts from <http://lseit.ng> on the 25th of February 2019

Methodology

This study used a mixed method. Primary data collection was carried out through in-depth interviews of 10 female Lagos entrepreneurs who were selected and accepted to participate in the study. The interview is electronically documented on the Whatsapp application. The content of the interview was analyzed and a thematic analysis was performed. Secondary data was collected from academic and business blogs, journals, books, and database and news paper reports.

Sample Description

The participant's age range from 25-37 years, each of their estimated income per month exceeds 50,000 naira. A part from participant 1 and 10 who are master's degree, all the participants are first degree holders, the entire participant sell and manufacture various products. Participant 1 and 6 sell shoes, bags, and clothes and wristwatches. Participant 1 also source for recommended and reading glasses for her customers that need them. Participant 2

and 5 makes shoes and sell online to both male and female. Participant 3 is a hand crafted bead maker crafted in all shapes and sizes to include bracelets and necklaces. Participant 4 is a baker; she bakes cakes and makes pastries for birthday parties, wedding and any event that cakes will be needed. Participant 7 sells Ankara and cashmere materials for men, participant 8 is a manufacturer of Shea butter, participant 9 is into gift service, she curate gifts for special occasions, participant 10 is into bridal wears, accessories, footwear and fabrics. All of them make use of Instagram as a major marketing tool. They all have what motivated them into becoming an entrepreneur, participant 8 went into manufacturing Shea butter because of the skin disease that her younger sister had that has refuse to heal despite several medications, but her grandmother brought a dirty spelling substance tied in a black nylon from the village which was applied to the affected parts and gradually the skin got healed from the skin infection, she did further investigation into the substance and she began to manufacture Shear butter. Today she has them in various fragrances that just got a NAFDAC approval. Participant 1, 4, 7 and 10 have less than 500 followers compare to the other participants whose follower's ranges from 900 to 4,600. All the participants said their followers are been built organically and that they do not buy followers. Fashion and beauty products have the most followers because the product has the tendency to drive traffic and play a crucial role in consumer acceptance. Participant one said Instagram is the new market and that it helps in promoting the fashion market. All the participants post the pictures of their products daily, two or three times in a day, biweekly etc and they sometimes enjoy a repost from their customers, an added advantage to their product awareness. Participant 10 said besides the online presence of her products, there has not been so much Instagram effect on her business. Products enjoy wider reach and followership if it uses the specific hash tags that that is related to the products.

Data Analysis

I. Instagram: The New Market Place

A market can be said to be a physical location, a place or a gathering where people go to buy, sell or deliver a service. In the work of Rowland, Omotayo, & Joseph (2016) they define a market as where buying and selling takes place, they mentioned places like Alaba Market, Tejuoso Market and Oyingbo Market as examples of a market. They went further to say that the definition of market is more than the above definition that to an economist market is referred to as the people involved, which are the buyer and seller in actual and potential transaction of goods and services. They said to a marketer, a market is everybody and firms who are the original and potential buyers of a product. Technology has bridged the gap of having to a physical market for buying and selling. In this study, the entire participant admitted that Instagram is the social media that allows for photo and video sharing. Participant 1 said Instagram is the new market and that the platform is where most youth are these days. Participant 2 said Instagram is her show room, that it gives her the opportunity to share her products with potential customers in the absence of a physical showroom. Participant 3 said her target audience spends more time on Instagram. Richard (2018)

confirms that for some years now, Instagram has been creating diverse changes to its platform and this has made it position the social media Network as the future market place.

Instagram as the new market place makes it possible for start-ups and already established entrepreneurs to get their products and service out to their potential customers and clients without having the need to go display or sell them at the physical market.

II. Instagram and Reach

As far as social media is concern, reach is the number of unique people who see your content. Instagram has two types of organic-reach, where engaging content are created by you the user, hashtags and other techniques to be high on your audience feed. The other type of reach that is available to you is the paid reach; you buy Instagram ads to sponsor your content. The organic type of Instagram reach is difficult to achieve, but it is so much more useful when it comes to maximizing your conversation rates from Instagram. Marta, (2018).

In this study all the participant mentioned the reach that Instagram has one of their major reasons for exploring Instagram marketing. Participant 2 said Instagram marketing helps her business to reach a wider audience of potential customers; participant 3 said it's a great platform to be in people's face at anywhere in the world, close sales without meeting physically. Participant 5 said she has chosen Instagram to reach out to the world and not just Nigeria, participant7 said a lot of presence and wider reach is the major reason why she chooses Instagram marketing. Participant 8 said Instagram is a great place to find potential customers; participant 9 said Instagram marketing gives her business access to a wider market and audience.

Marta, (2018) went further to say that there are a lot of simple Instagram techniques to increase the reach of a post. She this will combat the effect of Instagram algorithm as well as reach and influence new audience. She said spotting the right time to post on Instagram should be a piece of cake if you have Instagram business account. That is to say that time of a post has a significant effect on the number of audience it can reach.

In this study participants share their various time of sharing post on their various products. Participant 1 said she post at least once in a day, participant 2 post three times in week, participant 3 post at least once a day and at most five times in a day, participant 4 said she post once in a while, Participant 5 said she post very well, Participant 6 post 3times in a week, participant 7 post every day, three multiples of 10 pictures per day, participant 8 said her posting depend on the available products, participant 9 post four times in a week, and participant 10 said she post weekly.

The use of the right hashtags: to increase your reach on Instagram there is the need to use hashtags. Hashtags mean a lot on Instagram. They help other users of the Instagram application to discover your content and help you to analyze the performance of your Instagram marketing campaign. Marta, (2018). In this study all the participant admitted to using hashtags to every post on their Instagram handle. The participants said they use hashtags that are close or related to the business. From the above study, the use of hashtags and the right time post has an effect on the number of reach and Instagram users that will see it.

III. Influencers and Instagram Adverts

Influencer is a person (a celebrity or a very active user) that businesses or brand can leverage on to promote or market their offerings. Lucy (2018) said there are a lot to learn from influencers who built their personal brand on Instagram from the group up, without the support of digital teams and budget. These are the people who understand their core audience needs and content proclivities better than anyone else, because it is their ability to meet needs and proclivities that made them.

In this study all the participants declined as to using influencers to market their brand. Participant nine said though there are no influencers, but when she does gifts for Notable people, they share the pictures on their Instagram handle or Instagram adds.

The two features above are individual and an activity carried out by the Instagram that entrepreneurs can leverage on to market their products and increase sales.

IV. Followers and Buyers

In the work of Willy & Koshy, (2014) they are of the opinion that most of the followers are buyers, those who follow your brand or business hand are competitors and fans. That the determinant of the unit of any business, whatever size, is the revenue which can be estimated through the buyers appeal, as pointed out by Miles, (2010) in Willy & Koshy, on Instagram the number of followers can reflect the actual sales figures. The entire participant in this study, declined to buy followers, they said all their followers as at the time of conducting this interview are organically built. Organically built followers are the followers that were not bought to follow a brand, but follow an account willingly based on the content or activity of the account.

V. Effects of Instagram Marketing on the participants Brands

	Brand Awareness	Exposure To large Audience	Meeting Nice Customers	Building A Strong Clientele Base/ Acceptance	Sales Increase	Online Presence	User Friendly
P1	✓	✓	✓		✓		✓
P2	✓	✓			✓		✓
P3	✓	✓			✓		✓
P4	✓	✓	✓		✓		✓
P5	✓	✓		✓	✓		✓

P6	✓	✓	✓	✓	✓	✓
P7	✓	✓			✓	✓
P8	✓	✓			✓	✓
P9	✓	✓	✓		✓	✓
P10	✓	✓			✓	✓

The table above shows effects of Instagram marketing on the participant's brand. The entire participant agreed that Instagram marketing helps brand awareness, gives access to a larger audience of people all over the world, it is user friendly i.e. easy to operate, it does not really need any special kind of knowledge or skills. They also agreed that it has led to increase in sales and patronage. Participant 1 and 4 mentioned that Instagram marketing has helped their business meet nice customers. Three of the participant said Instagram marketing has help them build a strong clientele base both within and outside Nigeria. That Instagram marketing has made them meet people they would not have had access to on a normal business day. Participant 6 said the major effect of Instagram marketing on her business is the basic acceptance of her products by her online customers. Participant 10 said online presence for her business is the only effect she has enjoyed so far.

Conclusion

The study looked into how technology is been used to shape the business world and how this era of social media is penetrating into everyday aspect of human endeavors. Just a click on the computer can complete a business transaction without seeing or meeting physically. This study has found that Instagram, one of the types of social media has a huge benefit that can be employed by entrepreneurs. The app allows photo and video sharing. This unique feature is been used by many business owner to share their product pictures with the world, to market and also communicate brand offerings. 10 female entrepreneurs in Lagos metropolis whose businesses are on Instagram where interviewed for this study, they shared with us effects of Instagram marketing and how it has helped the performance of their various businesses.

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ABSTRACT

Every entrepreneur aims to succeed in his business either by financial benefits or social benefits. Due to the rapid dynamism in the environment, entrepreneurs look for ways to

have an edge over competitors in the industry. The rate at which innovation takes place on a daily basis is extremely rapid. Disruptive innovation is seen as applying new technology or processes to an organization's existing market. Studies have shown that in recent time's entrepreneurs strive to develop newer technologies which will often make existing market technologies inferior in the existing market. These newer technologies are often more user-friendly with fewer features. It has been identified that it is not the technology itself that is disruptive, but its impact on the business environment. Sometimes the impact can be a negative on entrepreneurs as the existing market tends to accept the new technology because of its dominance and improved features to other technologies in the market. This paper is an archival study that looks at some disruptive innovations in recent times and their effects in the business environment. It aims to discuss disruptive innovation as one of the recent drivers to entrepreneurial success, identifying how disruptive innovation can bring about a competitive advantage to an entrepreneur and the importance of disruptive innovation to entrepreneurs.

Key words: Disruptive innovation, entrepreneurs, competitive advantage, technology

INTRODUCTION

With the fast improvements in the field of technology and the forces of globalization, the world has turned into a universal market, described by a tense development in universal business and rivalry. To endure, keep pace with speed of developments, and lead in the challenging world is intense and, in the meantime, this opens up different new doors of opportunities. Every entrepreneur aims to succeed in his business. Due to the rapid dynamism in the environment, entrepreneurs look for ways to have an edge over competitors in the industry. Disruptive innovation has been seen as a tool for entrepreneurial success. Disruptive innovation focuses on the use of the technology rather than the technology itself.

Clayton Christensen (1997) explains disruptive innovation as a procedure by which a product or service originated at first in simple applications at the base of a market and afterward persistently steps up the market, in the long run replacing reputable competitors. Disruptive innovation is where a smaller organization with less assets can effectively challenge the big organizations. Most of these big companies 'FAIL' when they do not respond to this new market disruptions. New entrants adopt disruption which has been proven to be a consistently effective strategy that makes key incumbent competitors to flee from entrants rather than

fight them. Nevertheless, a disruption is usually not welcomed at first. “They initially offer a lower performance compared to what the mainstream market has demanded. However, once developed, they achieve faster penetration and develop a higher level of impact on the established markets. Other performance attributes (smaller, faster, simpler and portable) that is not valued by the current customers—make it flourish in a new value network. As the innovations improve along the traditional performance parameters, they eventually displace the former technology” (Kritesh, 2018).

An entrepreneur reforms or revolutionizes the form of production by misusing an innovation or, usually, an untried technological process of manufacturing a new product or an old one in a new way, introducing a new source of supply of materials or new openings for products, by establishing another industry (Schumpeter, 1952). Disruptive innovations will in general be introduced by entrepreneurs in startups, instead of current market-leading organizations. The business condition of market leaders does not enable them to seek after disruptive innovations when they initially emerge, on the grounds that they are not sufficiently profitable at first and on the grounds that their improvement can remove scarce resources from sustaining innovations which are necessary to contend against existing competition (Christensen, 1997).

The capacity to maintain innovation after some time turns out to be instrumental for businesses trying to build and sustain a competitive advantage (Miles and Darroch, 2006). A competitive advantage is a benefit gotten over rivals by offering customers more value, either through lower amounts or by giving extra advantages and services that justify higher amounts. Competitive advantage therefore refers to the condition where the product or service a firm produces is perceived to be better than that of its competitors. Oftentimes we see that a disruptive innovation totally replaces the existing market which itself once replaced some other market. This is the basic characteristic of a disruptive innovation which makes it unsustainable. That is, there would always be a new product to replace the old product and at some point, down the line, this new product would also be replaced by another new innovation eliminating its market.

To this end, this paper looks at some disruptive innovation in recent times and their effects in the business environment, identifying how disruptive innovation can bring about a competitive advantage to an entrepreneur and the importance of disruptive innovation to entrepreneurs.

LITERATURE REVIEW

CONCEPTUAL FRAMEWORK

Nature of Disruptive Innovations

According to Rahman et al (2017), technologies have different characteristics and the prospect to disrupt businesses either by altering the ways things are being run in the organization (i.e. production of goods and services), corporate governance and management which in turn enhances the value of life. It is established that disruption will be increasingly rampant as technology tends to be more economical and smarter.

It was indicated that disruptive innovation can be known by either one or mixture of the following three features: radical functionality, discontinuous technical standards and innovation's ownership. Radical functionality refers to new functionality innovation, an innovation that lets handlers implement new methods to achieve new tasks which was formerly termed as being difficult to achieve and thus, helps to generate new markets. Discontinuous technical standards can be defined as a means of making effective use of new processes and resources in the formation of current applications and technologies, therefore altering a current market. Finally, innovation's ownership shows that presenting other forms of ownership in reputable industries, thereby altering the present business model in a market.

Mount (2012), in his work affirmed that the basic factors of innovation are of two types: locus of innovation and innovation type which are basically the innovation's features. It comprises the extent to which innovation changes the business processes (radical vs. incremental) and the effects it has on organization's existing technological standards, competencies and market dynamics. If we were to ponder on these three fundamental dimensions of innovation simultaneously, a total analysis of their impact and characteristics would be considered and it is also assumed that each of the above-mentioned features are independent of the other. As a result of this, an innovation's features can be well-defined as a function of its effect along the three identified dimensions: how innovation can influence organizations current competencies, its effects on the current technological standards in a product, process innovation and how innovation influences current market dynamics and competitive structure in established market segments.

Strategies for Encouraging Disruptive Innovations

Strategies to generate, encourage or maintain disruptive innovations are usually not linearly inclined; there is no single strategy on how it is done or how it works. Some strategies that can bring about and maintain disruptive innovations are given as follows:

1. A Leapfrogging Mindset

This is accomplishing something drastically new or diverse that delivers an important leap forward. Leaders who have a leapfrogging mindset have an unyielding intention of creating breakthroughs and adding a new degree of value to the market.

2. Boundary Pushing

This involves hard work, diversifying one's talents, expansion of creative problem-solving abilities, pushing boundaries of groups and partners.

3. Data-Intuition Integration

Robust and rigid data are usually unavailable to leaders for decision making in times of disruption. They must, however, use whatever information is available to them from all internal and external sources, and comfortably use their instincts for the rest.

4. Adaptive Planning

It requires dealing with unbelievable degrees of uncertainty. It is also a method where recurring corrective actions can prompt outcomes. We understand from them, and afterward we change assumptions and methods in like manner. Regardless of whether these outcomes are great or terrible, they will in general get us closer to the leap forward since the outcome is usually in new perceptions. These new perceptions shape our future activities that are unavoidably even better adjusted yet to the necessities of the market.

5. Savoring Surprise

Disruptive innovation is a procedure full of surprises, which could be technological advancements, customer feedback, competitive moves, political and supervisory movements, and other typically unanticipated events or planned evolvment. Most organizations expect that surprises ought to be prevented. Yet, leaders who perceive that surprises are an unavoidable part of the procedure are best ready to utilize it as a key instrument which makes them the more active and fastest efficient organizations to capitalize on unanticipated events. Leaders who want t

to make an important distinction for themselves and their organizations need to grasp new abilities in the present progressively disruptive competitive settings.

Some other strategies that leaders in an organization can utilize to integrate disruptive innovations involves executing virtual partnerships, technology convergence, connectivity on a universal hierarchy, and making online communities (Allen 2018). Also, Allen (2018) stated that, from a competitive standpoint, the alternate strategies used by business leaders to counter disruptive innovations are adding technological innovations and suitable management, of which good management was found to be most effective (Denning 2013).

Gemici and Alpan (2015) recognized practical effects for corporate leaders to implement new strategies for incorporating technological innovations. One of these strategies identified is to manage both the traditional and the new technology's business models and this is best when the cost and revenue structures of the traditional and disruptive business models differ. It was recommended by the authors that business leaders ought to react to disruptive innovations with flexibility in their strategic plans, considering all the internal and external factors.

Principles of Disruptive Innovations

The principles of disruptive innovations are sometimes overlooked by entrepreneurs in the business environment. Considerations of these principles by entrepreneurs can help them in the ever-evolving environment to have a competitive edge over its competitors.

Organizations rely on customers and investors for resources. For an organization to survive in the ever-evolving business environment, it must provide products and services that the customers and investors need. Highly rated organizations, therefore, have mind-blowing concepts that customers neglect. Subsequently, the organizations think that it is hard to invest satisfactory resources in disruptive innovations which leads to low-margin opportunities that their customers do not need until their customers need them and it will become too late.

Growth needs of large organizations are not solved by small market. It is essential for every organization to grow in order to sustain their market share. It is not mandatory to increase their growth rate but they must maintain them in order to survive in the business environment. Furthermore, as they expand, they need increasing amount of revenue to sustain the same similar growth rate. In order to sustain their growth rate, they have to concentrate on large market because it becomes difficult to enter new or smaller markets that will eventually be large markets.

Non-existing markets cannot be analyzed. The trademarks of good management are market research, planning and execution of the plan. However, organizations whose investment processes require qualification of market size and financial returns for market entry get deadened when looked with disruptive innovations since they request information on market that do not exist.

Technology supply may not be equivalent to market demand. Disruptive technologies may be utilized at first in lesser markets but later tend to be competitive in the markets. This is on the grounds that technological advancement frequently surpasses the degree of enhancement that mainstream customers need or can retain. Thus, the products that are in the market will ultimately exceed the execution that the market requests, while the disruptive innovations that fail to meet customer's anticipations in the market today may turn out to be competitive in future. When at least two products are offering adequate satisfaction, customers will discover other measures for choosing such as price, convenience and reliability which are of advantage to newer innovations.

Managers make mistakes in managing new innovations by overlooking the principles of disruptive innovations. Employing the usual management practices that lead to accomplishment with sustaining innovations always lead to failure with disruptive innovations (Christensen, 1997).

Christensen (1997) explained that the most productive path to entrepreneurial success is to comprehend the regulations associated with disruptive technologies and utilize them in developing new markets and new products. Entrepreneurs respond successively to present opportunities by perceiving the elements of how disruptive technologies are developed.

The initiator of disruptive innovations, Clayton M. Christensen advised entrepreneurs that are faced with disruptive innovations not to depend on achievements but to advance early and discover a market for the existing characteristics of the technology which will be discovered outside the mainstream market. The characteristics that make disruptive technologies unattractive to mainstream markets are the properties on which the new markets will be developed.

EMPIRICAL FRAMEWORK

A research carried out by CC Hang and EW Garnsey (2011), titled "Opportunities and resources for disruptive technological innovation". It debated the question of whether entrepreneurial firms create opportunities or discover opportunities, in the context of

disruptive innovations. Their focus was on whom and how entrepreneurs undertake disruptive innovations and not on the nature of entrepreneurial opportunities. They concluded that entrepreneurs both create and discover opportunities. To them, the areas of growing demand are in demography, geography and technology, and the changes in these areas create opportunities. They said opportunities are found through market pull and innovation push. They reasoned that abusing opportunities through innovation requires creative undertaking, regardless of whether the innovation gives a novel substitute or a totally new advertising.

“Disruptive innovation: Intellectual history and future paths”, a research carried out by Clayton M. Christensen, Elizabeth J. Altman, Rory McDonald, Jonathan Palmer. Their focus was on disruptive innovation in management and strategy. They sought both to propose opportunities for further research on the subject and to develop a current conceptualization of disruptive innovation. They were motivated “from the glaring difference between the idea's broad use by and by and exact empirical academia, which appears not to have kept pace”. It was achieved by first graphing the theories development from a descriptive structure of innovation change to a normative theory of innovation and competitive reaction, they documented recent improvements and updates to the theory's core tenets. Then, proposed promising avenues of research.

“When is disruptive innovation disruptive?”, a research carried out by Glen M. Schmidt and Cheryl Druehl (2008). They focused on the circulation form of the new product, while offering terminology and a framework complementary to Christensen's work; to help in comprehending why some innovations are more or less disruptive to the long-term health of incumbents and to help managers understanding what is meant by disruptive innovation. A three-step structure was recognized to evaluate the effect of an innovation and the potential dissemination design, along these lines helping an organization decide the danger or potential chances that an innovation signifies. They featured various managerial insights and recommendation.

Arun Kumaraswamy, Raghu Garud and Shahzad (Shaz) Ansari carried out a research titled “Perspectives on Disruptive Innovations”. They anchored, explored and extended the “implications related with the idea of disruptive innovation. Specifically, they talked about various viewpoints on disruption – evolutionary, relational, temporal and framing– that conclude in a performative (instead of a prescient way to approach the phenomenon). In doing as such, they intended to reveal the plan for both researchers and practitioners. They

have offered fundamental thoughts on the most proficient method to involve with these growths and, in deed as such, expanded the remit and significance of extant theory.

A research carried out by Arcot Desai Narasimhalu (2012), titled "Innovation Rules: A method for identifying disruptive innovation opportunities?". He outlined a generic structure of an Innovation Rule and demonstrated how a few innovation rules are demonstrations of disruptive innovation opportunities. He at that point characterized two strategies for recognizing innovation opportunities, one each for market pull and technology push. He also offered extra instances of innovation rules to indicate how a group of these rules can be utilized as a system of innovation rules to recognize innovation opportunities from both big and little disruptions.

"Disruptive Technology Reconsidered: A Critique and Research Agenda", a research carried out by Erwin Danneels (2004). He was of the view that an exploration for disruptive technology on the web can be seen as how freely the term has come to be utilized and how it has turned out to be isolated from its theoretical basis. In this way, a reevaluation of the kind of disruptive technological change and its effects for organizations are in order. He trusts that disruptive technologies have a particular and unique spot in such a category. He is of the belief that to expand both the theoretical and managerial merit of the theory, estimates should be created and to be tried about which technologies will become disruptive and which organization will succumb versus thrive in their development.

METHODOLOGY

This paper is an archival study of previous works, propounded by other authors that looked at some disruptive innovation in recent times and their effects in the business environment.

FINDINGS AND DISCUSSIONS

Examples of Disruptive Innovations

In modern times, there are a lot of cases of disruptive innovation (Watson, 2012).

3D printing is one of these new, innovative advancements and it has positively influenced the modern era just as the business advances. The center rule of this technique is that materials are incorporated instead of subtracted from a bigger crude material item in the midst of assembling process, much the same as ordinary assembling. Thus, 3D printing is equal to the expression "additive manufacturing" (Campbell, Williams, Ivanova, & Garrett, 2011). With the consistent development of 3D printers as far as precision, quality and speed, the

possibility of future impact is huge (Mohr & Khan, 2015). It has effectively disrupted, prototyping industry and brought forth new fields in the areas of design and manufacturing.

Mobile phones: over the years, the landline phones have been fast disrupted by the innovation of mobile phones; as this era is appropriately termed the digital era. The telephone industry has evolved and would continue to evolve. Landline phones no longer denote the best way for people to communicate, as the mobile phones have taken over even the low-end market.

Personal computers: the minicomputers had always been the main deal right from the inception of computers, but they were not accessible by the majority. They also came along with disadvantages like outrageous prices, big in sizes and complex to operate. It is of no doubt that the market of the minicomputers has been disrupted by the innovation of personal computers; which is smaller, easier to navigate and assessable by majority.

Disruptive Innovation and Entrepreneurial Opportunities

Disruptive innovation can be seen as a process where a product or service is initially introduced at the low end of a market or in a new market and afterward determinedly moves upward in the market thereby uprooting recognized competitors in the long run. Based on the concept, disruptive innovation is not a new product or service based on a particular technology but it is the opportunity posed by the market by meeting the unmet needs of the low-end market segments or meeting the demands of prospective customers or creating a new market segment. The potential of new technology meeting the unmet need of consumers or creating a new market does not make it disruptive. Based on several researches there are guidelines for identifying potential disruptive innovation which are “measures of disruptiveness” which may be used to make ex ante predictions about the type of incumbent firms best positioned to develop disruptive innovations, how an incumbent may identify a potential disruptive threat, how industry change may stimulate disruptive innovations and a criteria sheet for comparing the relative competitive advantages of incumbent and entrant firms” (Hang CC, Garnsey E., & Ruan Y, 2015).

Researchers proposed that disruptive innovation is an innovation that offers new value propositions which is appealing to a different customer segment but unattractive to the existing customer at the time of introduction due to the value they have on inferior performance on the attributes. These innovations get established and improved which makes it attractive to the existing customers after sometime. According to Hang et al, 2011

technology, market positioning and other favourable driver are frameworks for evaluating disruptive innovation.

Jianfeng et al, 2019 proposed a framework of measuring disruptive innovation by pointing out multidimensional measures such as technological features, market place dynamics and external environment. It was further explained that the technological features involved integration, leadership, maturity, diffusivity and simplification; market place dynamics involved niche market, value network and cost reduction and external environment involved policy and macro economies.

These evaluation frameworks used for recognizing prospective disruptive innovations are indicators to opportunity identification in the entrepreneurial process.

Recently there have been a continuous change in the preference and demand of the customers. This leads to organizations trying to be ever relevant in the market because they understand that an effective business model of today may be outdated tomorrow.

Disruptive innovation provides the opportunity for growth and development to an organization. It entails entrepreneurs to support and grasp innovative concepts to fend for the ever-changing demands of the customers.

Organizations need to hold the well-established traditional practices investing in sustainable innovations and endeavor to use the capital for disruptive innovation. This is when the organizational structures and policies are repositioned, tested and compressed. Over time new innovation and technology will develop and will bring about increase in revenue. New technology gives every entrepreneur two alternatives which are to hold the existing market or to match up with the new technologies (Obizcoin, 2017).

Benefits of Disruptive Innovations

Research shows that some entrepreneurs have made use of the principles of disruptive innovation to make their businesses successful and furthermore prompt relevant changes in their industry. Disruptive innovation has unavoidably developed as one of the key driver to every entrepreneur in order to remain relevant and in front of a regularly evolving business environment.

Market expansion and market niche. The organization will experience a market expansion as well as discover its niche. This occurs when the entrepreneur discovers an opportunity which is dependent on the dynamic consumers' behaviour in response to traditional industries.

Initially the opportunity seems not to expand market shares or margin. According to Christensen numerous attributes of disruptive businesses include low gross margins, products or services that may seem less appealing to increasingly established industries, yet with measure and capacity which can in reality surpass the previous technology. He clarifies the fact that these lesser levels of the market propose lesser gross margins which are unappealing to other organizations moving upward in the market, making space at the lower level of the market for new disruptive competitors to surface.

Process enhancement. Entrepreneurs tend to improve their processes along the way. Whenever current market shares and possible solutions to consumer needs are examined, it is as well as assessing the business process by determining how to adapt to the ever-evolving business environment or improve the existing product or service into a better one; disruption within the industry. Recognizing new territories for improvement and prompt adaptation to the rapid change in the business environment are significant factors in remaining relevant in the industry, along these lines employing the principles of disruptive innovation to expand more rapidly.

Selection of leaders from diverse backgrounds. Organizations that are interested and open to new difficulties will in general put in the best on innovation and will pull in individuals with those equivalent qualities. Drawing in different individuals from different backgrounds will bring distinctive ideas and help the organization in general to reason outside the box. Different organizations achieve more financially over less-diverse organizations. McKinsey on January 2015 published their Diversity Matters report which examined 366 public organizations which resulted to those in the top quartile for gender diversity were 15 percent more likely to financially out do their counterparts in the industry. Furthermore, they also discovered that those organizations in the highest quartile for racial and ethnic diversity were 35 percent more prone to financially outflank their counterparts in the industry.

New opportunities. New opportunities seem to unfold as the entrepreneur opens up to new ideas and innovation. For instance, when Netflix first introduced in 1997, it was a competitor with Blockbuster not cable companies. As it advanced with the industry and remained open to new opportunities, it turned out to be one of the major threats to the cable industry - something managers possibly did not have in mind nearly 20 years ago.

According to Obizcoin ICO 2017. The benefits of disruptive technology innovation to entrepreneurs are:

- i. Developing a culture which invites changes as opposed to disregarding them.
- ii. Renew and redo current established set of traditional practices and approaches.
- iii. Increasing business through new innovation.
- iv. Ease to recognize individuals who acknowledge changes and have an optimistic approach towards innovation.

Effects of Disruptive Innovations

According to Zhang Zhi 2017, the effects of disruptive technology are as follows:

Empowering Businesses, Consumers and the Society: various parts of the business process in the business environment are reformed by disruptive innovations by filling in as a potential empowering agent for organizations. This lies in the prospective of disruptive innovations to improve business processes and lower operating costs, prompting efficient work processes and quicker supply chains. Disruptive technologies have radically changed the manner in which organizations communicate with their consumers, with services thereby giving better understanding of consumption patterns and improving supply decisions. Mobile application such as Jumia and Aliexpress have connected sellers to customers, thereby expanding the span of businesses and boosting revenues. Thus, the extending benefits of disruptive technologies to the entrepreneur should not be ignored as consumers stand to gain from the improved value proposition of innovative products as well as lowered prices due to lowered production costs which spikes up the profitability of the entrepreneur.

Towards a new paradigm for competition: notwithstanding the rise of disruptive technologies which threatens to dissolve the competitiveness of incumbent organization that depend on old product offerings and existing quality systems. Traditional industry players might be distraught on the grounds that one, new products and innovative business platforms undermines the market shares of the overall through the substitution effect and two, improved business processes brings down the production costs of entrants while subduing market prices, making existing business models unprofitable. Technological innovations tend to bring down the barriers to entry and disturb old market structures based on cost-based discouragement as competition is likely to increase. Though, some organizations rush to integrate disruptive innovations into their own business processes. Others may choose to take action to convert disruptive technologies into their own advantages through mergers & acquisitions. Recently disruption introduces a new paradigm for competition, as entrepreneurs can no longer be satisfied with internal operational proficiency but have to

constantly adapt to technologies outside their traditional domains to retain their competitiveness.

Never the same job market: due to innovation and adoption of new technologies, request for labor related to such technologies tend to increase which brings about the emergence of new industries which could have a positive impact on employment levels. On the other hand, labor-supplanting technologies, including computerization, robotizing and artificial intelligence, brings about the removal of human labor. Generally, economic expansion productivity increase is increasingly decoupled from job growth; the precise relationship differs from industry to industry contingent on the nature of technologies adopted. The major challenge lies in the extending skills gap. It is created as a result of the new jobs created which differs from the known set of skills. This increases the risks of unemployment as work made repetitive by disruption may not be retained into new roles. New industries might be distressed by a lack of ability attributable to mismatched skills, ruining further development.

RECOMMENDATIONS

It is very important to constantly be ready for disruptive innovations coming from the business environment and know how to deal with them. When a new innovation pressures to disrupt your market, do not overlook it, because there are some productive approaches you can take.

Option One - Chase the market. Organization with a far insight foresee the expected market change that a disruptive innovation may cause and as a result, they modify their products so as to continue selling to the same marketplace. The transitioning stage of this process is usually very difficult and requires a lot of determination, consistency and strategy to pull through. Consider Kodak, Canon, Nikon, Hasselblad and many other well-recognized names from the world of photography. They have all advanced and now market digital cameras and related products.

Option Two - Find new markets dependent on your ability. In the days when photography implied film, Kodak's number one competitor was Fuji, a Japanese maker of films, cameras and different products. When it turned out to be certain that digital imagery would endlessly change the photography showcase, Fuji did two things. Initially, as Kodak and others, they started creating digital imagery products. The other thing that they did was possibly more advanced. Their far-thinking CEO, Shigetaka Komori, successfully asked his workers: "In what different ways and to what other industries might we apply our photographic chemicals

knowledge?" because of this innovation challenge, Fuji recognized many opportunities, also they have expanded into many profitable activities. Additionally, this variety will better ensure them against future disruptive innovations in any of those industries.

CONCLUSION

Disruptive innovation would keep occurring in every industry and due to the dynamic nature of businesses, the strategies and principles of disruptive innovation has to be reinforced by entrepreneurs in order to have a competitive edge over its competitors, even as they aim to provide products or services to a large number of consumers at an affordable price.

Disruptive innovation allows start-ups to contend with big players in the business environment. Disruptive innovation eventually comes down to the business model.

In this paper, highlighting the characteristics of disruptive innovation, we were able to point out how entrepreneurs can find business opportunities in disruptive innovation; as well as some principles and strategies for them to apply in order to guarantee entrepreneurial success, seeing that there are benefits that can be gotten from disruptive innovation if it is taken advantage of, positively. Although, the benefits, strategies, principles and effects of disruptive innovation are not limited to only what is being discussed in this paper.

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UNDERSTANDING PUBLIC PERCEPTION OF PRODUCTS ON TWITTER USING SENTIMENT ANALYSIS

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Abstract

In the world of business, it's a known that facts are important but opinion plays a crucial role. Opinions are more available now in the era of social media such as FaceBook and Twitter, where as part of people's daily life people share their views and opinion about matters of concern to them like companies, products etc. These opinions if collected in large quantities can be used by organizations and businesses to make informed and proactive decisions. From opinions which is usually text, sentiments can be collected, sentiments are either emotions, judgements or ideas describing how a person feels about a particular thing or subject. Sentiment analysis plays a huge role in enabling businesses to work actively on improving their business strategy and gain an in-depth insight to how their customers feel. In this paper, real time twitter data is mined on the fly of user reactions to the newly announced Samsung flagship devices and using pythons Natural Language Toolkit (NLTK) to analyse the sentiments of the tweets being streamed for twitter. The results can be used to tell companies if they should mass produce products or reduce production to match whatever result they get from analysing the sentiments of their data.

Keywords: Twitter, Sentiment analysis, Product Review, Natural Language Processing, Natural Language Toolkit.

INTRODUCTION

One of the major steps in starting a business is taking a survey of the target market, this is usually done to either validate claims of opportunity or possible failure of the business. Entrepreneurs employ numerous techniques to know if their products are doing well or are going to well in certain markets and vice-versa (Melo, Silva, Moura, & Calado, 2019). The ability for a business to truly know the real perception of their product is key to a successful business, hence why they take surveys, have test teams and so on.

A major challenge for most businesses is getting the critical feedback from true customers. In some cases, forms are emailed from businesses to clients, these mails rarely get opened or they get ignored completely or in a worse case gets flagged as spam, other times a survey sent may not address the real challenges a client faces using a product. These reasons have made companies employ data mining techniques to scrape the internet of information related to their business and their products.

Businesses employ data analysis techniques such as natural language processing, sentiment analysis and monitoring how users navigates a website using cookies and machine learning techniques to build recommender systems as seen on amazon where you are notified that customers who buy certain products also bought another product (Alberto, Fersini, Messina, & Liu, 2017). These techniques work without any extra task from the user, but as the user goes about their normal activities the data trail is stored and monitored to either help refine a product, lead to more sales or creation of a new product.

Social media has proven to be a major source of data to understand the political, economic and social climate of an environment, people tend to express their opinions on social media and this could be vital for business decision (Sung & Juyoung, 2018). Twitter is one of the major social media

platforms boasting about 325 million active users and about 500 million daily tweets (Cooper, 2019). Tweets are short sentences used to convey information on the twitter platform. This data can be mined and analysed easily since the tweets are short, thus forcing users to go straight to the point while making a post (Savva & STRAUB, 2018). This data is unique, quickly generated and in huge volumes that if analysed properly could lead to major business breakthroughs. Entrepreneurs and businesses owners can greatly benefit from the evaluation of these data as they are data from direct sources – users of their products (Anandan, Bhyrapuneni, Kalaivani, & Swaminathan, 2018), leading to the quantification of people's opinions as a necessary step in making qualitative and data driven decisions.

For the purpose of this research we decided to focus on tweets on the recently announced Samsung flagship phone the Galaxy S10, Samsung is the largest phone manufacturer, producing hundreds of millions of mobile phones per year with sales only second to Apple as shown in figure 1 below.

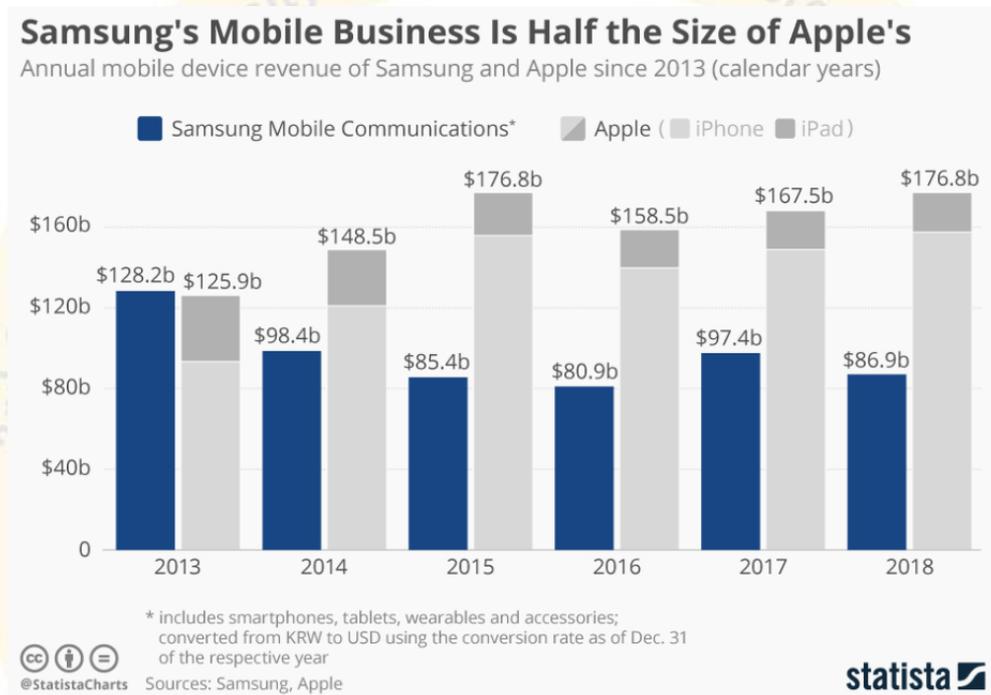


Figure 1: Samsung and Apple yearly sales (Richter, 2019)

This research aims to evaluate the sentiments of twitter users towards Samsung’s new product announced at (Mobile World Congress) MWC, they announced the Galaxy S10e, Galaxy S10 plus, Galaxy S10 and Galaxy Fold, this announcement garnered a lot of mixed feelings from social media user’s some stating that the devices were great but too expensive, others weren’t persuaded at all and some already asking to Samsung “take their money”. This led a huge set of mixed reviews as shown in figure 2 and figure 3 below.

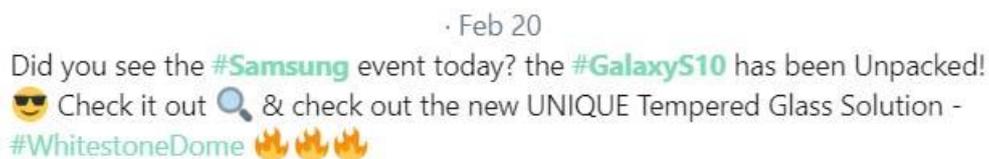


Figure 2: An example of a positive review

· Feb 20

Loved the #GalaxyFold until they revealed the price... you could even here the audience whispering the crazy price.
Pretty cool, but, Im broke. #SamsungEvent

Figure 3: An example of a negative review

These reviews can be leveraged by Samsung to make decisions whether to manufacture more phones if they gain more positive feedback or a less number phone units in situations where there are more negative reviews and this is where sentiment analysis comes in, as this automates the process of interpreting the reviews on the fly.

Sentiment is a long-term temperament triggered when people engage topics, people, or organization. Understanding people's state, behaviour or opinion towards a certain entity has multiple applications; organizations are interested in understanding how their product is seen among their customers, political parties do opinion polling to evaluate voting intentions of the populace. Automatic sentiment analysis is the use of computational techniques to computationally understand the stance of peoples, their attitude or their resolve.

Sentiment analysis also referred to as opinion mining has been a major category of language processing since the beginning of this century. It aims at using technology and automated process to extract sentiments and opinions from sentences, this obtained information can further be used to create actionable decisions by an entrepreneur or a business owner. Due to the significance of sentiment analysis to business and society, it has been introduced to both social and management sciences (Alberto et al., 2017). it also involves going through volumes of data collected from web sources or databanks and processing such data so as to derive a conclusion. This involves identifying positive and negative opinions and, in some cases, even the neutral ones. Studies have shown that higher success of sentiment analysis is greatly influenced by appropriate data gathered and analysed at the right time.

Sentiment analysis has its applications in business analytics and reputation monitoring. It helps businesses understand the customers' experience with a particular product or service by analysing their emotional tone from the product reviews they post, the online recommendations they make, their survey responses and other forms of social media text (Alberto et al., 2017; Medhat, Hassan, & Korashy, 2014). Businesses can get feedback on how happy or dissatisfied their customer are, and use such insight to gain a competitive edge.

Natural Language Processing and psycholinguistics introduced sentiment analysis that can rank and evaluate consumer opinions (Kulkarni, Kalro, Sharma, & Sharma, 2019). There has been heavy advocacy for the adoption of sentiment for holistic measure of customer responses and these sentiment-based results are further used to segment customers and opinions to identify actionable decisions (Soleymani, Garcia, Jou, & Schuller, 2017). Sentiment analysis can be broken down to numerous tasks but for the purpose of this research we shall focus on polarity classification.

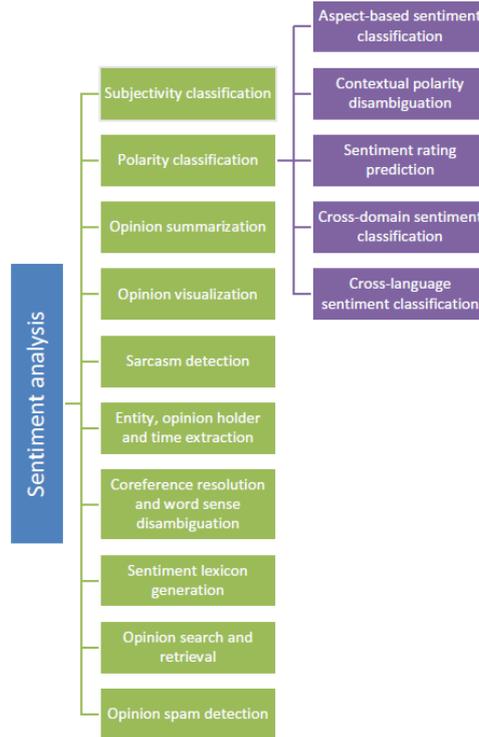


Figure 4: Branches of Sentiment Analysis (Alberto et al., 2017)

Polarity classification between negative, positive and neutral polarities in subjective sentences and this can be used to determine if the sentiment towards a product is mainly positive or negative as shown in figure 5.

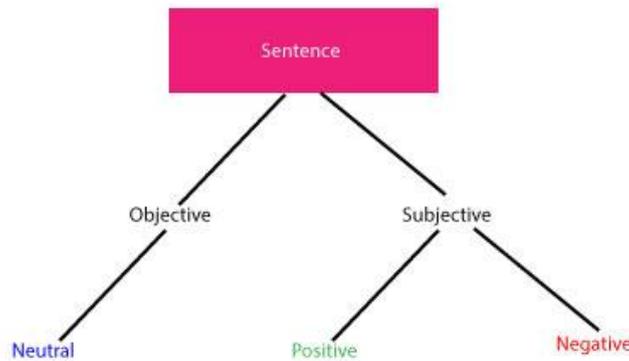


Figure 5: Break down of sentence for analysis (Alberto et al., 2017)

Polarity classification is able to tell if a sentence is objective or subjective and since objective sentences are factual there is no sentiment to classify so it assigns a full score to neutral polarity as seen in figure 6 where the score of 1 is given to the neutral polarity since the sentence “The sun is hot” is factual.

```
>>> hot_sun = "The sun is hot"
>>> sid = SentimentIntensityAnalyzer()
>>> pol = sid.polarity_scores(hot_sun)
>>> pol
{'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
```

Figure 6: Result classifying objective sentences resulting in a neutral classification

LITERATURE REVIEW

Sentiments

Generally, sentiments are judgements, emotions or ideas influenced by emotions. Emotions can be triggered in a person either consciously, unconsciously when an event occurs (Kadam & Joglekar, 2013).

Sentiment Analysis

Sentiment Analysis is involved in deciphering the emotion contained in an unstructured piece of text or document and generating a conclusion based on what was observed in the text (Kadam & Joglekar, 2013). Sentiment analysis is often referred to as subjective analysis, opinion mining or appraisal extraction. Sentiment Analysis studies people's opinion, appraisals, emotions and attitudes towards products, individuals, organizations, issues etc (Jagdale, Shirsat & Deshmukh, 2019). Sentiment Analysis has its root in Natural Language Processing, Computational Linguistics and Text Mining.

Goals of Sentiment Analysis

Object Identification

It involves the process of identifying an object on which the opinion is targeted, this is important because an opinion is of little or no value when the object is unknown.

Feature Extraction and Synonym grouping

It refers to the identification of the attribute of the object on which an opinion is targeted. Also, it is required to group synonym features as people often interchange words or phrases used to describe the same feature.

Opinion Orientation Classification

The task here is to determine whether an opinion is objective or subjective. If subjective it moves further to determine whether the expressed opinion is positive or negative. Existing approaches for this task are based on unsupervised and supervised methods.

Integration

It involves integrating the opinion and its opinion holder on a feature of an object at a particular time.

Levels of Sentiment Analysis

Sentiment can be extracted in different levels of a text, they could be document level, sentence level or aspect level and attribute level.

Document Level

Identifies if a document expresses opinion and also from the document infer whether such opinions are positive, neutral or negative.

Sentence Level

Identifies whether a document is sentimental or not and if an opinion is detected, such opinion is further classified into positive, negative or neutral.

Attribute Level

Extracts the object attribute that are the subject of an opinion. For example, battery life (which is an object attribute) of a laptop (which is the subject of the opinion)

Data Sources for Sentiment Analysis

In sentiment analysis there exists different sources to generate huge amount or real time streaming data on the web. These include:

Blogs

These are websites in which a person or group of persons – author(s) of the blog – write their opinion about a particular thing of interest, these could be about some products, tech review, or some being a promotional review.

Review sites

As observed on most e-commerce websites like Amazon, CNET, Jumia etc., customers are asked to provide feedback based on their experience with the seller of a product or a service, or based on their experience with the product or service rendered.

Micro-Blogging sites

These are platforms where users share their opinions on a topic of interest, usually the number of words per opinion in microblogging is limited, similar to that of SMS. Examples include Twitter, Tumblr, Dipity, etc.

Social Media

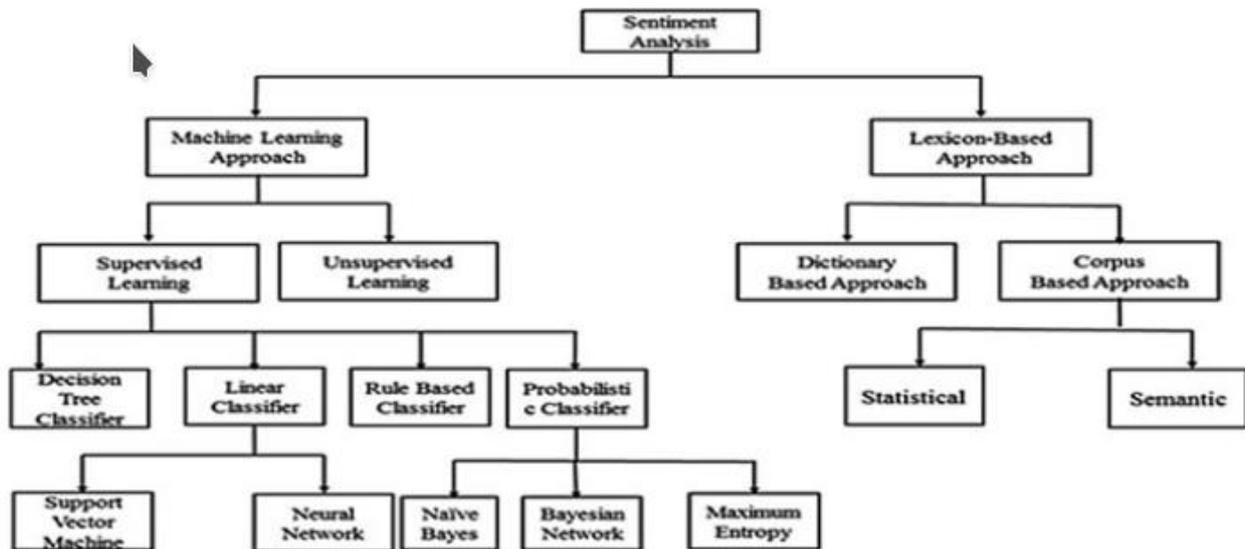
These are platforms where people share thoughts, experiences, opinions about issues with the people that care to listen or read them. An example is Facebook. Unlike microblogging sites, the length of words used here is longer.

Datasets

To facilitate the advancement of research, some researchers have made publicly available online some datasets, some of which include: Movie reviews (Pang & Lee, 2014; 2015), Product reviews (Zhang et.al., 2015), Hotel reviews (Kasper & Vela, 2011) etc

Existing Techniques for Sentiment Analysis

There exist two approaches for performing the task of sentiment analysis, they are the Machine



Learning approach (Supervised) or the Natural Language Processing approach (Unsupervised)

Figure 7: Different Sentiment Analysis techniques

Machine Learning Approach

Machine learning approach uses large volume of training data to generate predictive models, such models which include neural network, logistic regression, decision trees, are used to make predictions on documents that were not included in the training set (usually called the test set).

The machine learning approach has an advantage that it is based on learning patterns that are useful for making automated and efficient predictions and also it is capable of discovering unimaginable patterns that were not obvious and even beyond what a human could anticipate or imagine. However, the machine learning approach is greatly influenced by the volume and quality of data at its disposal. Also, this approach is time consuming and challenging.

Natural Language Processing Approach

Natural Language Processing (NLP) is a subfield of Artificial Intelligence (AI), its task involves automatically extracting meaning from natural language text similar to the way a human would. It achieves this by the use of entities and syntactic patterns in the text to understand its meaning. Also, it uses a combination of language dictionaries, linguistic constructs and noun phrases along with a range of operators. NLP approach is based on rules.

The major advantage of the rule-based approach is that it accords the freedom of rule-developers to exercise their domain knowledge to devise rules for analysis purposes. Rule-based approach is

unsupervised and do not require any large training data which is a good thing for some real-life scenarios where training data is scarce. It also provides facilities to redefine rules over time based on feedback from analysts to readjust the model.

The major drawback of this approach is that it involves a lot of human involvement in developing the rules and its sole dependence on the domain knowledge of rule developers.

Related works

Sentiment analysis in language is by and large industrially used to abridge audits and client feelings. Organizations are not just interested in totalling the assessments at scale, they want to be able to get the input quickly, requiring little to no effort. Prior to opinion analysis, organizations needed to either perform reviews or make center gatherings, which was much slower and considerably costlier. With the increasing rise of opinion posted in sight and sound via web-based networking media (Mohey & Hussein, 2018), e.g., tweets on Twitter, slant examination can turn into an inexorably publicly supported and minimal effort try.

Hswen et.al., (2019) in their paper did a feasibility report on the use of social media data from Twitter to monitor outdoor air pollution in an urban area (England) and validated the result against an established air monitoring station data. They study report that social media may offer a supplemental source to support the detection and monitoring of air pollution in a densely populated urban area.

Subjectivity detection can thus keep the assumption classifier from thinking about unimportant or conceivably deceptive content. This is especially helpful in multi-viewpoint question noting summarization frameworks that need to condense distinctive sentiments and points of view and present numerous responses to the client dependent on assessments got from various sources (Kulkarni et al., 2019).

Most subjectivity discovery techniques center around recognizable proof of private states, for example, feelings and conclusions. Customized promotion depends on computerized age of articulations with a specific extremity. Expressive discussions thus require determination and comprehension of emotional words. The manual comment of assets is a dull and expensive errand. Consequently, not very many undertaking explicit corpora and lexicons exist for subjectivity and supposition examination. In (Chaturvedi, Poria, & Cambria, n.d.), the creators give an audit of subjectivity discovery techniques. They reason that even Naïve Bayes prepared on straightforward unigrams can prompt great outcomes. Pre-handling is essential, for example, evacuation of re-tweets, interpretation of shortenings into unique terms, erasing of connections, tokenization and Part of Speech (POS) labelling. For multi-lingual assignments, then again, precision relies upon the kind of machine interpretation and different highlights, algorithms and meta-classifiers that are utilized for extremity location (Soleymani et al., 2017). Their survey is restricted to the audit of best in class techniques; in any case, they don't consider late strategies, for example, word vector display and multi-modular subjectivity recognition utilizing video and sound.

In their paper, (Li & Dash, 2010) considered online discussions hotspot and predictions using opinion mining and content mining approaches. Above all else, to investigate the feeling polarity for each bit of content, an algorithm was made. Subsequently to create unsupervised content mining approach the algorithm was joined with k-means clustering and support vector machine (SVM). The purposed approach of content mining approach had been used to assemble forums into different groups, whose focal point showed a hotspot gathering inside the present time range. The datasets had been taken from SINA sports discussion. Exploratory outcomes demonstrated that SVM predictions gets high reliable outcomes with k-means clustering. The 10 main hotspot discussions given by SVM anticipating looks like 80% of k-means clustering results. Both SVM and k-means accomplished similar outcomes for the best 4 hotspot discussions of the year. In this paper they had made an algorithm that naturally break down the opinion polarity of a content, with the assistance of which

content qualities were acquired. Persuasive intensity of content was spoken to by outright esteem and sentiment polarity by the indication of content.

METHODOLOGY

Twitter generates hundreds of millions of posts daily and major companies are using natural language processing to understand markets and user's perception of products, companies like Google and Facebook use this data to generate comprehensive advertisement to show to the user and this can be used to by smaller businesses to understand how to build sustaining innovations to compliment your current products or even figure out new places to innovate. The solution proposed in this paper uses data streamed from twitter using a keyword or phrase as a search term.

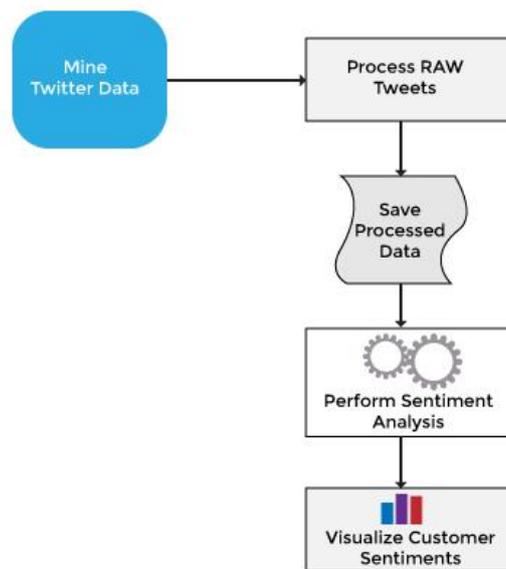


Figure 8: Framework of using sentiment on streamed data

In other to gain insight on data we used the tweepy python library to mine Twitter data, the search term used to query the Twitter API is “Samsung” during the time of this research Samsung Galaxy S10 has just been released and a lot of data was generated of numerous reactions, the tweets were downloaded and stored in a text file to allow iteration over each line of the file, this data is often raw and unprocessed with unreadable notations as shown in figure 9; the data is then stripped of chat slang like shorthand text, emojis and smileys as seen in figure 10, since this could be misread, throw exceptions and cause misinterpretation of polarity scores.

Dear Samsung I'm writing this to you to complain about being a big bully to the entire iPhone company #GalaxyS10

RT @SamsungMobile: Meet the Next Generation Galaxy. #GalaxyS10
Learn more: <https://t.co/UstjA79jjF> <https://t.co/hX00fafTH1>

RT @But: #Concours Tentez de remporter le tout nouveau Samsung #GalaxyS10 ! 🎉🎉🎉
Pour participer : RT + Follow @But et @SamsungFR + identifiez-vous!

RT @boulanger: Prêt à commander dès maintenant le tout nouveau #SamsungGalaxyS10 : Une paire de Galaxy Buds offerte !
Pour tenter de gagner un iPhone!

The Pro-Grade Multi-Camera of the #GalaxyS10 is epic

RT @ClubicBonsPlans: Envie de gagner le Galaxy S10 ?
1. Follow @ClubicBonsPlans

Figure 9: Example of tweets before processing

After the stored data is stored in a dictionary, this dictionary is written to a file which serves as a storage system, this file can then be used for other forms of data analysis and customer relation activities as the downloaded tweets will also have the user handles attached with it which when filtered after analysis can generate a list of customer that posted bad reviews and a team can follow up to know how the product can be improved.

The classification of the data is carried out by reading each line of the dictionary from the file and parsing the sentences to the Natural Language Tool Kit (NLTK) package which has a sentiment analysis package, SentimentIntensityAnalyzer which returns the values of polarity of the tweet, allocating a score for either neutral, positive or negative polarity.

NLTK is currently the best choice for building Natural Language Processing (NLP) and Natural Language Understanding (NLU) with easy to use interfaces of more than 50 corpora and lexical resources. NLTK also packs text pre-processing features like tokenization, tagging and parsing (Chaturvedi, Cambria, Welsch, & Herrera, 2018).

These features of NLTK helps in stripping each tweet sentence of textual jargon from the streamed data that could lead to misinterpretation of intended meanings of each tweet.

```
RT meko k Finally Samsung users can be useful and charge my
iPhone https t co IyFU xwjo
RT Rbyn d pour avoir une qualit d image semblable un wiko et
des emoji bizarre la https t co WxxgVy kT
RT tinylittlebows Whoa I ve never seen so much screen Pre
order the Samsung Galaxy S with Infinity Display from BestBuy
ad https
RT BrightMinho Samsung android S
RT BrightMinho Samsung android S
RT Seankifunte Did Samsung S charge an iPhone X There is no
way iPhone can troll over that https t co WxXgmhHuay
RT SeouillySG PHOTO iKON SAMSUNG Unleash Next Gen Bold Galaxy S
S Launch HQ https t co EGqZZCTsBK iKONxSAMSUNGinSG iK
RT Pluem iPhone Xs Max GB Samsung S GB
RT Pluem iPhone Xs Max GB Samsung S GB
RT zoeThabethe BMW is to Mercedes what Samsung is to iPhone
https t co QqaqPYL K
```

Figure 10: Example of tweets after processing

The returned values are appended to respective lists for positive and negative reactions, the lists are fed into matplotlib package plot library to visualize the trends of the data with respect to whatever product's data is being analysed as shown in figure 11. This will give entrepreneurs and business persons an easy to read interpretation on their customers sentiments towards their product in real-time and this could give early insight before any massive production of goods and services.

The Samsung tweets analysed was of 1170 and tweets and from the graph it is obvious there was mixed reviews with the red line denoting negative review and the green line denoting positive reviews, the graph shows that more tweets are tending towards the positive and even though the negatives exist they aren't as many as the positives hence why the line is flatter than the green line.

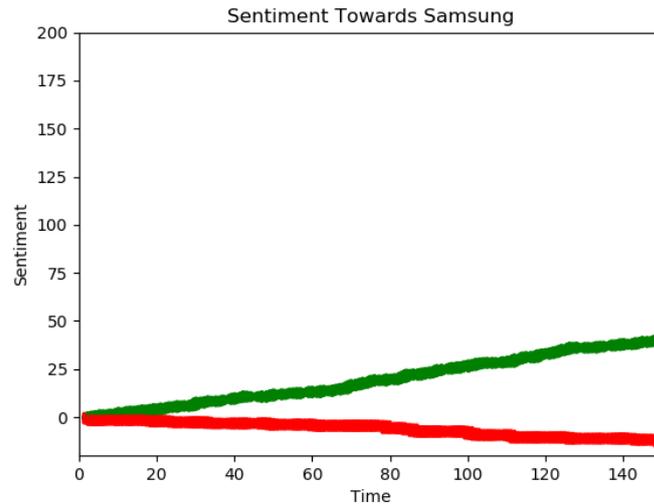


Figure 11: Graphical interpretation of Samsung tweet sentiments

CONCLUSION

Sentiment analysis is being used as powerful tool in understanding customers perception of goods and services and can prove instrumental in the success of small business by giving early insights to their products which in turn enables rapid critical decision making that can save capital for the business.

Sentiment analysis is not perfect, it is still unable to accurately understand sarcasm and irony which are parts of human speech, research in sarcasm and irony detection could lead the major breakthroughs in using sentiment as a tool in understanding public perception of products and services.

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xxi. Improving the Performance of Family-Owned Small and Medium Scale Enterprises:

The Role of Disruptive Innovation

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xlix. Abstract

1. *The role of disruptive innovation in promoting the performance of family-owned small and medium scale enterprises has not fully been explored in Africa especially Nigeria. Few literatures have extensively discussed how disruptive innovation impact the growth and continuity of family-owned SMEs. Therefore, this paper is focused on examining the role of disruptive innovation in improving the performance of family-owned small and medium scale enterprises. The study administered 390 copies of questionnaires, while 310 were retrieved from to family-owned SMEs in Ado Ekiti. Regression analysis was deployed to show the relationships between the variables. The findings revealed that disruptive innovation relates with firms long term survival, growth rate, profitability and competitive advantage. Therefore the study concluded that family-owned SMEs should deliberately develop strategies that will enable them to cope with new trends in technology.*

li. **Keywords:** Disruptive Innovation, Family-owned SMEs, performance, Nigeria

lii.

liii. Introduction

liv. The time is emerging where firms will not consider innovation simply for sustainability of their business, such firms articulately consider how to disrupt others with their innovations. Disruptive innovation (DI) is vital in promoting firms' survival and continuity. Improvement in science has birthed the likes of Information science, Information technology, artificial intelligence, advanced robotic, cloud technology, 3D printing, digital photography, renewable energy and several more, which are catalysts promoting disruptive innovations across the globe. Disruptive innovation is an advancement or innovative destruction which alters and renovates the entire structure of a technology (Latzer, 2009). The concept of disruptive innovation can be traced back to

Joseph Schumpeter idea of ‘creative destruction’ in the early 1930s when he asserted that new technologies, products, or service has the ability to gradually eliminate existing product from the market. Baiyere & Salmela, (2014) considers the 21st century as an era to ‘disrupt or be disrupted’. This gives SMEs especially Family-owned, the opportunity to disrupts other firms or learn new disruptive innovation. The options to choose whether or not to disrupt determine if such SMEs would remain in business in the long-run. Rapid improvement in science and exposure to knowledge (research and development) continues to necessitate the need for disruption. Disruptive innovations are innovations which meet the required needs of group of individuals, this distinct innovation becomes accepted and adopted by the rest of the society (Grady, 2014). According to (Rose, 2012), disruptive innovation brings into limelight new technologies which improves business transactions across the globe. These set of new technologies gradually shape the processes and procedures in conducting businesses, thereby affecting the performance of family-owned SMEs.

- iv. The role of innovation in enhancing the performance of SMEs has been discussed extensively in existing literature for example, Mytelka and Farinelli, (2000); Wong et al., (2005); Longenecker et al., (2006). Akosile, (2017), suggested that disruptive innovation has both positively and adversely effect on family-owned SMEs. Disruptive innovation mostly require huge capital to purchase or research on how to disrupt. In some firms, Disruptive innovation occur due to robust research and development, this set of firms becomes smart by investing their resources into disruptive Innovations or technology. DI usually comes with better and sophisticated methods, new procedures and technologies, which ultimately result in improvement of business activities. Several businesses In Nigeria for example has been affected by disruptive innovation in recent times, with the introduction of Automated teller machines (ATM), point of sale (POS) and internet banking, into the Banking system, these technologies has reduced emphasis on the familiar banking system. Other sectors industries/ businesses which are technology savvy or adopters of disruptive innovation constantly create distinct platform to further conduct business activities.
- lvi. How disruptive innovation enable the performance of family-owned SMEs? Does disruptive innovation sustain family business? These questions have become important to family-owned SMEs especially in Nigeria. Disruptive innovation continues to blow across the 21st century business space, changing business through technology. Ayodele, *et.al*, (2018) stated that although most family-owned businesses are controlled and

managed by more than one member of the family, in most cases, the business refuse to adopt/ adopt disruptive innovation late. This implies that a large number of SMEs are Family-owned. Oyekan, (2019), explained that disruptive technology has altered the ways of conducting photography business in Nigeria by replacing traditional photography with digital photography, thereby rendering old skills, technology and equipment obsolete. A good number of family-owned SMEs in the business of photography who fail to adopt these new trends in the industry find themselves no longer in business.

- lvii. Family-owned SMEs ability can be appraised based on how such business perform. How family-owned SMEs perform can be evaluated based on combination of factors including how they act/react towards disruptive innovation. Several work has been conducted to understand the nexus between innovation and firms performance particularly SMEs. The findings in the work of Saunila and Ukko (2012, 2013) showed that there is a positive relationship between innovation and SMEs performance. However, the work by Saunila (2014), indicated that the association between innovation and how firms perform remains controversial. SMEs should embrace innovation at all levels irrespective of their size or the kind of business, this would further push them in a more competitive advantage in the market. Firms should endeavour to go further by not simply stop at formulating innovative strategies, instead they should create platforms to be disruptive innovation strategies that will enable them meet the present and future needs of their customers (Al-Battaineh, 2018). Been disruptive is the only remedy or been disrupted by innovation of other firms. This research is focused on examining the role of disruptive innovation in improving the performance of family-owned SMEs.

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lix. 2.0 Literature Review

- lx. Disruptive innovation are unique improvement in technology, these set of innovation offers unique value proposition with more attractive features, convenience to use, user friendly which makes the product/ technology gain entry into new markets or existing markets (Wu *et.al*, 2005). Disruptive innovation creates new experience in a new market or an existing one, these trends when they become accepted result into former trends old-fashioned by creating new experiences. Baiyere, (2016) described disruptive innovation as innovations which becomes less accepted when introduced to a market but gradually attracts the mainstream customers in an existing market. Disruptive innovation occur due to improvement in science, this new knowledge gives technology opportunity to explore evolving markets and create incredible opportunities. Disruptive innovation is an

introduction of a new method that have the potential of generating an innovative idea, product, experience or alter prevailing one. Disruptive innovation has affected several businesses negatively and also created opportunities for spring up of multiple businesses. Renowned brands like Nokia, Instagram, iPhone, Samsung and others continue to leverage on improvement in science to create disruptive innovation. While some global brands gained from disruption, Kodak lost its supremacy in the market as a result of disruptive innovation while the likes of Snapchat in recent times gained more competitive strength through disruption (Lanier, 2013).

- lxi. In the opinion of Rose, (2012) disruptive innovations makes it possible for new technologies to enhance interaction processes through new products, designs, machines, applications and models, leading to more improved business. New technologies advancement is a product of disruptive innovation which impact on both the level and usage of technology within a society. Latzer, (2009) described disruptive innovation as innovative destruction which alters and refurbishes the structure of a technology. Businesses which seek competitive advantage must constantly adapt and evolve to disruption in technology and also be savvy in their operations. Innovation is a continuum and should be at every phase of the business circle Chukwuka, (2017): Hang *et al*, (2011).
- lxii. The synchronising nature of the globe continue to impact business activities, and created a free passage for disruptive innovation to reach the rest of the world. Disruptive innovation created in America can easily leverage on globalisation, thereby affect other businesses in Europe, Asia, Africa and other continents. The introduction of block chain technology, cryptocurrency, emotional intelligence and artificial intelligence and other disruptive innovations continue to create unique experience and new market opportunities with various benefits. Egbetokun, *et.al*, (2010) described innovation as a necessity for organisations that seek superior performance. This could be argued that innovation has become a veritable tool stimulating business transaction in the 21st century and when such innovation becomes disruptive in nature, it creates a total different platform for business which can be converted into competitive strength. The world economic forum paper is anticipated in shaping the future of production which was launched in 2016, with the purpose of understanding how transformation occur in local and global systems resulting into collaborative efforts which stimulates innovation (Kearney, 2017). Family-owned SMEs are not unaware of the role of disruptive innovation in the globe, and how its impact on business, they understand the rapid changes, and for businesses which have the

financial capacity to purchase such innovation, they respond through learning the applicability of such innovation to their businesses.

lxiii.

lxiv. 2.1 Nexus between disruptive innovation and family-owned SMEs performance

lxv. Previous literatures has shown that innovation has a significant impact on SMEs performance (Ihua, 2009; Onugu, 2005). SMEs is the mechanism for economic strengthening and national progress in both advanced and developing nations, making the performance of SMEs essential Solanke, *et.al* (2015). Therefore for SMEs to perform maximally, disruptive innovation is required (Ayodele, *et al* 2018). A report by federal office of statistics in 2012, further affirms the role of innovation in SMEs performance which shows over 80% of the totality of businesses in the country are SMEs with a contribution of 54% of the total industrial output of Nigeria (Adeeko, 2017). Most SMEs across Africa and the globe requires disruptive innovation to compete favourably with large scale businesses and other multinational brands. Majority of SMEs in Nigeria for example are family-owned, also in a survey carried out in Japan, it was identified that SMEs remains one of the strength of the Japanese economy, with over 40% of t SMEs owned by family and 80% of their family businesses also had a family member as CEO. In a report on the findings of family business in Nigeria, 73% of Nigerian family businesses believes they would make significant progress in digital competences, also Nigerian family businesses have a lower level of apparent vulnerability towards disruptive innovation (Agbeyi, 2018).

lxvi. 3.0 Methodology

lxvii. The study was a descriptive survey research. A total of 310 questionnaires were retrieved from family-owned SMEs in Ado –Ekiti and analysed. Most of the family owned SMEs were not registered, however, they have an estimate of over 2000 family owned SMEs into variety of businesses across the state capital of Ekiti state. However, the choice of Ado Ekiti was because of the growing population of family businesses in the location than any order part of the state. The opinion of the family-owned SMEs owners and managers was collected in order to answer the questions of the research hypothesis. Hair *et.al* (2010) maintained that a sample size should be arrived at when the population is uncertain. As a result of this a sample size of 390 was used for this work. The Cronbach's Alpha value of the study was calculated to be 0.816 which was beyond the set minimum of 0.7. Regression analysis was used to test the research hypotheses.

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lxxix. Analysis and Result

lxx. The respondents that made up this study represent both male and female gender, the sample was made up of less male 192(61.9%) than female 118(38.1%) respondents. Bamidele, (2017) report 70% were male while 30% female respondents. Okpara, (2011) also report 60% male and 40% female, this further affirms that there is a trend in family-owned SMEs. The age category of respondent, 9(2.9%) of the respondents were below 20 years, 28(9.0%) were between 21-30 years, 162(52.3%) were between 31-40 years, 81(26.1%) were between 41-50 years, 28(9.0%) were between 51- 60 years while 2(0.6%) were 61 years+. 305(98.4%) were Nigerians while 5(1.6%) were non-Nigerian. The staff category of respondents showed that all respondents had below 100 staff. With respect to the years of operation category, 0-5 years were 20(6.5%), 6- 10 years were 81 (26.1%), 11- 15 years were 102(32.9%), 16- 20 years were 84(27.1%) and 21 years + were 23(7.4%). The educational qualification category of respondents showed that 2(0.6%) of respondents have primary education, 10(3.2%) have secondary school education, 48(15.5%) have Diploma/NCE qualification, 120(38.7%) have HND qualification while 130(41.9%) have BSc qualification. The nature of business category shows that 36(11.6%) were into processing business, 80(25.8%) were into production, 58(18.7%) were in Agro allied business and 136(43.9%) were in service business.

lxxi. Table 1

Independent Variable	Dependent Variable	R	R ²	F value	Sig.
Market Scanning	Profitability	.302	.091	30.878	.000**
Technology scanning	Sales growth	.111	.012	3.833	.001**
Research and development	Competitive advantage	.242	.056	19.206	.000**

lxxii. Source: Ayodele, *et.al* (2019)

lxxiii. **p ≤ 0.001, *p ≤ 0.05

lxxiv. Table 1 above shows the regression analysis of three disruptive innovation on performance of

lxxv. Family-owned SMEs. The first shows the consequence of market scanning on SMEs' profitability ($R^2 = .091$, sig= .000). The second relationship shows that disruptive innovation (technology scanning) is significant on sales growth ($R^2 = .012$, sig= .001).

Finally, disruptive innovation (Research and development) is significant on competitive advantage.

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lxxvii. 5 Discussion / Conclusion

lxxviii. Disruptive innovation over the years continue to be relevant to the growth of SMEs, disruptive innovation includes the rise of new ideas, methods, technology or process leading to creation of new markets (Lehtimaki, 1991). The findings in this study is similar to findings of previous researchers, Meilan, (2010) found out that market scanning avails entrepreneurs the opportunity to know there is a need for change in disposition towards it possible for disposition towards the use of patent. This finding also showed that there was significant relationship between technology scanning and sales growth. Baiyere, & Salmela (2015) reported that disruptive innovation has caused many leading organisations to become obsolete, which is as a result of failure of these leading businesses to embrace technology and use these invention to scan for new opportunities.

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lxxx. It is therefore imperative for family-owned SMEs to develop strategies that will avail them the opportunity of coping with new trends in technology. Disruptive innovation has a nature of creating extreme problems, this problem if not properly handled would drastically affect Sales growth of such business, entrepreneurs ought to constantly create strategies to survival the problems of disruptive innovation (Danneels, 2004). It is therefore expedient for family owned SMEs to develop strategies that will ensure their competitive advantage amidst competition and dynamism of the environment. Innovative businesses constantly scan the environment in search for new opportunities (market). The outcome of this study shows a significant presence of research and development that leads to businesses arriving at a competitive advantage. Disruptive innovation create a unique opportunity for businesses to brings their product/service into a market that does not have a similar product/ service, thereby disrupting such market and arriving at a competitive position. Ngugi, *et.al* (2013) affirm that although competition continues to increase with change in consumers behaviour and needs, making satisfying a particular customer group continuously without disruptive innovation seem impossible, there is need for R&D to be at every phase of innovative process.

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WOMEN ENTREPRENEURES: THE KEY TO DISRUPTIVE INNOVATION IN AFRICA.

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ABSTRACT

Entrepreneurship is a catalyst of the economic development of any given economy. It is one of the largest sections for capital accumulation. Economic growth is as a result of the efforts taken by the entrepreneurs. Similarly, entrepreneurs dictate the economic growth by their actions and choices.

Since the 21st century, the status of women in Africa has been changing as a result of growing industrialization and urbanization, spasmodic mobility and social legislation. Over the years, the number of women going in for higher, technical and professional

education and their proportion in the workforce has been on the increase. With the unfold of education and awareness, women have shifted from the kitchen, handicrafts and traditional cottage industries to non-traditional higher levels of activities. Even the government has laid special emphasis on the need for conducting special entrepreneurial training programs for women to enable them to start their own venture.

This study focuses on women entrepreneurs, how they make up the majority of the entrepreneurial scope in Africa, and how they can benefit from the application of disruptive innovative techniques in their day to day business processes.

This study was based on the analysis of case studies of selected successful women entrepreneurs in Africa and their usage of disruptive innovation to gain competitive advantage.

The study revealed that the women in the African region are more engaged in entrepreneurial activities, it would be imperative to help foster the advent of disruptive innovation in business activities.

Key words: women entrepreneurs, Africa, business, entrepreneurship, disruptive innovation, gender, economic development, industrialization, urbanization, competitive advantage.

INTRODUCTION

Entrepreneurship is the capacity and enthusiasm to develop, organize and manage a business enterprise including any of its risks to make a profit. Entrepreneurship serves as a catalyst of economic development in any given economy. Economic growth can be directly related to the efforts taken by entrepreneurs, they can dictate the economic growth of their nation by their actions and decisions. Now many have begun to realize that the achievement of their economic development goals, is based on the promotion of entrepreneurship both qualitatively and quantitatively. Only active and enthusiastic entrepreneurs can fully explore the potentialities of the available resources – labor, technology and capital. An entrepreneur is an individual who, rather than working as an employee, establishes and runs a business, assuming all the risks and rewards of the venture. The entrepreneur is commonly recognized as an innovator, a source of creativity for products and business processes. Entrepreneurship is one of the resources economists categorize as integral to production, the other three being natural resources, labor and capital. An entrepreneur combines these three to manufacture goods or provide services.

He or she generally creates a business plan, employ labor, obtain resources and financing, and determine leadership and management for the business. Women entrepreneurs play a key role in any given economy, they are able to harness the skills and initiative necessary to anticipate current and future needs and provide innovative ideas to market.

Entrepreneurship dates back to the pre-colonial era, the first known trading between humans took place in New Guinea around 17,000 BCE, where locals would exchange obsidians for other needed goods. The first big shift in entrepreneurship took place during the Agricultural Revolution, which occurred about 12,000 years ago, by specializing in different professions, members of the community could trade valuable goods for food. These were the earliest entrepreneurs in human civilization. Some common areas of specialization included: hunting and gathering, fishing, cooking, tool-making, shelter-building, and clothes-making. Farmers could cultivate more food than they needed to provide for their own families. Thus, they would sell the excess food at the market. Although entrepreneurship as an element of economic growth was postulated in the 1700s. It was largely absent from the mainstream of economic development thinking throughout the 19th century. It wasn't all good news for entrepreneurs during this period, many entrepreneurs had their inventions and innovations stifled.

Presently, entrepreneurs are the heart of economies all over the world. Even in powerful economies like China, entrepreneurs are treasured for their input to the economy and encouraged to innovate to contend with companies worldwide. The global economy – connected with modern infrastructure and communications – has popularized a new age of contest to the world of entrepreneurship. Entrepreneurs no longer compete with businesses in their tribe, town, village, or city: they are now competing with entrepreneurs worldwide. A large amount of these entrepreneurs can acquire cheaper means of production than you. They may have greater access to raw resources of low-cost labor, for example. This has created a more challenging modern entrepreneurship – and perhaps more rewarding – than ever before.

WOMEN ENTREPRENEURSHIP

Entrepreneurial activities are engendered, in terms of access, control and remuneration. More man than women tends to be in the more lucrative enterprises especially in the formal sector as owners and managers of large firms and small industries. Many women

tend to be in smaller informal sectors, where they may not be able to accumulate sufficient capital to expand their operations and upgrade their management skills; their networks may also be restricted to other micro and small scale enterprises. However, they pursue entrepreneurial activities and acquire asset increasingly as the decline of the administrative apparatus of the state and expansion of the informal economy has weakened the mechanism of male control over women.

Women entrepreneurs can be defined as a woman or a group of women who initiate, organize and run a business enterprise. In terms Schumpeterian concept of innovative entrepreneurs, women who innovate imitate or adopt a business activity are called women entrepreneurs. Kamal singh defined women entrepreneurs as a fearless innovative and creative woman, efficient to achieve a self-economic independence, individually or in alliance, generates employment opportunities for others, through introducing, establishing and functioning of the enterprise by balancing her personal family and social life.

The importance of entrepreneurship integration of the people in a nation cannot be overemphasized especially, women who have been under appreciated for a long time in developing economies. Women play vital and dynamic functions in economic life, they conform easily to change and are very innovative. As representatives of development in all societies women play remarkable roles through creativity and innovations in the formal and informal sector although greatly predominant in the informal sector. Women are therefore becoming progressively important in the socio-economic expansion of both advanced and developing economies as they account for important percent of the operatives of Small and Medium Enterprises (Kjeldsen and Nielson, 2000).

STATUS OF WOMEN ENTREPRENEURS

Women entrepreneurs make a substantial contribution to national economies through their participation in start-ups and their growth in small and medium businesses. Their interests and activities in the economic growth and development especially in the area of Women entrepreneurship have received outstanding interest of researchers everywhere. Global Entrepreneurship Monitor (GEM) 2005 confirm that women participation in a wide range of entrepreneurial activities across the 37 GEM and their activities in different countries have paid off in form of many new enterprises that have made provisions for both job and wealth creation. The role of women entrepreneurs as agents in the labor market, for creation of employment and wealth, poverty alleviation and provision of resources has

tremendously created an increase in the number of women owned entrepreneurial ventures in the world (United Nations, 2006).

Women entrepreneurship contributes more than 50% to Gross Domestic Product (GDP) of most nations both developed and less developed. Its contributions to economic development have been predominant in the area of job creation, poverty alleviation, environmental vitality, wealth creation and human capital (Ojo, 2006).

In 2018, the World Bank described Africa as the only region in the world where more women than men choose to become entrepreneurs, a phenomenon that is not the subject of adequate discussion. Women entrepreneurs have put Africa on the map countless times, in 2018 the MasterCard index of women entrepreneurs revealed that 46.4 percent of businesses in Ghana are owned by women, making it one of the fast paced African countries pin pointed in the index. Nigeria and Ghana did very well in terms of advancement outcomes: the women entrepreneurial activity rate was 100 percent, with overall scores in this regard coming in at 62.4 percent and 59.1 percent respectively. African countries also did well in women labor force participation – with Malawi at 100 percent, Ghana at 96.1 percent, and Ethiopia at 86.6 percent. South Africa performed well in sharing knowledge assets with women and providing financial access, with a score of 84.3 percent– coming in 6th out of 57 countries. Botswana closely followed with a score of 73 percent. Botswana and South Africa were the highest performing African countries in the Index overall with scores of 66.5 percent and 64.2 percent respectively.

CHALLENGES FACED BY WOMEN ENTERPRENEURS

While both male and female entrepreneurs face diverse limitations such as a lack of capital, women are peculiarly affected by a number of other impediments, such as discrimination and the dearth of collateral just to name a few. Consequently, female-owned enterprises generate monthly profits that are on average 38 percent less than those of male-owned enterprises. Other challenges include:

Limited access to funding

The scramble to raise business funds is an issue that many startup owners are familiar with, but this problem is even more evident to women entrepreneurs. The inadequate financial support is among the greatest obstacles for individuals looking to start or take female-owned businesses to the next level in Africa. While research has shown that

women manage their credit better than men, the former still find it harder to obtain funding than the latter. A research carried out by the African Development Bank found that the financing gap for women in Sub-Saharan Africa is estimated at above US \$20 billion, and younger unmarried women struggle the most. Based on the 2014 Findex report, only 30% of women in sub-Saharan Africa have access to bank accounts. This report shows the importance of empowering women through financial inclusion.

Male domination

Being respected as a woman in a male-dominated field can be a difficult task. Women often have to fight for equality in the face of gender discrimination. We know all too well the sting of sexism and gender inequality in the business world. There has been many times where young women have been regarded to as inexperienced by their male counterpart for no valid reason at all. Most times women are taken a little less seriously than their male counterparts in the same positions, especially in business. Some of the external factors that you have to fight as a woman include getting paid as at when due, being taken seriously, and being treated with respect. There's also the challenge of being seen as competent enough, being seen as an expert in the field. This is especially difficult when you are a young and unmarried woman.

Self-limiting factor

A large number of women entrepreneurs have yet to fully come to terms with their own greatness. According to the Global Entrepreneurship Monitor Women's Report, women are more afraid of failure than their male counterparts; this impedes their chances of starting or running their own businesses. An expert in the field also opines that the hindering fear of failure has a lot to do with how women are raised. There are internal self-limiting factors; this has a lot to do with how we're socialized as girls and young women. In Africa women aren't brought up to be leaders, to be go-getting, to ask for what we want, to be self-assured, or to understand the kind of impact we can make, rather we are taught to look up to our male counterparts, to respect and serve them, to never compete with them for fear that we might end up alone. This cultural mindset has set this continent back a thousand years. The need to sensitize and re-orientate the next generation of young women cannot be over emphasized.

Access to modern energy

One of the major challenges we face in Africa is insufficient access to modern energy services. According to the International Energy Agency, sixty percent of energy poorest countries are in sub-Saharan Africa; Nigeria, Ethiopia, the Democratic Republic of Congo, Tanzania, Kenya and Uganda. It is estimated that 600,000 people die prematurely each year from indoor pollution associated with open fires and paraffin inhalation. It is imperative that women entrepreneurs not only focus on the obvious but rather question the status quo in order to come up with new or better solutions.

DISRUPTIVE INNOVATION

The term disruptive innovation was initially framed by Professor Clay Christensen from Harvard Business School. The term led to a compelling way of describing innovation driven growth. People started making use of the 'disruptive innovation' term globally, but often the meaning of disruption is misunderstood and misapplied by many. The term 'disruption' is extensively used by the media to denote a pattern of breakthrough that takes place in rapidly-changing markets. It can mean various things to completely different people, along a continuum from incremental change to radical transformation. Disruption describes a process whereby comparatively small companies with relatively less resources are able to successfully challenge, often to the point of up-ending, larger businesses. Disruptive innovation describes a technique by which a product initially takes root in simple applications at the base level of a market chain and then relentlessly moves up market chain, eventually displacing the established competition.

Disruptive technologies challenge industry leaders that didn't innovate fast enough to survive. They can destroy existing models and alter an entire industry, especially the very large and established companies like Nortel Networks, Polaroid and MySpace experienced this first hand. Before their success, however, new technologies are often underestimated by big industry players.

DISRUPTIVE INNOVATION THEORY

The theory by Christensen states that every successful and established company will one day be overtaken and threatened by revolutionary new comers. In each market,

customer's preferences are different from each another. While some customers can be extremely demanding and difficult to please; which would require very high levels of technological performance, some customers can be pleased with very basic levels of performance. Disruptive small players usually enter the market with extremely low performances, soon their performance advances and they move up market. At the beginning of the disruption cycle, the new innovation is considered as inferior by majority of the market players but seems adequate for those customers with low needs. In particular, lower prices, easy handling or niche functions and attention to details that were not considered priority by previous industry players; make the unknown product or service particularly attractive for the newly created customer segment. Established industry leaders view new technologies merely as inadequately mature prototypes and business ideas from insignificant competitors, while they ignore the needs of their own target group and the business continues as usual. Disruptors, however, manage to meet the needs of the most demanding customers. Christensen sees disruption as an important process that helps keep a market alive in the long term and also helps to continuously improve it further.

BENEFITS OF DISRUPTIVE INNOVATION

The benefits of disruptive innovation cannot be over emphasized, some highlighted few are:

Driving efficiency in business and public service

Improving connectivity through improved access and affordability is crucial for disruptive development in Africa. Connectivity links consumers to businesses it also allows innovators to share ideas and seek advice through the shared economy. While mobile connectivity is well-saturated across the continent, the internet availability lags behind. Less than 30% of people in Africa have access to mobile broadband (compared to 43% in Asia) and only 15% have internet at home.

Strengthening trust and combating corruption

Disruptive innovation is emerging as a key tool in stamping out corruption and waste, particularly in the public sector. It is already being used in Africa to improve traceability in the diamond trade, and has the potential for many other applications including combating tax avoidance, avoiding land registry disputes and providing greater transparency of public spending.

Improving market access and ease of doing business

The Nigerian experience has highlighted the opportunities and challenges facing firms in Africa's e-commerce sector. By every ramification Nigeria has been regarded as Africa's largest market, both by population and size of her GDP, over two thirds of Nigeria's internet users have been estimated to have shopped online at least once in their life time, there is an e-customer base of almost sixty million Nigerians. Drone technology and 3D printing have conjointly helped Africa to bypass infrastructure challenges and improve access to markets that were previously unreachable.

Healthcare and crisis prevention

Disruptive technology is helping to conquer the traditional barriers of distance and restricted access to healthcare. One example is Peek, a portable eye examination kit that allows users perform eye exams by taking high quality retinal pictures with their mobile phones. Another combines big data and drone technology to prevent potential epidemics through early detection and tracking.

Education, innovation and job creation

From Cape Town up to the 'Silicon Savannah' of East Africa, more than 100 tech hubs have been set up across Africa over the past decade to help foster home grown innovation. Many hubs specialize in supporting social enterprises that are developing solutions to social problems. Technology has also been revamping teaching and training in Africa, through the delivering of superb educational content on mobile and online channels.

Bringing the informal sector into the mainstream economy

The improved mobile connectivity has brought about a revolution of financial inclusion by enabling banks and telecoms providers to reach out to currently unbanked customers with low priced accessible services. Through the success of the M-PESA payments platform, Kenya has one of the highest rates of inclusion in Africa, yet comparable platforms in other countries have found the going harder.

CASE STUDY

In this study we studied and examined the lives of women entrepreneurs, who are currently making waves in their respective fields and regions. We have highlighted only a few and they are:

NORTH AFRICA

Hendriad and Mariam Hazem, Egypt

Beginning with initial improvement by Egyptian accelerator Flat6Labs, Riad and her partner Mariam Hazem converted a university project into a gainful business that not only drives the boundaries of statement furniture, however offers a sustainable answer to the problem of plastic discarded in Cairo. What started out as a simple university inventiveness expanded into a design studio, which was given in 2013 in Milan. An idea that began with a plastic bag in Cairo turned into a prize-winning design studio that is acknowledged internationally. Modified Studio produces furniture out of its invention, Plastex. It is fundamentally plastic bags and cotton threads recycled to handmade material. Plastex is a new eco-friendly material prepared by weaving discarded plastic bags. In Egypt, “plastic bags are the second most unexploited material which takes a thousand years to degrade,” they said in an interview with Cairo scene. The eco-friendly invention has won numerous international honors, containing Cartier’s Women’s Initiative Award in Paris and the Silver A’ Design Award in Italy. Reform Studio aims to produce liable and thoughtful product aimed for a cause and a better life.

Yasmine El-Mehairy, Egypt

Yasmine is not a mother, yet she leads the parenting business on her online platform supermama.me a corporation that ranks as the 5th most prosperous startup in Egypt. A zealous entrepreneur with numerous international startup rivalries under her belt, El-Mehairy converted an idea –given mothers and women across the Middle East reliable Arabic-language content— into a business valued US 3.5 million. Currently, across the Arab world, her portal is followed by 2.2 million women has its personal YouTube channel, and is preparing to launch its personal app in the near future. “There were days where we just wanted to hide into a corner and cry, but we never gave up. It was working until we made something great or died trying.”

Radwa Rostom, Algeria

The founder of Handoveris Radwa Rostom, nominated as Arabian Business’ 30th most powerful Arab under 40, Radwa Rostom is a civil engineer with a desire for community advancement decided to produce prototypes for housing units prepared solely of earth materials. A training and CSR expert at the Solar Energy Co. and an associate of UNIDO (United Nations Industrial Development Organisation), Rostomfashioned her project after

getting a fellowship from the do School in Hamburg, Germany. She successfully raised \$55,000 in a crowd funding project, targeting not only to deliver a more humane shelter for slum residents in Algeria, but also empower architecture and civil engineering students to plan and implement sustainable accommodations using the rammed earth technique.

Carmen Tal, Morocco

A sheer entrepreneur, Carmen Tal is widely hailed as 'The Leading Lady of Moroccan Oil'. From being a salon owner to being the mother of an enormous beauty enterprise, Tal's journey has been pretty interesting. Following the failure by an awful hair color service after Tal underwent an argan oil treatment; she was awestruck by its unequaled benefits and decided to introduce these benefits to the women worldwide. Consequently, in partnership with her now ex-husband, she acquired the firm importing argan oil to the US and began her business with a single brand. This was the critical moment of her life as well as her career. Having grown immensely in a period of 6 years i.e. from a basic team of simply ten in 2006 to over three hundred employees today, Tal will be introduction 12 luxury body care products in 2012 to usher innovation and worth to the salon-experience worldwide. Her enterprise is a multi-million corporation that has crowned her the queen of [argan oil](#) trade. Despite the fact that her business is presently on its high, Tal plans to develop up to date products in the following years to enhance the spellbinding feel of salons for all her customers/clients.

WEST

Case studies WEST

FaustinaSakyi, Ghana

FaustinaSakyi, an established cassava farmer in Ghana, born into an average family that had to live-off by cultivating cassava tubers. Now in her 40s, she has built an incredible business opportunity from cassava which she processes into garri – a very popular staple in West Africa. Her product is sold within and beyond the borders of Ghana, including Mali, Niger and Nigeria. In her drive to make a different and brighter future for her kids, this mother of three set out to organize fellow women in her community who were unemployed and needed a sustainable source of income. With over 30 women recruited on her team and a bank loan of 3,400 Ghana Cedis (\$1,700), Faustina started her rural cassava processing business. Presently, she uses her amazing story and experience to inspire hundreds of rural women who can benefit from the enormous potentials of cassava production.

Ugochi Ugbomeh, Nigeria

Ugochi is a female entrepreneur who thinks big, harnessing the creative power of information technology to making a difference. Her entrepreneurial business vision is to make her company, Tranzit, become a hub of world-class flexible transportation, location based and mobility of services in Africa, effectively transporting people and things from one destination to another. Tranzit is a phonetic alternative to the English word "Transit," meaning "the movement of people and things from one location to the other. Bearing this in mind, her company Transit is an ITmobility service provider. Currently the company offers two products: firstly, TaxiPixi Africa www.taxipixi.com, which is a taxi e-hailing and booking service, that helps you book a taxi in 30 seconds. Secondly, Tranzit is, a technology based delivery service that serves both e-commerce and brick and mortar merchant owners, as well as regular consumers.

Dr Ola Orekunrin, Nigeria

A medical doctor, health care entrepreneur, helicopter pilot and founder of Flying Doctors Nigeria LTD, the first Air ambulance service in West Africa. Dedicated and committed to bringing health-care to the most remote and rural parts of Western Africa, and her enterprise, an air ambulance service company based in Lagos, is doing exactly that. She was moved to establish the company after the death of her younger sister while traveling in Nigeria as a result of no availability of a medical air service that could have been used to transport her to hospital. She graduated as a doctor from York University, in the UK and she serves as a member of the American Academy of Aesthetic Medicine. She is a resident in Lagos Nigeria, where she is referred to as a national expert of disaster medicine and pre-hospital care. Her company flying Doctors has been featured on various radio stations and local TV as well as the CNN and the BBC.

Mo Abudu, Nigeria

Mo Abudu, CEO of Ebony Life TV has been listed on Business Insider's Top 100 business visionaries creating value for the world. She is the only African woman on the list with a ranking of 56 on a list of 100 people from all over the world. Mo as fondly called; worked in several reputable firms before pulling out to live her dreams and achieve her vision. For one Mo is passionate in the course of revamping and encouraging the lives of the modern-day youth. From a talk-show host, she became a media proprietor;

today through Ebony live TV, the N2bn worth 1st global Pan-African television network, she does just that; alongside handling Afro-sensitive issues affecting all spheres and aspects of living and proffering viable suggestions and solutions to ensure better living and housing conditions of the middle class and its local communities, especially. She is also very passionate about making Africans both men and women more accepting of themselves as well as their culture.

Kofo Akinkugbe, Nigeria

Kofo Akinkugbe is the founder & the CEO of Secure ID Ltd. A highly respected and reputable African business leader, who gradually has become a market champion in smart card technology as well as digital security. Secure ID, is a world-class and top notch manufacturing company operating the only smart card manufacturing plant in the whole of West Africa and one among six on the continent. Her top-class company serves over 16 countries across sub-Saharan Africa and is certified by Verve, Visa and MasterCard. In the year 2012, she won the "Entrepreneurship Mature Business Award" in Africa.

EAST AFRICA

Isis Nyong'o Madison, Kenya

Nyong is a renowned female tech entrepreneur. She is very famous for her tech expertise, ingenuity, and experience in the digital advertising industry. She worked with MTV, Google, and other reputable companies. February 2011 was when her natural intelligence and talent and took her up to becoming InMobi's Managing Director and Vice President, Africa, (the world's largest independent mobile advertising network). Appointments like this don't usually come handy with an exception that you prove beyond all reasonable doubt that you can equal set tasks. She effortlessly has her achievement sand records to speak for her. Also, Nyong's soft side as a humanitarian can be seen in her dedication and service to charitable activities in her community. From a family that takes value in education, it is no surprise that she exudes core brilliance. She obtained two degrees from Stanford University and also from Harvard Business School from where she began to display her prowess and understanding in the field of business.

Bethlehem Tilahun Alemu, Ethiopia

When she began her business in 2004 with the name SoleRebels, Tilahun Alemu knew exactly where her local business of making hand-made foot wears would launch not only her but as well as her local community in Addis Ababa, Ethiopia. According to her, the fine and skilled artisans employed from her local community (in Ethiopia) form the

backbone of the company and the essentials of the company's ethics. Motivated by the joy of spreading bits of their local cultural heritage with every footwear, Tilahum has developed herself to becoming a commendable business entrepreneur consolidating her company in a very short period with her gumption. Owing to Tilahum's dedication towards her company, SoleRebels is the only and sole achiever of the (WFTO) fair Trade Certified Footwear Company award globally. Thanks to the success and growth of her company, Tilahum was specifically invited by Bill Clinton as guest speaker for addressing The Clinton Global Initiative's panel. Subsequently in the year 2011, Alemu was again given the distinct honor by the World Bank Managing Director Ngozi Okonjo-Iweala, she was the first African woman entrepreneur to get the invitation ever. During the same year, she was honoured with a global recognition for her entrepreneurship roles in society by multiple institutions. SoleRebels was a top 5 finalists during the 2011 Legatum Awards For Entrepreneurship in Africa. She is known to giving mentorship and conducting workshops for young rural girls in her country for their self and economic empowerment, as well as to equip them with self-reliance tools. Alemu envisages coming 3 years as the period of expansion of her business beyond Ethiopia in more than 10 locations with annual revenues topping \$10 million.

Bitania Amare, Ethiopia

[WeDeliver](#) is an ordering platform online that gives users in Addis Ababa to order food or other items online and have it delivered to their door steps within 60 minutes. WeDeliver began with a mission to empower consumers by creating a gateway that they can use to access local businesses at their fingertips. Currently, WeDeliver is involved in the delivery of food and is expanding into delivery of Leather Products, Gift Articles, Documents and Packages.

SOUTHERN AFRICA

Mavis Nduchwa, Botswana

Mavis Nduchwa from Francistown in northeastern Botswana is an Estate and Hospitality graduate with a passion for food production. Growing up on a farm fueled her love for agriculture and this young agri-preneur is on a mission to demonstrate that women farmers in Africa can make a difference. Nduchwa's entrepreneurial journey started in 2011, when she won funding from an initiative known as Tony Elumelu Entrepreneurship Program. She used the money to start Chabana Farms, providing training and work for

unemployed young people and now counts herself among the less than 1% minority of African women who are landowners. Nduchwa describes Chabana farms “as classrooms where lessons come to life”. According to her, the objective is to give people a better understanding of where their food comes from, why proteins and vegetables are important for our bodies and how to build a healthier community. Nduchwa says “dedication, dedication and more dedication” is what makes a successful female entrepreneur.

Pam Golding, South Africa

Pam Golding is the founder and life president of the **Pam Golding Property group**, South Africa’s largest property company. Pam Golding Properties was established in the year 1976 with literally no investment capital and a single sales assistant, and today sees annual revenues in billions of dollars. Mrs Golding received the Cape Times KPMG Business Personality award for the Year (2003) and she is a know champion of woman’s rights. Golding plays an active role in promoting trade, investment and tourism in South Africa as a founding member of the Proudly South Africa Initiative, and as a member of the International Marketing Council as well as the Western Cape Investment Council. Pam Golding Properties is a top real estate agent, specializing in top class and luxurious real estate, around the world. The company has corporate offices in South Africa, Botswana, Namibia, Zimbabwe, Mauritius, Spain, Germany, London, Croatia, Holland and France. Thanks to properties being available, and to top class property services, Pam Golding properties has grown become one of the most prestigious and profitable real estate agents, in South Africa and beyond.

Divine Ndhlukuka, Zimbabwe

Divine was the first person ever to run a certified security outfit in Zimbabwe, [Securico](#). From her little cottage of just 4 employees, her company has developed to being a trailblazer in an industry mainly dominated by men. Thanks to the superb electronic characteristics, Securico, after 18 quality years of guarding services, plans to widen her services towards assets and cash. With revenue of about \$13 million, the company has over 3000 employees, of which, 900 are women. Divine has been shortlisted by Forbes as one of [Africa’s Most Successful Women](#).

Conclusion

From our analysis of the studies carried out by other researchers and a review of major case studies we have come to the conclusion that expanding the opportunities for female entrepreneurs through policies that foster gender equality would have a tremendous impact on Africa's growth. Women entrepreneurs are boosting economic growth and lifting millions of people out of poverty in the process with simple yet low-priced solutions that have been found effective and should be endorsed on a wider scale. Although in some cases removing barriers to women entrepreneurs could involve slow policy debates, yet in some other cases relatively sincere and unequivocal interventions have made the most difference, we should take note that with the proper and correct policies and interventions, there is a huge opportunity to be unleashed.

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entrepreneurs-the-future-of-africaAfrica a world leader in women business owners:

Mastercard Index of Women Entrepreneurs

THE ROLE OF COOPERATIVE SOCIETIES IN MICRO-BUSINESS DEVELOPMENT IN BENIN CITY, NIGERIA

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Abstract

The study is an empirical investigation on the role of corporative societies in the development of micro-businesses which has received much consideration and attention from academics in different industries and countries. Despite several studies on the relationship between the activities of corporative societies and micro-business development, the researchers are not aware of any study on the relationship between corporative societies and micro-business development in Benin City, Nigeria. This study is intended to fill this identified gap. In pursuance of this, we constructed a model of four roles of corporative societies to micro-businesses development and empirically evaluated it using Nigerian samples. The dependent variable identified in the model was micro-business development which is expressed through acquisition of business assets, ownership of business and business expansion/profitability and

while the independent variables was corporative society using four dimensional roles (access to fund, low interest rate, promotion of savings, and bulk purchases for members). To test the four dimensional roles, the survey research methods was adopted using the questionnaire as data collecting instrument which were administered on a sample of 500 micro-business owners in Benin metropolis. The data collected for the variables of the model were subjected to multiple regression and analysis of variance (ANOVA). The result indicates that; role of corporative society in terms of access to fund, low interest rate, promotion of savings, and bulk purchases for members were all positively related to micro-business development in Benin-City. We therefore, recommended that government will continue to support and encourage the formation of corporative societies and young entrepreneurs should also be encouraged to join corporative societies in order to develop and expand their businesses.

Keywords: Corporative Societies, Micro-business, Development, Benin-City

Introduction

Small businesses have been widely acknowledged as the spring board for sustainable economic development all over the world, unfortunately, accessing capital for new entrepreneurial pursuit especially at the micro level has not always been an easy task in Nigeria. One of the identified problems of micro-business development in Nigeria is lack of access to fund amongst others. Cooperative societies are seen as a very veritable tool in addressing this identified problem. A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned group and democratically controlled enterprise. Cooperative societies play important role in micro-business development through granting of loan at a very low interest rate to entrepreneurs who belong to the society and also give them access to cheap raw materials through bulk purchasing at a much reduced price. In addition, cooperative societies assist their member in the acquisition of land payable on instalemental basis and train their member in the acquisition of various entrepreneurial skills. Despite some studies on cooperative societies and development of small and medium scale enterprises in Nigeria (Alufohai, 2006; Adekunle & Henson, 2007; Ogunbameru, Okeke, & Idrisa, 2010) We are not aware of any study on the role of cooperative societies in the development of micro-business development in Benin City, Nigeria. This study is intended to bridge this gap in knowledge.

Research Hypotheses

The research hypotheses relevant to this study were:

Ho: There is no significant relationship between role of cooperative societies and micro-business development

Ha: There is significant relationship between role of cooperative societies and micro-business development

Literature Review

Conceptual Review

The Concept of cooperative Society

A co-operative society is a voluntary association of individuals having common needs who join hands for the achievement of common economic interest. Its aim is to serve the interest of the poorer sections of society through the principle of self-help and mutual help. The main objective of cooperative society is to provide support to the members. People come forward as a group, pool their individual resources, utilize them in the best possible manner, and derive some common benefit out of it. Tanzania Federation of Cooperatives (2014) stated that cooperative society as a group of people work together voluntarily to meet their common economic, social and cultural needs by jointly owning and democratically controlling a venture. Ebonyi and Jimo (2002) also stated that cooperative societies as associations of persons who have voluntarily come together to achieve a common objective through the formation of a democratically controlled organization; making equitable contributions to the capital required and accepting a fair share of the risk and benefits of the undertakings. They are found in practically all countries of the world, covering almost all the major sectors – including agriculture, forestry, fishery, finance (banking, microfinance and insurance), electricity (generation and supply), construction, mining housing, transport, manufacturing, trade and a wide range of social services (Nwankwo, Ewuim & Asoya, 2012). They help create, improve and protect income as well as generate employment opportunities and contribute to poverty reduction (Nwankwo, Ewuim & Asoya, 2012). Cooperative society's focuses on the individual who wishes to start or expand a business including small and medium enterprise (SME) to better their socio-economic life and are also led by individuals who can be considered entrepreneurial (Agbasi, 2010).

The concept of Micro-Business

There is no precise or universally accepted definition of micro-business because of the subjective classification of business into micro, small and medium scale enterprises. The definitions also vary between countries and between continents (Egbuogu, 2003). According to Carpenter (2003), major criteria used in the definition of micro, small and medium enterprises SMEs could include various combinations of the following: Number of employees, financial strength, sales value, relative size, initial capital outlay or value of annual turnover. However, The International Labour Organisation (ILO, 1999) defines micro enterprises as those having 1-10 employees and small scale enterprises as those having 11-50. In Nigeria, At the 13th Council meeting of the National Council on Industry held in July, 2001 Micro business Enterprise was defined by the Council as an industry with capital not more than N1.5million including working capital but excluding cost of land and/or a labour size of not more than 10 workers (National Council on Industry, 2001)

Small business that are classified as micro-business is a business that does not dominate in its field, engages local workers, working at a single location, its produced units are relatively small in size, and often organized by the owner or his family members. The ease of starting a small business generally makes it attractive to low income and less opportune persons. However as a major constraint to their start-up and growth is financing and technical skills (Moses & Adebisi, 2013).

Cooperative Societies and Financing of Micro-Business

Financing of small businesses is one of the most important factors that determine the survival and growth of small enterprises (Moses, 2010). Unfortunately, small businesses in Nigeria suffer from the dearth of funding as they are not able to meet the requirement of obtaining

fund from the orthodox financial institution (Mambula, 2002). Access to finance not only allows small business to be established but also to undertake productive investment in expanding their business and to acquire the latest technologies which ensures their competitiveness and its survival. Cooperative societies have proven to become the next generation funding option for micro-business start-ups, this is because, they attempt to fill some of the gaps other financing options cannot provide, based on their informality and accessibility

Cooperative Societies and starting a new Business

Umeje (2003) noted that industrial or production cooperative societies are organized by individuals who engage in specialized in different types of skills such as carpentry, painting, tailoring, panel beating and plumbing. Members of the same skills come together to mobilize funds needed for their business investment and expansion (Umeje, 2003). Nigeria, corporative organizations are also engaged in the collection of savings from weekly wage earners in cities and towns, the selling of foodstuffs, and the erection of shops for its members (Ebi, 2014).

Cooperative Societies and Bulk Purchasing for Members

Cooperative societies are known to bring about low prices of goods. Goods are bought directly from manufacturers at factory prices and sold to members at controlled prices thereby making their selling prices to be lower than the operating prices in the open market. (Effiom, 2014). Nigerian National Supply Company (NNSC) is distributed through consumer cooperatives. In addition, the cooperative provides avenue through which the masses may be involved in the production and distribution of goods and services. The participation of the masses in the economy of their country, Osagie (1976) argues, should lead to social peace and harmony. In other words, the involvement of a reasonably large proportion of the Nigerian business cadre in the equitable distribution of goods and services through the agencies of cooperative organizations should go a long way in ensuring hope, trust, confidence, justice and security within the Nigerian populace and society.

Empirical Review

Olujobo (2013) investigated the role of cooperative societies and standard of living of people in Ogun State. He found that cooperative societies contribute positively to standard of living because the cooperative loan was used to acquire generators, televisions and radios. Most of the generators were used to establish micro-businesses

Adekunle and Henson (2007) also studied the effect of cooperative thrift and credit societies on personal agency belief in Osun state, Nigeria and found that cooperative thrift and credit societies useful in promoting entrepreneurship.

Alufohai (2006) examined the sustainability rates of co-operatives and NGOs in farm credit delivery in Edo and Delta states in Nigeria using 100 organizations selected from a comprehensive list from the ministry of commerce and industry as well as corporate Affairs Commission. The study showed cooperatives were more likely to sustain the credit delivery function than the NGOs, but they may need to improve their capital formation rate.

University of Wisconsin Centre for Cooperatives in (2002) carried out a research on economic impact of cooperatives in the state of Wisconsin and found out that cooperatives are responsible for the most significant economic boom in the State.

Kareem, Arigbabu, Akintaro, and Badmus (2012) carried out a study on the impact of cooperative society on capital formation in Ijebu- Ode, Ogun State, Nigeria. They found that

co-operative society increase co-operators capital formation by granting credit services at a very low interest rate, which empower members to own their own business. They further opined that co-operative society helps to improve business entrepreneurial and play a leading role in poverty reduction

Research Methodology

The study adopted a descriptive survey design which is suitable for investigating a large population where element of sampling is required. The research population comprised of micro-business owners that are operational in Benin metropolis which comprises Egor, Ikpoba-Okah, Oredo and part of Ovia North Local government area of Edo State. A sample size of 500 micro-business owners in the Benin metropolis was selected using a purposive sampling technique. Purposive sampling technique was used to identify micro-business owners who are members of cooperative society before administering the questionnaire. The sampling ensured that the four local government areas (LGA) in Benin metropolis were fully represented by selecting 125 micro-business owners from each of the L.G.A. The research instrument is the questionnaire designed for the measurement of roles of cooperative societies and micro-business development in Benin City. The researchers constructed a 5-item variable which were scored on a 5-point Likert-type scale from 'strongly agreed' to 'strongly disagree', thus these items help in generating statistical measurements of issues at stake. Questionnaires was distributed by the researchers and four trained research assistants who administer questionnaire personally to micro-business owners in the various Local Government Areas under study. The purpose of the structured questionnaire was made known to the respondents in order for them to provide factual information. Content validity of the instrument was ensured by the opinions of the professors and experts in the field of cooperative management and entrepreneurship studies. Reliability of the instrument was determined through Cronbach's alpha coefficient. This method is used to calculate internal consistency of the measurement tool which measures different features. The reliability analyses shows that the overall Cronbach coefficient alpha (α) for the items related to the construct are access to fund .80, low interest rate .75, Promotion of savings .84 and bulk purchasing .74. The high values of Cronbach's alpha test indicated that the reliability, dependability, and predictability of measurement were high enough for the st

Operational Framework

The operational framework, as shown in figure 1 below, was developed as a guide for the study. The research variables are role of cooperative societies (predictor variable) with its four dimensions as access to fund, low interest rate, Promotion of savings and bulk purchasing while micro-business development was measured by acquisition of business assets, ownership of business and business expansion/profitability.

ROLE OF COOPERATIVE SOCIETIES DEVELOPMENT

MICRO-BUSINESS

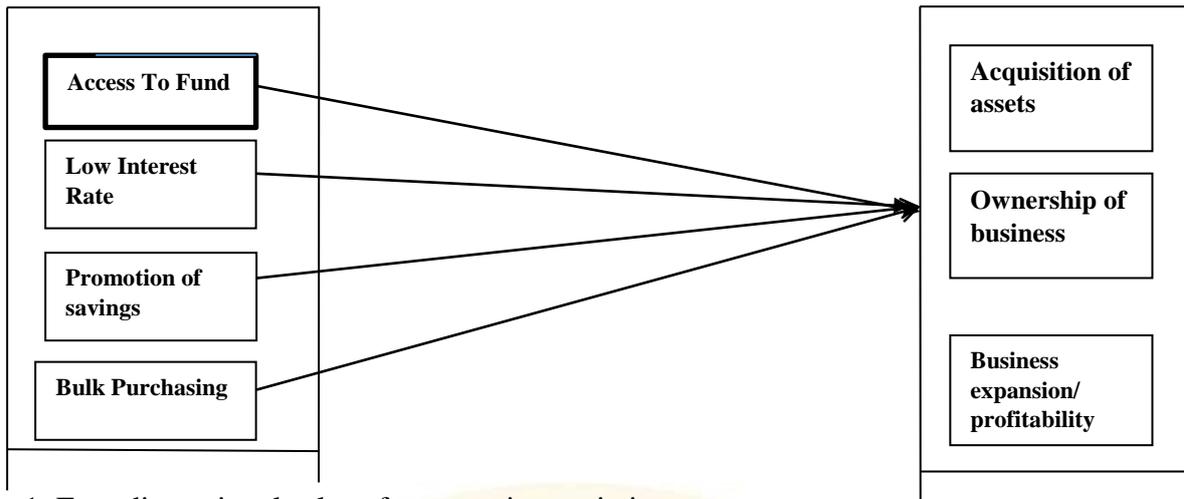


Fig 1. Four dimensional roles of cooperative societies

Our model in figure 1 assumes two main constructs relationships and defines the determinants of roles of cooperative societies with an outcome. The main relationships in the model posit role cooperative societies with four dimensions (Access to fund, low interest rate, promotion to savings and bulk purchases) with an outcome of micro-business development (acquisition of assets, ownership of business and business expansion/profitability). The model is specified as $CS = a_0 + b_1Af + b_2Li + b_3Ps + b_4Bp + e$. Where; CS= cooperative societies; Af = Access to fund; Li = low interest rate; Ps = Promotion of savings; Bp = Bulk purchases; a_0 = a constant; b_1, b_2, b_3, b_4 = coefficient of the appropriate research variables; $b_1, b_2, b_3, b_4, b_5 > 0$; e = error term.

Data Analysis

The summary of respondents’ opinion on appendix A shows that easy access to fund has an average index of 4.15 out of the maximum of 5; interest rate has an average index of 4.27 out of the maximum of 5; daily/weekly/monthly contribution has an average index of 4.19 out of the maximum of 5; bulk purchases has an average index of 4.19 out of the maximum of 5 . This is a strong indication that the four dimensional roles of cooperative societies has contributed immensely to micro-business development in Benin City.

Testing of Hypothesis

The Hypothesis states that there is no significant relationship between role of cooperative societies and micro- business development

Role of cooperative societies in our model is made up of four dimensions (Access to fund, low interest rate, promotion of savings and bulk purchases) with an outcome of micro-business development. Hence, a multiple regression analysis was used to determine the relationship between these dimensions and micro-business development as shown below on Table 1

TABLE 1: Regression Analysis on Relationship between role of cooperative societies and micro-business development

VARIABLES	CONSTANT	COEFFICIENT (t)	ADJ R ² (%)	F	SIG.
Access to Fund	-.478	.285(6.977).	. 821 (61.1)	588.65	.000
Low interest rate	-.464	242(4.134)	. 711 (53.1)	465.32	.000

Promotion of savings	-.473	.283(5.468)	.813 (64.1)	521.54	.000
Bulk purchases	-.461	.232(4.913)	.722(65.8)	442.35	.000

t values are shown in parentheses. $P < 0.05$

Table 2 :Summary of analysis of role of cooperative societies and micro-business development

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.910 ^a	.872	.856	3.76658

a. Predictors: (Constant), Access to fund, Low interest rate, Promotion of savings, Bulk purchases
R square = .872, Adjusted R Square = .856, $p < .05$

Table 3: ANOVA of role of cooperative societies and micro-business development

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	14045.254	4	2807.969	399.875	.000 ^a
Residual	7670.726	496	12.973		
Total	18894.758	491			

a. Predictors: (Constant), Access to fund, Low interest rate, Promotion of savings, Bulk purchases
b. Dependent variable: Micro-business development
 $\alpha = .05$, $F = 399.875$, $P = .000$, $P < .05$

The analysis of the relationship between role of cooperative societies and micro-business development in Table 1 shows that the four dimensions cooperative role was significantly related to micro-business development. The combinations of access to fund, low interest rate, promotion of savings and bulk purchases have a positive and significant relationship with customer loyalty at $p < .05$. The F values of 399.875 also signify that all the independent variables when combined explained a significant degree of micro-business development. Furthermore, Table 3 shows an F value of 399.875.764 and a P value of .000. Testing at an alpha level of .05, the P value of .000 is less than the alpha level. Hence $P < .05$, the null hypothesis which states that there is no significant relationship between role of cooperative societies and micro-business development is rejected. Consequently, there is a significant relationship between role of cooperative societies and micro-business development. This means that cooperative societies have a great influence in micro-business development.

In addition, the result, presented in Table 2 also shows support that the role of cooperative societies is positively related to micro-business development. Further, an adjusted R-square ($R^2=0.856$) indicates that 85.6% of role of cooperative societies was explained by micro-business development.

Discussion of Findings

Our findings revealed that the four dimensional roles of cooperative societies; access to fund, low interest rate, promotion of savings and bulk purchases were of crucial importance in the development of micro-businesses. The role of cooperative societies accounted for 85.6% of by micro-business development in Benin City, Nigeria. This confirms the study of Alufohai

(2006); Adekunle and Henson (2007); Kareem, Arigbabu, Akintaro, and Badmus (2012); Oluyombo (2013) findings that there is a positive relationship between role of cooperative societies and micro-business development cooperative societies, therefore, has to be considered as one of the most desirable tools in the development of micro-businesses.

Conclusion and Recommendations

This study was aimed at ascertain the roles of cooperative societies and micro-business development in Benin City, Nigeria. The study considered four dimensional roles of Role of cooperative societies (Access to fund, low interest rate, promotion of savings and bulk purchases) as our independent variables and three dimensions of micro-business development (acquisition of assets, ownership of business and business expansion/profitability) as our dependent variables. Analysis was done using multiple regression and analysis of variance (ANOVA). Based on the results of the analysis, the study concludes that cooperative societies are significantly related to micro-business development in Benin City, Nigeria. In view of our findings, we recommend that government should continue to support and encourage the formation of corporative societies and that young entrepreneurs should be encouraged to join corporative societies in order to develop and expand their businesses.

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APPENDIX A

SUMMARY OF RESPONDENTS OPINON ON THE ROLE OF COOPERATIVE SOCIETIES AND MICRO-BUSINESS DEVELOPMENT

Please answer each question on the following scale ranging from very strongly agreed (SA) to strongly disagree (SD). Tick appropriately from the option(s).

S/N	Variables	Options					IDEX
		SA	A	U	D	SD	
	Relationship between access to borrowing from cooperative society and micro-business development in Benin City.						
1	I have easy access to borrowing from my cooperative in Benin City.	204 40.8%	223 44.6%	27 5.4%	20 4%	26 5.2%	4.11
2	My cooperative society is effective in terms of loan delivery to micro-businesses in Benin City.	206 41.2%	226 45.2%	20 4%	26 5.2%	22 4.4%	4.14
3	Cooperative loan system is easy which enable me to invest and meet my financial needs.	225 45%	212 42.4%	22 4.4%	21 4.2%	20 4%	4.20
4	Loan repayment period is long enough and adequate for complete refund to be made.	210 42%	225 45%	21 4.2%	20 4%	24 4.8%	4.14
	Total Weighted Index						4.14
	Relationship between low interest rate by cooperative society and micro-business development in Benin City.						
5	Interest on loan is low and justifiable compared to banks and money lenders.	234 46.8%	186 37.2%	32 6.4%	30 6%	18 3.6%	4.18
6	Methods of loan repayment is flexible, easy to meet and does not allow accumulation of loan	202 40.4%	210 42%	50 10%	24 4.8%	14 2.8%	4.12

	repayment						
7	Access to loan without collateral except personal guarantee of members make it easy to access loan.	222 44.4%	205 41%	27 5.4%	22 4.4%	24 4.8%	4.71
8	I consider cooperatives low interest rate as economically beneficial to me.	210 42%	196 39.2%	34 6.8%	28 5.6%	32 6.4%	4.05
	Total Weighted Index						4.27
	Relationship between daily/weekly/monthly contribution and micro-business development in Benin City.	SA	A	U	D	SD	
9	Cooperative society's daily contribution helps me in accumulating my financial capital needed for a business.	236 47.2%	216 43.2%	10 2%	22 4.4%	16 3.2%	4.27
10	Daily contribution helps me to invest in a new business.	200 40%	222 44.4%	30 6%	34 6.8%	14 2.8%	4.12
11	Daily contribution help enhance the expansion of my current business.	208 41.6%	220 44%	20 4%	32 6.4%	20 4%	4.13
12	Compulsory savings helps to inculcate saving habit into my business.	280 56%	140 28%	24 4.8%	30 14.3%	26 25.7%	4.24
	Total Weighted Index						4.19
	Relationship between bulk purchases of commodities for member of cooperative and micro-business development in Benin City.	SA	A	U	D	SD	
13	Participation in cooperative yearly loan services lead to increase in my acquisition of my business assets.	194 38.8%	246 49.2%	18 3.6%	20 4%	22 4.4%	4.14
14	Participation in cooperative yearly loan services lead to changes in my business development associated with profitability.	200 40%	220 44%	32 6.4%	30 6%	18 3.6%	4.11
15	Participation in cooperative yearly loan services lead to my ownership of household assets.	228 45.6%	216 43.2%	32 6.4%	14 2.8%	10 2%	4.28
16	Dividends are given to me as declared by the executives yearly encourages me to save and invest in my business.	213 42.6%	234 46.8%	20 4%	18 3.6%	15 3%	4.22
	Total Weighted Index						4.19
	Cooperative societies and micro-business development						
17	Membership of cooperative society has enable me to acquire assets for my business	202 40.4%	164 32.8%	30 6%	57 11.4%	47 9.4%	3.83
18	Membership of cooperative society has enable me to own a business venture	192 38.4%	166 33.2%	40 8%	60 12%	42 8.4%	3.81
19	Membership of cooperative society has enable me to expansion my business	210 42%	222 44.4%	22 4.4%	26 5.2%	20 4%	4.15
20	Membership of cooperative society has enable me to make more profit from my business	204 40.8%	170 34%	42 8.4%	50 10%	34 6.8%	3.92
	Total Weighted Index						3.93

ENTREPRENEURSHIP AND DISRUPTION INNOVATION FOR SUSTAINABLE ECONOMIC DEVELOPMENT

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ABSTRACT

This paper examines the concept of entrepreneurship and disruptive innovation as crucial factors that drive the economic growth and development of a nation. Several literatures on entrepreneurship and economic development have shown how entrepreneurship has reduced the level of poverty and increased the standard of living of some transition or emerging countries. This paper however argues that, it is not all forms of entrepreneurship that bring about changes in terms of restructuring and the diversification of economies for sustainable economic development. The paper compares disruptive innovation with Schumpeter's theory of 'creative destruction' and argues that sustainable economic development is dependent on how disruptive or creative the entrepreneurial activities engaged in by the community or citizens are. The purpose of this study is thus to increase our understanding of entrepreneurship - the divide of entrepreneurship and the type of entrepreneurship that brings about disruptive innovation, which is perceived to be the economic miracle for restructuring of poor economies. The paper recognizes the role of knowledge-based entrepreneurial firms or start-ups in the introduction of new products and process innovation and the challenges faced by these firms, which stand as barriers to disruptive innovation.

Key words: Entrepreneurship, Disruption Innovation, Sustainable, Economic Development

INTRODUCTION

Entrepreneurship has come to be recognized all over the world as a factor that drives economic development and national growth. This is because entrepreneurship is associated with the discovery of new products and services (Invention), improvement on already existing goods and services (innovation), wealth creation, job creation, income empowerment and general economic development.

According to Greenwood and Holt (2008), economic development occurs when there is a broadly based increase in the standard of living or quality of life. 'Quality of life', according to Streimikiene and Barakauskaite- Jakubauskiene (2012) can be addressed in terms of people health, the state of economy, employment, infrastructure development, crime and environment. They are of the view that these indicators are interrelated as economic development creates preconditions to maintain public health, develop social and technical infrastructure, to increase employment, to ensure quality of environment and to tackle crime.

Economic development may thus be referred to as an increase in living standards, improvement in self-esteem needs and freedom from oppression as well as a greater choice. It implies an increase in the per capita income of every citizen, alleviating people from low standards of living into proper employment with suitable shelter (Todaro & Smith, 2011).

The role of entrepreneurial firms in economic development cannot be over emphasized as these small firms make formidable contribution to economic development. They account for vast majority of businesses in most countries and are responsible for about half of the private gross domestic product; thus they are indeed critical to any economy (Westhead, Wright & McElwee, 2011; Deakins & Freel, 2006).

Naude (2011) in his study on entrepreneurship and economic development noted that entrepreneurship has significantly reduced the level of poverty of most countries in the world. Naude affirms that the impressive growth of these emerging countries (Brazil, Russia, India and China), which also has positive effect on the standard of the living of the citizens of these countries is as a result of veritable entrepreneurial revolution.

Amongst these emerging countries, China has come to be reckoned with as a great force in the global business economy. This global recognition of China is substantiated by the fact that China's brand of State-led capitalism was found to be reliable and more credible than the American style of capitalism, following the global economic crisis of 2008 (Huang, 2009).

Huang (2009), based on his analysis and findings from the Chinese government survey data and government documents at the central and local levels emphasized that, property rights and private entrepreneurship provided the dominant stimulus for high growth and lower levels of poverty in China.

This paper however argues that, it is not all types of entrepreneurial activities that will make significant impact for sustainable economic development. To substantiate this argument, the paper examines the concept of entrepreneurship and the main divide of entrepreneurship against the backdrop of disruptive innovation. The paper also examined the concept of economic development, the role of entrepreneurship in economic development as well as the challenges that entrepreneurial firms encounter which tend to stifle disruptive innovation – 'the economic miracle' for restructuring poor economies.

The Concept of Entrepreneurship and Disruptive Innovation

The concept of entrepreneurship means different things to different people, different culture, race countries and disciplines. These different views and perceptions of the concept of entrepreneurship have made it a very difficult concept to define. Hence there is a lack of consensus on the definition of entrepreneurship (Kuratko, 2009; Shane & Ventakaraman, 2000).

The definition of entrepreneurship continues to evolve as Kuratko (2009) affirms that definitions of entrepreneurship are abounding as there are researchers and writers who try as much as possible to define the concept differently from a previous writer. Kuratko however suggests that there is a need to broaden the definition of entrepreneurship as entrepreneurs are doing many things in recent times. A few of these different definitions of entrepreneurship will be reviewed in this paper.

Pride Hughes and Kapoor (1999) refer to entrepreneurship as how to come up with new solutions or filling the needs of society by providing technical innovation, providing employment and providing competition for other business. By this definition, entrepreneurs provide hands-on or practical zzzorigination of new goods, services and processes which disrupt the stability or equilibrium in the market as the presence of these new goods and services bring about tension in the market as they try to displace older or other existing businesses through competition.

Shane and Ventakaraman (2000) defined entrepreneurship as the discovery, evaluation and exploitation of profitable opportunities. By this definition, these authors emphasize that

entrepreneurship has two parts which are; opportunities and individuals who strive to take advantage of them. Thus for them, entrepreneurship is the examination of how, by whom and with what effects opportunities to create future goods and services are discovered, evaluated and exploited.

Also Kuratko (2009) views entrepreneurship in the light of innovation and development as he refers to an entrepreneur as one who recognizes and seizes opportunity, converts these opportunities into workable/marketable ideas, adds value through time, effort, money or skills, assumes the risks of the competitive market place to implement these ideas and realizes rewards from these efforts.

Stam and Van Stel (2011) define entrepreneurship as a factor that creates wealth by combining existing production factors in new ways. Taking a closer view of all these definitions of entrepreneurship, one can see that the definition of entrepreneurship is still evolving, however, the recurring terms or words that these different definition have in common are 'discovery', 'conversion' and the 'creation of something new'.

One of the earliest definitions of entrepreneurship which is most relevant to the theme of this paper with regards to disruptive innovation is the definition proffered by Joseph Schumpeter (1883-1950), an Austrian born economist. Schumpeter gave the most sophisticated explanation of the concept of entrepreneurship (Formaini, 2001) which has continued to be of great influence in contemporary discourse of entrepreneurship. Schumpeter (as cited in Katz & Green, 2011) defined entrepreneurship as the creative destruction of equilibrium through innovation and discovery of opportunities by introducing new products and processes. This model of creative destruction simply refers to the way that newly created goods, services or firms can "hurt" or "destroy" existing goods, services or firms as people will usually want to try a new product or service provided by a new firm and this will cause older or existing firms to lose business temporarily or permanently (Katz & Green, 2011).

Schumpeter's explanation of the concept of entrepreneurship explicitly suggests that innovation is a pre-requisite for genuine entrepreneurship (Westhead, Wright & McElwee, 2011). Thus it is important to emphasize such words as creativity, discovery, original, new or novelty when defining innovation.

Entrepreneurial activity is generally assumed to be an important aspect of the organization of industries most conducive to innovative activity and unrestrained competition (Van Stel, Carree & Thurik, 2005). In current debates about globalization and competitiveness, innovation is often represented as providing opportunities and conditions for developing countries to participate in the world economy.

Thus, Nelson and Winter (as cited in Voeten, Haan & Groot, 2011) have defined innovation broadly as a portmanteau to cover the wide range of variegated processes by which man's technologies evolve overtime. Value creation, profitability and commercialization are key aspects of innovation in virtually all the definitions of innovation since Schumpeter (Voetan, De Haan & Groot, 2011)

The definition of entrepreneurship proffered by Schumpeter broadly captures the concept of disruption innovation. Disruptive innovation, a term coined by Clayton Christensen describes a process by which a product or a service takes root initially in simple application at the bottom of a market and then relentlessly moves up market eventually displacing established competitors (Christensen, 2019). According to Christensen, Raynor and McDonald (2015) disruption describes a process whereby a smaller company with fewer resources is able to successfully challenge established incumbent businesses. As older and more established businesses focus on improving

their products and services for their most demanding and profitable customers, they exceed the needs of some segments and ignore the needs of others. Entrepreneurial firms or entrants that prove disruptive begin by successfully targeting those overlooked segments and thus gain a foothold by delivering more-suitable functionality frequently at a lower price. Incumbents, chasing higher profitability in more-demanding segments, tend not to respond vigorously, while entrants on a disruptive trajectory improve the performance of their offerings and move upmarket where profitability is highest for them, thus challenging the incumbent older businesses (Christensen, Raynor & McDonald, 2015).

Westhead, Wright and McElwee (2011) noted that one of the characteristic features of smaller entrepreneurial firms is their flexibility as a result of loose firm structure which allows them to make quick decisions to seize opportunities that require low price product or service delivery as well as quick speed of service or product delivery. These entrepreneurial firms thus create competitive advantage by perceiving or discovering new and better ways of creating a product or service and bringing them to market, which is what innovation is about.

Joseph Schumpeter described this dynamic pattern in which innovative upstarts unseat established firms through a process he referred to as creative destruction, where disequilibrium is the driving force of capitalism (Hart & Milstein, 1999).

Divide of Entrepreneurship and Innovation

In recent times, innovation and entrepreneurship are at the forefront of academic debates in economics, business administration and other related fields of study; they seem clearly inter-related and the role of the entrepreneur can only be understood if it is placed against the background of the theory of innovation (Voeten, Haan & Groot, 2011).

There are substantial differences in the types of entrepreneurial activities across countries (Baumol, 1990; Acs et al, 2008) especially in the divide of necessity and opportunity entrepreneurship (Brixiova, 2010). A defining factor as it relates to the subject matter of this discourse is the extent to which the entrepreneurial activity involves disruptive innovation.

Acs and Varga (2005) maintain that individuals who are involved in entrepreneurship out of necessity are not likely to be involved in the process of self-discovery and their actions are not likely to make significant positive effect on development. This means that the activities of necessity entrepreneurs will not make any impact in the restructuring and diversification of poor economies since the reason for engaging in entrepreneurship is solely as a means of survival

According to Brixiova (2010) opportunity entrepreneurs prevail in high income countries and the more educated entrepreneurs are based with the opportunity based firms. The less educated entrepreneurs dominate the low income or developing countries of the world and are involved in entrepreneurship out of necessity. Stam and Van Stel (2011) opine that entrepreneurs in the least developed countries engage in entrepreneurship due to necessity as the lack of job opportunities and rise in poverty levels in the developing and least developed countries leave these individuals with few options other than to engage in entrepreneurial activities to earn a living.

Mani (2011) contends that it is important to distinguish between necessity entrepreneurship and opportunity entrepreneurship. Mani argues that opportunity entrepreneurship is an active choice to start a new enterprise based on the perception that an unexploited or under-exploited business opportunity exists. This type of entrepreneurship has a positive and significant effect on economic

growth because it essentially involves innovation. This is quite unlike necessity entrepreneurship, where one has to become an entrepreneur because there is no better option for the person involved and thus has little or no effect on economic growth.

The importance of productive or opportunity entrepreneurship for growth, job creation, innovation and competition has been confirmed by the experiences of transition economies in Central and Eastern Europe where successful transition to market (innovation) is hinged on dynamic private sector, especially new entrepreneurial firms (Huang, 2009; Naude, 2011).

For Schumpeter (as cited in Westhead, Wright & McElwee, 2011), entrepreneurs with unique scientific or technological knowledge create radical innovations that can lead to the creation of new industries, which can promote economic development associated with the creative destruction of some old industries. In the past few years, terms such as knowledge society and knowledge economy are often used in conventional in conventional applications.

Opportunity entrepreneurs dominate the knowledge-based firms. A very significant and contemporary instance of disruptive innovation, especially in the developing countries is in the evolution and development of educational entrepreneurship. The educational standards in most developing countries of the world are at low ebb due poor budgetary allocations and outright neglect of the educational sector by the government. In Nigeria for instance, the deterioration in the public schools created a gap in educational development as well as an opportunity for educational entrepreneurs (Opportunity entrepreneurs) to start up private schools or institutions, motivated by the goal to bring about sustainable transformation of the public education.

Smith and Petersen (2006) define education entrepreneurs as rare breed of innovators whose characteristics and activities may lead to the transformation – not merely the slight improvement of the public education. According to Paul (2012), education entrepreneurs aim to disrupt education in productive ways to introduce tools that will transform the way scholars learn just as other technologies have transformed the way we communicate and the way we entertain ourselves in the society.

This disruptive innovation in the educational sector is more prevalent especially in the primary education level and then in the secondary education and is also fast gaining recognition in the tertiary level as most parents and guardian who earlier had doubts about the suitability of private universities are jettisoning the once good old government owned universities due to their lack-luster as a result of government neglect. Several studies on private education show that the private primary schools, secondary schools and the universities are now preferred to the government owned schools in spite of their high fees due to innovation in physical facilities, medium of instruction, flexible enrolment policies amongst other innovative business models (see Adebayo, 2009; Goldring & Rowling, 2006; Oguntimehin & Oni, 2010; Onuka & Arowojolu, 2008; Tooley, Dixon & Gomathi, 2007).

Also in a study by Hilmi (2016) on disruptive innovation in education, the result show that the introduction and the adoption of massive open online courses is seen as a strong technological force that is influencing the educational landscape. Hilmi noted that this adoption of new innovation in technology has brought about dynamic changes in education and the structure of colleges and universities as existing institutions are being displaced because of their inertia towards the adoption of new innovation.

Christensen (2019) argues that an innovation that is disruptive allows a whole new population of consumers at the bottom of a market access to a product or service that was historically only

accessible to consumers with a lot of money or skill. This fact was noted by Naude (2011) who affirms that entrepreneurship will increasingly play a more important role as the managed economy of the 1970s – 2000s, characterized by reliance on big business and mass production has given way to a so-called entrepreneurial economy, where knowledge –driven goods and services are now more flexibly provided by smaller firms.

The role that education plays towards national economic development cannot be overemphasized. Orji and Job (2013) in their discourse stressed the fact that a nation develops in relation to its achievement in education as contemporary world attention has focused on education as an instrument of launching nations into the world of science and technology and with consequential hope of human advancement in terms of living conditions and development of the environment. At this juncture, it is necessary to review the concept of economic development.

The Concept of Economic Development

According to Mansell and When (1998), economic development generally refers to the sustained, concerted actions of policymakers and communities that promote the standard of living and economic health of a specific area. Mansell and When also refer to economic development as the qualitative and quantitative changes in the economy which involves development of human capital, critical infrastructure, regional competitiveness, environmental sustainability, social inclusion, health, safety, literacy and other initiative.

Nwoye (2011) defined economic development as a process which involves the transformation of raw materials and allied resources of a nation from their original state to the state desired for consumption or further production of goods and services for the improvement of quality of people's life.

From the definition proffered by Nwoye (2011), it clearly evident that for economic development to take place, there must be a transformation from one state to another – transformation of raw materials, processes, or industry, which is what happens in the process of creative destruction as well as disruptive innovation.

Sen (as cited in Stam & Van Stel, 2011) refers to economic development as a broad concept which entails the raising of human capabilities. Szirmai, Naude and Goedhuys (2011) opine that economic development requires sustainable and shared increases in per capita income accompanied by changes in the structural composition of an economy towards higher value added goods and more efficient production methods.

Economic development is a normative concept; this means that it applies in the context of people's sense of morality (right and wrong, good and bad). Economic development is an increase in living standards, improvement in self-esteem needs and freedom from oppression as well as a greater choice. The most accurate method of measuring development is the Human Development Index (HDI), which takes into account the literacy rates and life expectancy which affects productivity and could lead to economic growth. It also leads to the creation of more opportunities in the sectors of education, health care, employment and the conservation of the environment. It implies an increase in the per capita income of every citizen as people are alleviated from low standards of living into proper employment with suitable shelter (Todaro & Smith, 2011).

Economic development is generally measured in terms of jobs and income, but also includes improvements in human development, education, health, choice, improved standard of living and

environmental sustainability (Greenwood & Holt, 2008; Streimikiene & Barakauskaite-Jakubauskiene, 2012; Todaro & Smith, 2011)

Entrepreneurship and Economic Development

The role of entrepreneurship in economic development involves more than just increasing per capita output and income. It involves initiating and constituting change in the structure of business and society (Hisrich, Peters & Shepherd, 2008). Entrepreneurs by their actions - responding to opportunities, threats, uncertainties and incentives emanating from the economic environment in which they operate, put entrepreneurship at the heart of economic growth, development and catch-up. By innovating and commercializing inventions and by adopting innovations developed by others, entrepreneurs affect the rate of technological change and the structural transformation of the economy (Szirmai, Naude & Goedhuys, 2011).

Van Stel, Carree and Thurik (2005) opine that entrepreneurship fails to be a well-documented factor in the empirical growth literature because of difficulties defining and measuring entrepreneurship. However, Audretsch, Keilbach and Lehman (2006) are of the view that it is a virtual consensus that entrepreneurship revolves around the recognition of opportunities along with the cognitive decision to commercialize those opportunities by starting a new firm.

Becker, Knudsen and Swedberg (2011) in their review of the impact of Schumpeter's theory of Economic development (TED), threw more light on this theory which is considered to be the founding work in the literature on entrepreneurship and economic evolution by highlighting the core ideas Schumpeter presented in TED, which is the general theory of entrepreneurship as a new combination of already existing material or immaterial component and the idea that resistance to entrepreneurship plays a crucial role in blocking economic development and that only a very strong forceful individual can break through this resistance.

Entrepreneurship in general is receiving greater attention from policy makers and experts in developed and developing countries. New dynamic enterprises contribute to economic development in several ways; as an important channel to convert innovative ideas into economic opportunities, as the basis for competitiveness through the revitalization of social and productive networks, a source of new employment and as a way to increase productivity. The link between entrepreneurs and economic growth, theoretically speaking looks reasonably straight forward. Entrepreneurs create new businesses and new businesses in turn create jobs, intensify competition and may increase productivity through technological change (Mani, 2011).

Schumpeter suggests continuous creative destruction - introduction of new goods and services, opening of new markets, creation of new organizations and the introduction of new technology, processes and production is what constitutes a sustainable economic development. Agri et al (2018) in their study noted that the continuity of an enterprise is sustained through innovation. They pointed out that community stakeholders in the business environment are interested in a profitable business enterprise that can guarantee jobs, generate tax revenue, assist in community services and projects; thus they maintain that unemployment is structurally caused by inadequate innovation.

Van Stel, Carree and Thurik (2005) pointed out that entrepreneurial activities by nascent entrepreneurs has a positive impact on economic growth, which is however dependent on the level of per capita income in that economy. As noted earlier in this discourse, opportunity entrepreneurs are with the knowledge based firms, which engage in productive entrepreneurship. Wealth creation depends on the generation and exploitation of Knowledge embodied in people and technology -

knowledge of practice as well science and technology which are required to create economic value (Gibbons *et al.* 1994) which is fundamental for economic development.

Audretsch, Keilbach and Lehmann (2006) stressed that entrepreneurship makes a unique contribution to economic growth by permeating the knowledge filter and commercializing ideas that would otherwise remain uncommercialized knowledge of practice knowledge of practice. They went to argue that entrepreneurial opportunities are not at all exogenous or given in the knowledge spillover theory of entrepreneurship, rather they are endogenously generated by the extent of investments in new knowledge. They maintain that a context rich in knowledge will generate more entrepreneurial opportunities than a context with impoverished knowledge.

In Africa's least developed countries (LDCs), escape from poverty and convergence to living standards of more advanced economies depends critically on structural transformation and the emergence of productive entrepreneurship that would accelerate growth and job creation (Brixiova, 2010)

Agri *et al* (2018) suggest that the educational and private sectors in Nigeria should play a leading role in indigenous technology incubation, innovation, adoption and transfer. They contend that innovation and entrepreneurship will increase employment for Nigeria, if only the institutional environment and capacities to support innovation are strong.

It is important to identify the factors in the institutional environment that hinder entrepreneurial firms and their capacities to break new grounds, make new discoveries and create new goods, services, processes or technologies that make for sustainable economic development

Challenges of entrepreneurial firms and barriers to disruptive Innovation

In as much as many countries have begun to realize the importance of entrepreneurship and new venture creation, they are aware that starting a business is expensive and that the challenge can be quite exhilarating (Schramm, 2011).

Starting and operating a new firm is not easy as there are myriad of issues and factors that a business owner has to grapple with. Dyer (1992) identified issues such as finance, expertise, materials, technology that may pose some challenges when starting up a new firm.

National Commission on Entrepreneurship (2002) identified some factors which have consistently ranked at the top in terms of importance to new and growing businesses. These factors which may act in favour of, or against new and growing businesses, depending on their availability or non-availability in the business terrain include; access to talent, access to capital, networks and infrastructure.

Access to talents represents one of the key challenges facing entrepreneurs, as acquiring and retaining talented and highly skilled personnel at all levels is very difficult. NCOE (2002) noted that these personnel challenges faced by entrepreneurs (i.e. shortage of qualified workers) are part of a larger economic transformation. The Commission stated that the reason for this is that knowledge workers are now becoming the key ingredient to business success and regional economic development. Leading high technology growth regions are now characterized by high concentrations of knowledge workers and an ability to attract and retain these workers.

Access to capital or finance has always been a major and primary problem facing entrepreneurial firms or businesses. While some regions and business sectors still have trouble accessing capital; in

recent time, nonetheless, the overall environment for funding start-up businesses is fairly positive. According to the National Commission on Entrepreneurship (2002), this trend or development of having access to capital has been undermined by concerns over human capital, quality of life and other issues. However, the picture is not completely rosy as certain categories of entrepreneurs, especially women and minorities still find it difficult to access funds.

Network is another issue that poses a challenge to entrepreneurs or new businesses. Networks are essential because they are the links to potential sources of capital, new employees, strategic alliance partners, and service providers — such as lawyers, accountants, and consultants. These links are absolutely essential if a growing company is going to travel successfully at entrepreneurial speed (NCOE, 2002). However, in some cases, owners of entrepreneurial firms seeking to maintain ownership and control may retard venture performance and innovation by being resistant to external monitoring, which could improve firm performance. Some owners are reluctant to consider and/ or apply for external expertise required to ensure enterprising behaviour and venture development (Westhead, Wright & McElwee, 2011).

Another challenge that retards entrepreneurial activity and innovation is that of infrastructure. Public infrastructure, like a constant supply of electricity; good highways, proximity to airports and seaports, and high-speed internet access, are absolutely necessary for the smooth running of a business, especially electricity, as it is used to power practically all industrial equipment and machines. The level and availability of this local institutional support – infrastructure, is a major concern to most entrepreneurial firms in the developing countries.

Westhead, Wright and McElwee (2011) summarized the broad types of negative barriers to enterprise to include;

- Attitudinal barriers – which includes reluctance to select a career in enterprise; to establish a firm for independence as well as the reluctance to move outside the management comfort zone and the desire to remain small.
- Resource barriers – which includes limited information, finance, infrastructure, skilled labour and machinery.
- Operational barriers – such as lack of imagination, creativity and appropriate administrative, management and production systems, inability to protect the product, service or brand as well as skills and capabilities deficiencies.
- Strategic barriers – which includes focus on low price strategy rather than premium price strategy, inability to introduce market as well as technological differentiation, inability to create new sources of competitive advantage and to proactively adapt to constantly changing market.
- Government failure – here, government supports firms that do not require assistance, while some government regulations make it difficult for Start-up firms to find their feet.

Ferrell, Hirt and Ferrell (2011) also noted that entrepreneurial firms or new businesses face many challenges ranging from insufficient funds or undercapitalization, managerial inexperience or incompetence, inability to cope with growth and the burdens imposed by government regulations. Thus, half of entrepreneurial firms that are unable to cope with these challenges fail within the first five years (Ferrell, Hirt & Ferrell, 2011).

Promoting entrepreneurship and the supply of entrepreneurs will increase the level of disruptive innovation needed for sustainable economic development, hence attention should be directed towards these barriers that hinder entrepreneurial firms. This task is up to the policy makers and practitioners in the different economies of the world, especially the developing countries, who understand the economic benefits of entrepreneurship.

Conclusion

This paper started by noting the lack of consensus in the definition of entrepreneurship despite the role of entrepreneurial firms in the creation of new jobs, wealth creation, reduction of unemployment, reduction of poverty and general economic development. However, literature shows that there are substantial differences in the types of entrepreneurial activities across countries especially in the divide of necessity and opportunity entrepreneurship. While necessity entrepreneurship has little or no effect on economic growth, opportunity entrepreneurship on the other hand has significant effect on economic growth as it drives innovation. Hence the role of the entrepreneur can only be understood if it is placed against the background of the theory of innovation. The importance of productive or opportunity entrepreneurial firms, which are basically knowledge - driven and truly innovative in their activities for sustainable economic development cannot be overemphasized. Entrepreneurial firms with unique scientific and technological knowledge are the initiators of radical and disruptive innovations as they create new industries, new products, services and process innovation that promote sustainable economic development. However, there are some pitfalls within and outside the business environment – lack of talent or limited knowledge, inadequate infrastructure and venture capital amongst others, which are barriers to enterprise and disruptive innovation. To create an enabling business environment that will increase the ease of doing business and promote creativity and innovation, there is need for the government to encourage entrepreneurship and the entrepreneurs through entrepreneurial and vocational training program to increase knowledge as well as technical skills required for radical innovation. Government intervention should also include the provision of adequate infrastructure by collaborating with property developers to provide business premises at subsidized rates. Government should also focus more attention on the construction of network of roads, seaports, airports, railways and the provision of constant supply of electricity. All of these can increase the flow of resources to new and growing firms and also reduce the high cost of doing business. There is also the need for the government to provide stable micro economic environment to encourage entrepreneurial initiatives through the implementation of favourable financial policies that allow entrepreneurial firms to secure loans from the credit market at investment- friendly rates. In conclusion, public policies should generally be devoted to creating and developing an enabling environment that allow for innovation, employment and growth of the economy.

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NATIONAL SOCIAL INVESTMENT PROGRAMME: EMPOWERMENT IN FORM OF RAISING EMPLOYABILITY BAR, IN BUILDING ENTREPRENEURIAL CAPACITY AMONGST IT BENEFICIARIES.

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Abstract

Downward scalability of graduates have become greater burden to the Nigerian populace than, unemployment. Entrepreneurial actions have long been perceived as a facilitator of societal progress, particularly in the area of social entrepreneurship and other related field(s). In the historical records of the world existence, none of the natural disasters or human-caused activities (wars, colonial, military government, tsunami, volcano and earthquake etc.) have been able to deter individuals, organizations and governments around the globe from initiating / coming up with innovative and new ideas, which is basically meant for pursuance of better living for themselves and their citizens. Empowerment could be clinically viewed in three perspectives of human existence-individual, body of individual and the society. Empowered individual equates to an empowered society.

The study is quantitative in nature and the instrument was structured on complete open-ended, it was carried out by one-one interview and online platforms (whatsapp and facebook groups). N-teach, N-health and N-agro beneficiaries of batch A 2016 constituted population for the study. The study reveals that, the multiplier effect of Npower on it beneficiaries, society and Nigeria at large is unquantifiable, which has led to creation of new venture.

Keywords: Graduate beneficiaries, N-power, scalability, poverty alleviation, youth

Introduction

Apart from demographic characteristics-social, cultural, economic, and political contexts. Voicelessness and powerlessness have been factored to be the most commonest subsets that had and still tagging poor people's exclusion in Nigeria (World Bank, 2002, p.V, VII &10), all embedded in a nation fill with inhumane leaders. Confronted with unequal power tussle, penury people are unable to influence or negotiate better terms for themselves in whatever atmosphere they want their voice to be heard- trading, financing, governments, and civil society. This severely constrains their capability to build their assets and rise out of poverty. Dependent on others for their survival, poor women and men also frequently find it impossible to prevent violations of dignity, respect, and cultural identity (World Bank, 2002).

The entirety of empowerment is seen in the context of individual and community, the word is popularly being use by human right activists, dated to 1975(Freelancer, 2011), however scholars have over time being making use of the term in literatures, publications, conferences and seminars in discussing empowerment of marginalized peoples, such as graduates and semi graduates who come from a relatively poor homes, especially with regards to community development. Empowerment is characterize as a person's freedom to do and achieve the desired goals (Freelancer, 2011). Narayan,(2005), empowerment is not a zero-sum game, but rather different types of power, such as power over, power to, power with, and power within (as cited in Freelancer, 2011, Literature Review: Theories of Empowerment).

The National Social Investment Programme (NSIP) is a portfolio of programmes created in 2015 and launched in 2016 by the Federal Government of Nigeria to deliver socio-economic support to the disadvantaged Nigerians across the nation. The portfolios are Job Creation and Youth Employment (N-Power), National cash transfer programme (NCTP), National Home Grown School Feeding Programme (NHGSFP), and Government Enterprise and Empowerment Programme (GEEP). These portfolios target 9.76 direct beneficiaries. Npower as one of the portfolios, is mainly to create job and empower youth- Graduate Category: 500,000, Non-Graduate Category: 100,000, N-Power Junior pupils1,000,000 and 8 Regional Innovation Hubs. However, the graduates were enrolled in two batches of 200, 000 and 300, 000 by December 2016 and August 2018 respectively, which spans across N-Teach, N-Health and N-Agro. The National Social Investment Programmes were created to overcome the failings of the past and to enshrine the values and vision of the current Administration for graduating it's citizens from poverty through capacity building, investment and direct support(National Social Investment Office, 2018).

Statement of the problem

Employability has been investigated in various countries, such as India (Mohan, 2013), Taiwan (Pan, Y & Lee, 2011), Nigeria (Asuquo & Inaja, 2013), and the United Kingdom (Benson et al. , 2014) to mention a few (Jonck & Walt, 2015).No fewer than 300,000 graduates are mobilized annually for the National Youth Service Corps, NYSC (Kazaure, 2017). Downward scalability in the yearly turn out of graduates in various Nigerian Universities and polytechnics has become a bottleneck and major issue to ponder upon, which had made them either unemployable or subjected to further trainings by the respective employers, and lack of entrepreneurial mindset to be self employed. Furthermore, in a report by (National Bureau of Statistics, 2018, p.1), the number of unemployed Nigerians rose by

3.3 million to 20.9 million in the third quarter of 2018 (Q3'18),

Research Objectives

1. To ascertain the gains of the volunteers in the process of their two years volunteering.
2. To examine the challenges the volunteers has been facing.
3. To determine the importance of device and monthly stipends in building volunteer's entrepreneurial capacity.

Literature Review

True empowerment is real equality, democracy is its product. The Principles in line with human development and empowerment as identified by International Institute for human Empowerment are- All people are created equal. Leadership is based upon integrity, character, ethic, talent, and skill. Honesty is the highest character value. Deceit must be eliminated from all systems. The human spirit is the highest priority. All systems must serve people. New systems must be created that value the human spirit and promote its developments. The highest, the only, priority of government, business, churches, and families is to serve people. The individual must be empowered to serve; all who are not empowered drain the system of its most valuable resource (International institute for human empowerment, n.d.).

Employability is having a set of skills, knowledge, understanding and personal attributes which make a person more likely to choose and secure occupations in which they can be satisfied and successful (Pool & Sewell, 2007)

Entrepreneurial capacity signifies a firm's ability to access, process and take advantage of a broad scope of external changes that take place in the world. Access to a broad range of heterogeneous information and a strong cognitive ability to understand and capitalize on such a broad heterogeneity of new ideas should decrease the number of diagnostic errors that a firm makes. Conversely, strong entrepreneurial capacity should increase the likelihood of opportunity exploitation that will result in superior performance. In short, entrepreneurial capacity boosts the likelihood of continuous organizational success (Nowak, 2014).

To be a successful entrepreneur, individuals must build capacities in four key strategic areas – Operational, Management, Financial, and Personal capacities. Entrepreneur capacity building involves developing the combination of all four capacity elements, to provide the ingredients for a great entrepreneurial success soup. Some of these capacities are gained through experience throughout ones career, while others are learned through educational platforms (Strategy Business Blog, 2012), in a situation of complete zero capacity, we could categorically identify potentials- business knowledge, opportunity awareness, education,

financial skill, career exploration and good relationship as a complete cycle of entrepreneurial capacity building.

The links between entrepreneurial capacity and social capital- skills acquired through organizational entrepreneurial capacity can be related to social capacity, because the entirety of entrepreneurship and organization are societal base and social in nature. Social capital is typically referred to as the ability to access resources through social relationships. It is made up of the relationships, formal or informal, generated by individuals in their interaction with other individuals. In other words, social capital could be defined as capital captured in the form of social relationships. Furthermore, social capital results from a process of investment in human relationships, which requires resources and time (as cited in Montoro-Sánchez & Díez-Vial, 2013, p.7). however, (Pollard, 2008) identified Excellent instincts, Demonstration skills, Collaboration, passion, Responsibility, self-management, responsibility, learning skills Critical thinking skills, Imaginative skills, Attention skills, Communication skills and creative skills as capacities for natural entrepreneurship.

N-Power is the employability and enhancement programme of the Federal Government of Nigeria, aimed at imbibing the learn-work-entrepreneurship culture in youth between the ages of 18-35. Applications are done online to create a level playing field for everyone, and determine which applicants details would enable selection and direct payment through the bank accounts and BVN submitted. In addition to the N30,000 stipend paid them each month, N-Power volunteers are given devices with relevant content for continuous learning, to facilitate their ability to successfully implement the selected vocation and enable them take ownership of their lives. 10,000 non-graduates in the N-Build category have been trained in 23 States, with the balance of the 10,000 having begun their own training in the skill centres that have been audited and found fit for purpose in the remaining 15 States (National Social Investment Office, 2018), the batch A (200,000) and B (300,000) were deployed by December 2016 and August 2018 respectively.

The theory that back up employment scalability can be cumbersome to identify, since there are factors that contribute to being employed, which varies from the person's learned skills, attitude, and individual and societal belief. The consensus theory of employability is based on the belief that human capital injection through generic skills development will ensure employability of graduates and accelerated career development (Selvadurai et al, 2012), while the conflict theorists believe that society is characterized by inequalities in wealth, power, as well as status, and that these inequalities create conflict between individuals and social groups (Kenton, 2019). The political system that back up gender empowerment are the

strength of democracy, the electoral value system, and gender electoral quota systems (Alexander & Welzel, 2007).

A theory of empowerment is a procedural and terminating outcomes, (Zimmerman, 2000). The illustrations of how an empowered 14-year old mother will be achieved, will be quite different in behavioral to 34-year old widower. i.e there is variation in empowerment of two set of people even if they are of the same psychological and mental orderliness. Thus, empowerment is a defined population and context. The way empowerment work for the teenage mother and widower are in different value- what work for Mr. A, might not work for Mr. B.

Also, development of empowerment theory requires strong exploration and description at multiple level of analysis (Zimmerman, 2000). For example, a community who want to stop a politicize societal value system, will unite and create a body of like minds to champion this course, the formed organization might seek for and join the force of other groups so as to increase their support base and ultimately fight and win the battle. Typical of such groups are- Ikere development forum, Ekiti-parapo, O'odua peoples' congress, Niger-delta avengers, Ogoni freedom fighters etc. the essential tools or mechanism to accomplish such course are individual's competences, Individual's proactive-ness, natural helping base, organization influence and prowess, and access to resources and community competences.

Methodology

Research Design

The study is quantitative and the researcher employed a multi-case study using a complete open-ended structured interviews and observation for the batch A set of the beneficiaries. The administration was done by one -one interview and via online platforms (whatsapp and facebook groups), since the respondents could be reach in a confined geographical location.

Sampling Techniques

The researcher decided to only make use of the respondent's opinions that responded to the instrument, Since there is no guarantee that, the calculated sample size of the respondents will be able to give their views about the semi-structured instrument, due to these factors, but not limited to: no data subscription, time, reluctance, no interest in social research, non-availability on social media.

Data Collection

The quantitative data collection method was used (semi structured interviews and observations). The beneficiaries that were interviewed cut across the categories- N-teach, N-Agro and N-Health. Primary data source was used mostly, while books, journals, web pages,

and government departments and agencies reports characterized the secondary source. The instrument was collected via facebook and whatsapp groups, and the transcribed version,

Data Analysis

The data analysis was based on the title of this enquiry (National social investment programme: empowerment in form of raising employability bar, in building entrepreneurial capacity amongst its beneficiaries), which is also in cognizance with the research objectives. The one on one interviews were tape recorded and transcribed, with the respondent's approval. Also, the online administration was collected through the same platform and was subsequently analyzed.

Results

The responses were analyzed using a qualitative data analysis. The following were responses from the three research objectives, as indicated by the beneficiaries of the various categories.

"Gains of the volunteers in the process of their two years volunteering" building of effective human relationship (patients). Acquisition of skills-managerial, leadership and administrative skills. Gain adequate knowledge in classroom management. There wouldn't be serious gain in the programme, if we were not giving permanent job or valuable and tangible exit package. Participation in two international academic conferences within Nigeria. Career progression- sat for and passed TRCN professional qualifying examination, October 2018 diet. Opportunity to do my most passionate job on earth (teaching). Meeting my personal and family needs. Moving from state of idleness and frustration to temporary relief (under-employment/empowerment).

"Challenges the volunteers has been facing" shortage of teachers, which has led to work overload. Shortage of modern teaching aid, textbooks in school and laboratory to facilitate the teaching learning process. Duties of N-teach volunteer is bogus than other category of beneficiaries. No promotion. No increment in stipend, since enhancement. Rare delay of monthly stipend. Uncertainty about permanency and enhancement.

"Importance of device and monthly stipends in building volunteer's entrepreneurial capacity" Effective communication with fellow volunteers across the country. Easy study and research of teaching materials. It has brought succor to me in term of feeding and transportation. Seriously for a blogger and internet explorer like me the device has been very useful. Establishment of micro business. Ability to further my education (MSC). Having personal apartment. Ability to travel near and far to submit employment application. It has able me to feed myself and close relations.

Discussions

The study reveals that, the beneficiaries have benefitted immensely from the programme, though larger percent of them believed ₦30,000 monthly stipends is a meagre, while it's a sign of progress on the part of volunteers and government in reduction of unemployment. Subsequently, not that they received monthly stipend alone, the stipends have yielded to more source of income, as some that are entrepreneurially minded, had initiated "new venture" from the tokens. Volunteers have been able to successfully found small businesses that will not only create multiple stream of income, but as well increase number of new ventures created under the watch of the Npower. Fishery, piggery, provision store, computer centre among others have sprouted up, with the aid of the monthly stipend.

Conclusion and Recommendations

The most essential part of this initiative is its multiplier effects, volunteers that use the stipends to further their studies submitted that, researching skill has been added to their entrepreneurial skill, research institute has been established, which is an aspect of increasing entrepreneurial capacity of the concerned volunteers. The study recommends that, such programme should be adopted by every regime at both state and national level, as its effects have not only reduce crime and insecurity, brings about temporary succor to average graduate Nigerian youth. Also, the government should as a matter of sporadic reduction in social vices, either give seed/starting capital or permanent employment to the 200,000 beneficiaries that have successfully undergone the entrepreneurship trainings via their daily exposure at their various place of primary assignment and the device.

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EDUCATION ENTREPRENEURSHIP AND POVERTY ERADICATION THROUGH ENTREPRENEURSHIP

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Abstract

Nigeria's vision of being one of the first 20 most industrialized nations in the world by the year 2020 is most welcomed given the quantum of its available human and material resources. However, this dream could be dashed given the high unemployment and poverty levels that could rob its citizens of their contribution to economic growth and development. It is against this background that this paper takes a look at 'employment generation and poverty eradication through entrepreneurship and functional vocational education'. In the introduction, the paper highlights the paradox of unemployment and poverty of Nigerians in the midst of plenty. It goes further to discuss: the relationship between unemployment and poverty; vocational education, and entrepreneurship education; the linkage between these two forms of education; and how they could translate to the creation of employment and poverty eradication in Nigeria. The paper concludes by recommending that entrepreneurship and functional vocational education should be given all the attention it deserves so that Nigeria's dream could be realized.

Keywords : Education, entrepreneurship, , Unemployment ,vocational

Introduction

Nigeria is one country in the world that is blessed with so much human and material resources but its economy cannot be said to be the desired. The National Economic Empowerment and Development Strategy (NEEDS) (2004) presented the picture in very clear terms thus: Nigeria is blessed with abundant natural resources including arable land, natural gas, petroleum, tin, columbite, iron ore, coal, limestone, lead, zinc, kaolin, gold, gemstones, graphite, marble, tantalite, uranium, salt, soda and sulphur, just to mention a few. Furthermore, Nigeria produces about 2 million barrels of oil per day (the sixth largest producer in the Organization of Petroleum Exporting Countries, (OPEC)); our proven reserves of oil amount to 32 billion barrels, enough to last for 37 years at the current rate of production; our proven natural gas reserves amount to 174 trillion cubic feet, the equivalent of 30 billion barrels of crude oil; cocoa and rubber account for 60 percent of our non-oil merchandise exports but we have greater agricultural potential; of our 98 million hectares of land, roughly 74 million hectares is arable. In spite of these intimidating credentials, there is no gainsaying the fact that Nigeria has one of the weakest economies in the world and it has lost decades of development as a result of slow economic growth (NEEDS, 2004). This paradox should not be a surprise given the fact that labour, the human factor (of production) that is to coordinate all these resources is not being put to optimal use as a result of unemployment and poverty.

Perhaps, it is the realization of this sad truth and the need to correct this anomaly that made the Federal Government of Nigeria to launch the vision 20:2020 blueprint on Friday, the 25th of September, 2009 by the Minister of National Planning. The Vision is Nigeria's quest to join the league of 20 most industrialized nations in the world by the year 2020. According to the Nigeria Vision 20:2020 Economic Transformation Blueprint (2009), the Vision is to create: a large, strong, diversified, sustainable and competitive economy (with a projected Gross Domestic Product of US\$900Billion and Per Capita Income of US\$4,000) that effectively harnesses the talents and energies of its people and responsibly exploits its natural endowments to

guarantee a high standard of living and quality of life to its citizens. In order to achieve this feat, the key areas of immediate policy focus, inter alia, include: fostering the private sector-powered non-oil growth to build the foundation for economic diversification, investing in human capacity development to enhance national competitiveness and addressing subsisting threats to national security. This is in consonance with the National Economic Empowerment and Development Strategy (2004) which clearly stated that the private sector will be the engine of economic growth; it will be the executor, investor, and manager of businesses; the government will play the role of enabler, facilitator, and regulator, helping the private sector grow, create jobs and generate wealth; and that deregulation and liberalization will diminish governmental control and attract private sector investment. However, the questions that beg for answers are: how can the private sector be the engine of economic growth when so many able-bodied Nigerians are without jobs? How can they have jobs when the kind of education they have acquired or are acquiring do not match the world of work? And how can the kind of education match the world of work when there is no link between the classroom and industry? Herein lies the relevance of Entrepreneurship and functional Vocational Education for employment generation and poverty eradication so that Nigeria can attain its vision.

The subsequent sections of this paper shall be presented under the following headings: unemployment and poverty – two sides of the same coin; Vocational Education; Entrepreneurship Education; Vocational Education and Entrepreneurship Education – the link; and creating employment and poverty eradication through Entrepreneurship and Vocational Education in Nigeria. The paper therefore recommends, inter alia, that entrepreneurship education should form part of the curriculum of all disciplines in our schools.

Unemployment and Poverty - Two Sides of the Same Coin

According to the UK Department for International Development (DFID) (2009), Nigeria is the most populous country in Africa but more than half of its 150 million people live in poverty despite the country being a major oil producer. It added that Nigeria has large numbers of young, unemployed men (and women) who are at risk of turning to violence and crime if they cannot find jobs. It is very difficult to separate poverty from unemployment in view of the fact that there is a mutual relationship between them. On the one hand, unemployment inevitably leads to poverty because the unemployed lacks the economic wherewithal to acquire the good things of life. On the other hand, poverty also leads to unemployment since lack of access to capital creates a state of hopelessness for the potential entrepreneur who has all it takes to be self-employed except the financial resources.

According to Briggs (1973) in Akintoye (2008), unemployment is the difference between the amount of labour employed at current wage levels and working conditions, and the amount of labour not hired at these levels. Gbosi (2006) defined unemployment as a situation in which people who are willing to work at the prevailing wage rate are unable to find jobs. According to the International Labour Organization (ILO) (1996), "the unemployed is a member of the economically active population, who are without work but available for and seeking for work, including people who have lost their jobs and those who have voluntarily left work. To corroborate this definition, the International Encyclopedia of the Social Sciences (2008) posits that a person is unemployed when he or she is willing and able to work given the prevailing terms and conditions of employment but does not currently have a job.

The causes of unemployment in Nigeria can be attributed to faulty educational planning, rural urban migration, retrenchment in both the private and public sectors in recent times, poor/lack of infrastructural facilities especially electric power supply, just to mention a few. However, this paper points to the fact that there is a kind of disconnect between the kind of education dished out to our children in the classroom and the world of work. Depending on its causes, unemployment can pose severe problems for both individuals and societies alike. For example, since most households derive most of their income from participation in the paid labour market, unemployment can be a source of considerable material hardship and distress. Furthermore, unemployment can challenge the sense of identity and self-worth that individuals derive from their jobs. Finally, unemployment represents, in the aggregate, a waste of productive resources: society as a whole would be better off if the unemployed were engaged in productive activity. (International Encyclopedia of the Social Sciences, 2008).

One of the most serious consequences of unemployment is poverty and it is one of the major problems confronting the Nigerian people today. It refers to a condition of both material and nonmaterial deprivation of an individual or a community. The perception of it also varies between individuals and communities, between communities or regions and between urban and rural areas. Just as poverty has varying perceptions, its causes are also multi-dimensional. According to Akaahan (2006), poverty, at the community level, means environmental and natural resources degradation and/or the absence of socio-economic infrastructure, social services and employment opportunities. Individual poverty connotes inaccessibility to basic necessities of life like food, clothing, health facilities and decent shelter, inability to meet social and economic obligations, lack of skills, lack of gainful employment, inadequate possession of economic assets and sometimes, a general lack of esteem.

According to the United Nations Development Programme (UNDP) (2001), the poor are those who cannot afford decent food, medical care, recreation, decent shelter and clothe, meet family and community obligations, and other necessities of life.

Therefore, in order to overcome these twin macroeconomic maladies and match forward towards achieving Nigeria's vision 2020, vocational and entrepreneurship education is the answer.

Vocational Education

According to Datol, Danwanzam, Nyapson, Padung, Udo, Bentu, & Okwori (2004), Vocational and Technical Education can be referred to as activities which are essentially aimed at providing skills, knowledge and aptitude required for employment in a particular occupation, group of related

occupations or a function in any field of economic activity including distributive education, health education, agriculture, business education, fine and applied arts, home economics, technical education, etc. According to Osuala (1987), vocational education refers to systematic learning experiences which are designed to fit individuals for gainful employment in recognized occupations.

The National Policy on Education of the Federal Republic of Nigeria (2004) defines Technical and Vocational Education as a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupation in various sectors of economic and social life. Inter alia, Technical and Vocational

Education is further understood to be

- i. An integral part of general education;
- ii. A means of preparing for occupational fields and for effective participation in the world of work;
- iii. An aspect of life-long learning and a preparation for responsible citizenships;
- iv. A method of alleviating poverty.

From the aforesaid, it is glaring that Education prepares the recipient not only to become employable but more importantly, to become a job creator and hence self-reliant ready to contribute to the country's economic growth by increasing the gross domestic product.

Entrepreneurship Education

Entrepreneurship education is vital in Nigeria, the International Encyclopedia of the Social Sciences (2008) explains that an enterprise is a business venture initiated by an entrepreneur, the person who assumes the organization, management, and risks of a business enterprise. According to Akpomi (2009), the entrepreneur has been described as the one who starts an enterprise; the one who puts new forms of industry on their feet; the one who shoulders the risks and uncertainty of using economic resources in a new way; and the one with the right motivation, energy, and ability to build something by his or her own efforts. Akpomi (2009) went further to point out that the quality of instruction at all levels has to be oriented towards inculcating the values of acquisition of competencies necessary for self-reliance and reducing poverty.

Entrepreneurship is considered a factor of production that involves human resources, most commonly performing the functions of raising capital; organizing, managing, and assembling other factors of production and undertaking business decisions. It involves a combination of initiative, foresight, and willingness to take the risks and undertake the new ventures required to establish a successful business.

The signature of true entrepreneurship is characterized by three attributes: the identification or recognition of market opportunity and the generation of a business idea (service or product) to address the opportunity; the marshaling and commitment of resources in the face of risk to pursue the opportunity; and the creation of an operating business organization to implement the opportunity motivated business idea (Sahlman & Stevenson, 1992). Opportunity recognition is the cornerstone of the entrepreneurship process. Having distilled an opportunity, the prospective entrepreneur must be willing and capable of marshalling the investment of resources to pursue that

opportunity without any assurances of outcome or rewards, i.e. in the presence of risk. The entrepreneur must also be committed enough to the prospects and the passion of the opportunity to be willing to invest some of his/her personal reputation and resources and must be able to secure from others key investments including time, knowledge, energy, reputation, and capital - all in the absence of any guarantees of success. Finally, the entrepreneur must succeed in building from the secured resources an operating business organization to deliver the product and/or service vision to the customer market which inspired the original recognition of opportunity. In order to acquire the skills of entrepreneurship, entrepreneurship education is a *sine qua non*.

Entrepreneurship education is a lifelong learning process, starting as early as elementary school and progressing through all levels of education, including adult education (Lankard, 1991). It is the type of education that seeks to prepare people, particularly youth, to be responsible, enterprising individuals who become entrepreneurs or entrepreneurial thinkers by immersing them in real life learning experiences where they can take risks, manage the results and learn from the outcomes. Lankard pointed out that through entrepreneurship education, young people (including those that are physically challenged) learn organizational skills, including time management, development and interpersonal skills, all of which are highly transferable skills sought by employers. Thus, entrepreneurship education, by creating jobs and/or increasing the worth of the labor force, offers a solution to the unemployment problem in Nigeria

Paul (2005) identified the objectives of entrepreneurship education thus:

- i. To provide meaningful education for the youths to be self-reliant and encourage them to drive profit and to be self-independent or self-employed.
- ii. To provide graduates with enough training that will make them to be creative and innovative in identifying new business opportunities.
- iii. To provide college graduates with enough training in risk management, to make uncertainty bearing more possible and easy.
- iv. To give the young graduates training and support to establish a career in small and medium size business.
- v. To provide the graduates with training in skills that will enable them meet the manpower needs of the society.
- vi. To stimulate industrial and economic growth of rural and less developed areas.
- vii. To provide business enterprises both small and medium the opportunity of recruiting graduates who will be trained and tutored in the skills relevant to the management of small business centres.

Vocational Education and Entrepreneurship Education – The Link

The ingredient that makes Vocational Education meaningful and functional is the entrepreneurship side of it. In other words, Vocational Education is not effective if the recipient is not creative, innovative and is not prepared to take the risks of starting a venture by cashing in on opportunities (and there will always be such opportunities) that the business environment presents. In a nutshell, Vocational Education and Entrepreneurship Education are complementary.

Therefore, to be effective in preparing students for a changing society and work place, Vocational Education must extend beyond the delivery of occupational knowledge, job skills, and work experience. It must offer students an incentive for thinking creatively about an industry and broaden their understanding of the career opportunities afforded in that industry. Entrepreneurship education offers students such opportunity by helping them anticipate and respond to change

(Ashmore, 1989). Ashmore went further to explain that by acquiring Entrepreneurship Education, students learn that: although a job may be successfully accomplished today by performing a given set of tasks, tomorrow an entirely different set of tasks (and skills) may be required and because businesses are always changing, workers need to find new ways to do given jobs or new ways to do a given job better. He therefore advocates the promotion of brainstorming of potential businesses in the various vocational areas as a means of making students aware of self-employment as another route to success and personal esteem.

Poverty Eradication through Entrepreneurship and Vocational Education in Nigeria

In view of the foregoing discussions, it will only be wise for Nigeria to turn its attention towards the type of education that will transform our students into job creators rather than job seekers. By this, unemployment and poverty would be overcome. According to Ashmore (1989), entrepreneurship is a key driver of any economy; wealth and a high majority of jobs are created by small businesses started by entrepreneurially minded individuals many of whom go on to create big - scale and attitudes provide benefits to society, even beyond their application to business activity. Obviously speaking, personal qualities that are relevant to entrepreneurship such as creativity and a spirit of initiative can be useful to everyone, in their working responsibilities and in their daily existence.

Entrepreneurs drive America's economy, accounting for the majority of the nation's new job creation and innovations. According to the United States Census Bureau (2002), self-employed individuals - - - operate three-fourths of United States businesses and that America's 25.8 million small businesses employ more than 50 percent of the private workforce, generate more than half of the nation's gross domestic product, and are the principal source of new jobs in the U.S. economy. In the United States between 1980 and 1987, 17 million jobs were created by new and small firms whereas the public sector only contributed 1.3 million and in Kenya, the small business sector is the source of 75% of all new jobs (Kolshorn & Tomecko, 1995). Moreover, a staggering 2.3 million bigbusiness jobs were lost due to corporate downsizing during the years 1987 to 1992. During those same years, 5.8 million new jobs were created by small to medium sized entrepreneurial companies (Naisbitt, 1994). Were it not for contributions of successful entrepreneurship, the American economy would be in a precarious position (Harrell, 1992).

In January 2009, the chairman of the Senate Committee on Employment, Labour and Productivity of the Federal Republic of Nigeria lamented that Nigeria's education system needed to be overhauled for the country to move away from a system that produces people that only rely on white collar jobs; and that we needed entrepreneurs who will employ labour. He therefore called on Nigeria to look inwards especially in the area of developing the capacity of the productive sector to generate employment (Leadership, 2009). He could not have been more accurate in view of the fact that Nigeria's education today is unabashedly oriented towards the "take-a-job" mentality. It conveys in both content and attitude that the student is being prepared for a career in which he or she will be working for some kind of small or large business entity - i.e., "taking a job" that someone else has already created. There is therefore the urgent need to adjust our mindset from job seekers to job creators by acquiring the knowledge and skills of conceiving and starting up new businesses through entrepreneurship and functional vocational education.

Akinyemi (1988) in Nwoye (1991) as quoted by Adeniyi (2009) present various small investment opportunities in various fields for potential entrepreneurs thus:

The importance of entrepreneurship cannot be over-emphasized – entrepreneurship skills acquired in the academic environment will not only eradicate poverty but help Nigerian youth's to be self-employed and be industrious.

Agricultural and Agro – Allied Industry: Processing of Garri and yam flour, canning and biscuits, chocolates; vegetable and palm oil mills; rice milling plants; processing of animal feeds; production of industrial starch; bread and cake making.

Leather Industry: Manufacture of foot wear and other leather products; leather bags, belts, boxes, etc; wallets, port folios and shopping bags.

Paper products: Manufacture of carbon paper; production of cardboards; book publishing; manufacture of drinking straw; manufacture of paper egg-trays; manufacture of toilet rolls; napkins; manufacture of file jackets; production of stickers and labels; manufacture of paper bags; production of typing sheets and duplicating papers; manufacturing of envelopes; exercise books and registers; manufacture of cartons.

Textile and Associated Industry: Sewing industry and garment shop; production of underwear; production of socks; production of neck ties; production of baby toys;

Metal and Engineering: Bolts and nuts manufacture, nails, pins, rakes, cutlasses, hoes, shovel beds, iron chairs, tables; workshops for repair and servicing of automobiles; workshop for servicing and repair of kitchen equipment, cookers, refrigerators, blender, etc;; manufacture of cutlery.

Chemicals and Allied groups: Production paints, pharmaceutical products; manufacture of plastics; production of candles; manufacture of all classes of soaps; laundry detergent; distilled water; production of photographic films; production of chalk; palm kernel extraction.

Wood and woodwork: Furniture; treatment of timber; saw milling; Traditional craft and cultural heritage: Basket making, raffia making; carving; blacksmithing; wine tapping; pottery; weaving.

Service Enterprise: Distributorship; wholesaling, retailing; consultancy; clinic; employment agency; and travel agency.

In addition to the list above, there are many business outfits that one can establish to create jobs especially in the area of information and communication technology. They are: sales and repair of handsets, phoning booths, internet cafes, selling of GSM recharge cards, just to mention a few.

Conclusion

If Nigeria must realize its vision of being one of the first twenty (20) most industrial nations in the world by the year 2020; from its Gross Domestic Product (GDP) of US\$214.4billion in 2008 (World Economic Forum, 2009) to the envisioned US\$900billion in 2020 and from US\$1,450.5 per

capital income in 2008 to US\$4,000 by the year 2020, it must take the issue of private sector development with utmost seriousness by giving Entrepreneurship and Vocational Education its pride of place. All and sundry in the education industry must realize that no meaningful development can take place if what the classroom has to offer cannot be linked with the world of work. Therefore, all stake holders should give the necessary support that Entrepreneurship and Vocational Education deserves in order to turn its recipients into job creators, increase Nigeria's GDP and per capita income and ultimately, fight poverty to a standstill. By this, Nigeria would be taking the right step towards making its vision a reality by the year 2020.

Recommendations

In order to encourage entrepreneurial and functional Vocational Education in Nigeria so as to make vision 2020 realizable, this paper makes the following recommendations:

1. Entrepreneurship education should form part of the curriculum of all disciplines in our schools. One would not be wrong to say that many business ideas emerge from non-business disciplines but are often treated with levity because students are not sufficiently educated in the knowledge and skills required.
2. Entrepreneurship and Vocational Education should not just be all talk; it should be pragmatic in approach. Since it is a fact that people learn best by doing, the motivation to start and run a business, enterprising behaviour, and business competencies can be acquired through carefully designed experiential learning situations that simulate actual business events.
3. Teachers of vocational and Entrepreneurship Education should be trained and retrained through organized conferences/seminars/workshops so that they can impart same on their students.
4. Entrepreneurship education should also lay emphasis on analysis of the strength, weaknesses, opportunities and threats (called SWOT analysis) of business ideas, business planning, computer applications, managing capital/cash flow, marketing skills, and accounting skills.
5. In order to make Vocational Education functional, the enabling environment must be provided in our schools. In this regard, infrastructural facilities especially electric power supply must be provided so that machines and equipments requiring such can be put to use at all times during the teaching-learning process. In addition, security for machines and equipments should be guaranteed in order to prevent vandalization and theft.
6. In order to support enterprising Nigerians, the Federal Government should encourage the banks to site branches in the rural areas so as to make banking services accessible to potential entrepreneurs who need financial support to bring to life business ideas. Furthermore, micro credit should be readily available to young entrepreneurs at affordable lending rates so that the cost of capital will not be scaring.
7. Security of lives and property should be guaranteed by the Federal Government of Nigeria so that enterprising Nigerians, after acquiring Entrepreneurship and Vocational Education, can utilize any opportunity that presents itself in any part of the country without the fear of loss of one's life and investment.
8. The Students' Industrial Work Experience Scheme (SIWES) should be taken very seriously by the Industrial Training Fund (ITF), educational institutions, business organizations and the students,

this will enable students come face- to- face with the practical side of learning and engender the much required interest to start their own businesses after completing school.

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RETHINKING INNOVATION AND CREATIVITY IN A CHANGING BUSINESS ENVIRONMENT; AN EMPIRICAL REVIEW.

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ABSTRACT

The impact of innovation which is seen as a unique part of human resources and evolution technology has over the years shaped the fate of industries or organizations. Keen managers as well as the owners of business even Nations do not underestimate its potentials. There is a continuous change in technology in the business world today, thus making it a very vital element as both an exertion that can generate growth of organizations well as devastating element which can make organizations vulnerable in competition. The ability of an organization to develop a successful innovation, both in the product or service offered and in the manner at which production is done is very crucial to the health of individual organization, industries, and the economy at large. Researchers recently have shown that whilst most managers of industry acknowledge the importance of innovation, most of them are not satisfied with the management of innovation in their organization. This work tends to add to knowledge by reviewing empirically work in existence on the importance of innovation to organizations, and how organizations are transformed as well as the need to invest in human capital in order acquire the needed skill on innovation as a creative element for improvement instead of dwelling on the threat. The method used for this research work was descriptive and materials where gotten through secondary sources which involves surfing the education database via the internet such as ERIC, EBSCO and Science Direct in order to get the best and relevant academic literatures on Innovation Theory and Creativity. The literature is on the review of theories from different scholars on the phenomenon from the ankle of the different areas of the economy to pinpoint gaps for future research on innovation theory as well as the importance of innovation in organizations.

KEY –WORD: Innovation, Technology, Performance, Creativity, Sustainability, Competition.

2.0 INTRODUCTION

The downing of the 21st century is seen to be accompanied with uncertainty and frightening economic, political, business and educational changes which rapidly renders the solutions the researchers produced as ineffective for solving the problem of life and work place. Innovation and creativity are the most uncomplicated aspect of all human resources and skill. The standard of one's mental reasoning will determine the worth of an individual's human prosperity as well as the person's welfare. Hence, the more an individual builds his/her capacity in innovation and creativity, the more self-dependent the individual becomes in

getting things done with less supervision as well as the ability to increase the standard of his/her life, family, community and society at large [Akinboye, 2003]. This can as well be related to the activity of the organization. Thus, the quality of thinking of managers of the organization determines the quality of success that can be achieved. At the base of economic development is innovation and as such, it is a tool for organizational development. Nevertheless, the innovation process is yet still seen as a subject that is very challenging when studying issues in economics and many researchers have put in efforts in order to help understand the process of innovation evolution instead of focusing on how it affects the different aspects of the economy.

This research, aims at examining the different innovation work, different work by different scholars and how these theories have been implemented or how far they have contributed to the development of any given economy. Innovation is a phenomenon that needs to be critically studied in order to determine how it enters and transforms organization as well as the different strategies for mastering innovation as a creative force for improvement of products, goods and services rather than looking at other people's creative reasoning as a threat to the organizational development [James Utterback, 1975]. Furthermore, this paper seeks to draw the attention of students, employees, managers of business as well as owners and those in the head of the affairs of Nations to the need to proffer solutions to the ever lingering economics challenges through creative thinking as a wake up call.

1.1 RESERCH OBJECTIVE

- To examine the impact of innovation, ideation and creativity in business performance in today's ever changing business world.

- To access the importance of developing human capital and how it contributes to innovative thinking in proffering solutions
- To examine the importance of innovation to the sustainability of business, individual efficiency as well as a Nations development in a bigger picture.

1.2 PROPOSAL

- Idea creativity has a significant impact on business performance
- Innovation largely contributes to business sustainability
- Human capital development a vital tool for innovativeness and creativity

1.3 MODEL AS ADDAPTED FROM EXISTING ONES

INNOVATION.....HUMAN CAPITAL
 DEVELOPMENT..... PERFORMANCE.....
 SUSTAINABILITY

2.0 CONCEPTUAL FRAMEWORK

The word innovation is seen as a byword that is somehow confusing to many people who will as a matter of fact love to hate. Every business manager or owner agrees to the importance of innovation and attest to it that it makes their business or organization unique in its own way. But the real meaning of the word is what nobody as seem to agree to come in terms with www.ideatovalue.com. The meaning of innovation is enormous, different experts have viewed innovation in different ways. They include the following;

According to David Burkus, [2016] innovation is the application “of ideas that are pleasantly new and are very useful. The ability to develop new, different and useful ideas is the seed of innovation but unless it’s applied and scaled it is just an idea this can be referred to as creativity”.

Stephen Shapiro views innovation as simply staying relevant. He further puts that “we are in a time of unprecedented change. As a result what may have helped an organization to be successful in the past could potentially be the cause of their failure in the future”.

Nick Skillicom, [2016] in his own point of view sees innovation as converting an “idea into a solution that adds value, from customer’s perspective”.

Pete Foley’s definition of innovation is that, “innovation is a great idea, executed brilliantly, and communicated in a way that is both intuitive and fully celebrates the magic of the initial concept” [Pete Foleys, 2016].

Gijs van Wulfen, [2016] also defines innovation as a “feasible pertinent offering such as a product, service, process or experience with a feasible business model that is perceived as new and is adopted by customers.”

According to Paul Hocraft, [2016] innovation is “the fundamental way the company brings constant value to their customers business or life, and consequently their shareholders and stakeholders.”

In the nutshell innovation can be appreciated as anything new, useful and surprising that an individual, organization or society can apply in order to advance and stand out in their environment Drew Boyd, [2016].

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Thus, innovation can be defined as the act of being creative in business, and life, thereby doing things in a way and manner nobody has ever done. It can also be seen as setting pace and creating a solution to satisfy the desire of the society. By this an individual stands out in whatever he or she does. Taking for an instance, a service industry (tourism), a manager at a restaurant will come up with new ideas to serve his customers [welcoming, customer service, prompt response to customer’s request, conducive environment, mouthwatering delicacies

etc.] in a better way than the customer can get in any other place. Thereby maintaining its competitive advantage in the market.

According to Stamm, [2005], the phenomenon” innovation, creativity, and design are of course amongst words that are most frequently made use of in the business environment today, not least because excelling in these areas is widely acknowledged to be associated with the success of the business”. Innovation can be dated as far back as human existence. Gierer, [2004] has argued that all though evolution and technological innovation may be very different in much respect, they share common features. Innovation and creativity are some basic skill that makes the human resources manager unique because the human resources job involves mental reasoning, thus he is always thinking on how best to improve the work environment. Without innovation and “creativity man is not able to make full use of information and resources available but locked up in old habits, structures, patterns, concepts, and perceptions” Akinboye, [2003].

The study and formulation of theories on innovation started since the late 1970s, and the evolution of innovation strategic ideas, basically took place in the 1990s. The argument was that there is a close link between theory and strategic ideas, essentially going through two phrases. The argument was on a complex crisis of the 1970s created by giving way for rival analyses of the situation. As at 1980s, the development of evolutionary theories which was led by Nelson & Winter, [1980] as well as the empirical-base innovation studies, created a framework in which strategic environments that could consider the implications of heretical ideas both for objectives and a tool for public strategies. “By the early 1990s strategy makers, particularly in Europe, were beginning to see innovation strategy not just as important arenas of action in themselves, but as instruments towards much more wide ranging policy objectives” [Mytelka & Smith, 2001].

Darwin, [1859]” proposed his evolutionary theory of the origin of species based on variation and selection according to what was termed as “fitness”, he insisted that evolution was a

gradual process involving many small steps”. According to Ziman, [2000],” it has been observed by many researchers that various aspects of technological innovation lend themselves to analysis in terms of evolutionary concepts ranging from close formal relationships to qualitative analogies and metaphors” [Gierer, 2004]. Innovation can be seen” as all the scientific, technological, organizational, financial, and commercial activities necessary to create, implement, and market new or improved products or processes” [OECD, 1997].” At the period when a new technology first surfaced, the established technology generally offers better performance or cost than the challenger, which is still unperfected. The technology is viewed as crude, leading to the belief that it will find only limited application” [Utterback, 1975].

The understanding of innovation evolution can be enhanced at the organizations level which has been developed over some decades from uncomplicated linear and successional models to some form of an increasing models that are complex incorporated as a different range of inter and intra stakeholders as well as the processes involved. According to Rothwell, [1994] “there are five shifts or generations, demonstrating the complexity and integration of the models increases with each subsequent generation as new practices emerge to adapt to changing context and address the limitations of earlier generations” as put by [Ortt & Duin, 2008)]. Rothwell, [1994] in his work pointed that,” the ever changing generation of innovation models most times does not really mean any instant substitution of one model for another; many models can be useful at the same period, and in some cases, elements of another”.

2.1 IMPACT OF INNOVATION IN INDUSTRIES

The empirical research reveals that an in-between any structure of the market is one that is neither excellently competitive nor ideally monopolistic, is sometimes the most instrumental in technical advancement. [Kamie & Schwartz, 1982]. According to Adam Smith, [1937] in

his work the “Wealth of Nations”, noted that “innovation is requiring the investment of money and as an important economic activity inducing gains”. Schumpeter, [1934] however, formally threw more light by explaining the economic role of agents in technological advancement. He gave a clear distinction between an inventor and the entrepreneur. An entrepreneur is an individual who develops something new (different and unique that nobody has done before) [Schumpeter, 1934]. In addition, according to Chinonye, (2015), “an entrepreneur is one who sees a gap or a need in his or her immediate environment and brings resources together to meet such needs. In other words, entrepreneurship and innovation go hand in hand. An entrepreneur makes use of innovation to distinguish his/herself in the business environment that is so highly competitive.

History has it that in the years 1950 to 1960, across North America and Europe there arose a group of social conventions and economic mechanisms that was put in place to ensure mutual adjustment of massive consumption as well as massive production of goods and provided a seemingly consistency in the profit share with regards to the value added [Hall, 1989; Berger & Dore, 1996]. The aftermath of this was that, investment was encouraged, but it was maintained only when the demand was on the increase. At the advent of the year 1970, there was a crisis that made productivity increases become more difficult to achieve and the growth of demand was stalled. Mytelka & Smith, [2001] in their innovation theory of ‘BRIDGING THE GAP’ concluded that; “Innovation theories emerged in a period of dramatic change. Expectations of growth were diminishing after several positive post-war decades. Technological ruptures were underway but their impact on productivity was not yet felt. Imports from low-wage countries were increasing and, coupled with new patterns of investment and organizational change, created further economic dislocation as regions declined and unemployment rose. Existing theory could not deal with these changes and the paradoxes to which they gave rise. While national governments in the developed world initially fell back upon neo-protectionist solutions and then embraced liberalization, a small

number of international organizations such as the OECD and the European Commission, became the locus for exploratory thinking around the issue of technological change. Dissenting theorists slowly reformulated the problem as one of learning and innovation and contextualized it in terms of innovation systems and institutions. Passage through international organizations then served to legitimize these concepts and to promote them as focusing devices in national policy making.”

2.2 EDUCATION

At the advent of independence in Nigeria, it became so clear to leaders and those in authority [political class, societal planners and academicians] that education will be the key agent of lasting change if corporately invested in. At the realization that when there is a transformation in education the society will transform also [Fagerlind & Saha, 1983; Durkheim, 1938] The education sector in Nigeria has so much bought into innovation. From the nursery to high school to college. The pattern of teaching, impacting and having a robust product has changed which has resulted as an influential force of transformation of the society at large [Adamu, 1994]. Therefore, the evolution of innovation in the sector can be likened to a great force that has transformed the face of education in Nigeria. The changes in technology also have contributed immensely to the education industry in Nigeria, where we now have e-learning has operated largely by National Open University of Nigeria. One of the systems no one could imagine will have good product. With the e-learning, learning is made easy and information can be accessed without having to get to the school environment or office.

A very good example is Covenant University where innovation and creativity is the watch word. The institution through innovation has created a new face in the education sector in Nigeria in so many ways such as, academic research, a conducive environment for learning, decent dress code that looks corporate always both as student faculty and staff, no use of mobile phones in lecture room, a world class library and so on. By this innovative move many other institutions in the country are losing out while others are striving to buy into it

and it is shaping the education sector in Nigeria. Above all, Covenant University through innovation maintains its relevance in the market as well as its competitive advantage. The creative power of innovation is amazing, the process of the invasion of innovation technology as described in James Utterback, [1975] Dynamics of Innovation, the case of” the ice industry, tends to follow a predictable pattern”. In general terms, in every commodity market, there are periods where continuity is required, when the tempo of innovative ideas is on the increase and paramount changes are persistent, and periods of discontinuity with paramount products or procedures, changes occur as well. Hence, organization engage in all round the clock research and activity in order not to lose out in the market.

In covenant University there is a display of innovation and investment. For example, bringing a new style or pattern in the education system in Nigeria by introducing core values, mode of dressing, employing trained, effective and efficient lecturers and putting in place motivation in retaining them, improving consistently on her internet technology [IT] all in the bid of achieving her goal. According to Leonardo and Jaime, [2001] “high technology services” is important to organizations that deals with it because it has different demands that is related to “high technology manufacturing” which reinforces the processes of hardening, as much as the pecking order hypothesis that is based on the level of dominance and the considerations of the owners, and the acceptance of the investors which is conditional to the benefaction of harmonious capabilities that seem to be lacking in the organization.

2.3 TRANSPORTATION

Transportation can be traced back to man existence. Man needed to move from one place to the other. Transportation can be seen as integral aspect of the economy. Summarized by scholars as movement from one place to the other. The moving of people and goods from one destination to the desired destination. According to history, man started off by foot which will take months to reach the desired destination. Then bicycle, vehicles, rails, boat / ships, to air plane and so on. Being an enormous sector, this work will focus on the cab services, i.e. taxi.

In major cities around the world today, innovation has so shaped the face of transporting people within cities. For instance in Nigeria for many years taxi operation has been on but the new trend 'UBER' just turned the game around. So most people, instead of finding their way to taxi stations, they stay at the comfort of their homes and call an 'UBER' driver. And this has resulted in the old method of taxi business losing out. This system has been seen by many as the easiest to move around major cities in Nigeria. According to Giudici and Paleari, (2000) in their work that was empirically analyzed, also attest to the fact that "companies experience difficulties in funding innovative projects and their development has been sensibly slackened by scarcity of self-generated profits". Hence, the other old taxi drivers seem to be lacking out due to the inability to invest in innovation.

To confirm this, Nell, Anna, and Constantine, (2004) Due to the size and the fast and continuous growth of the transportation system globally, researchers have hyper concentration on the factors that are associated with organization's performance in the sector. However, knowledge of this increasingly sector of the economy remains limited. After the authors have empirically assessed predicted relationships with the data they got, the end result was that, there is a broad support to the Theoretical Model, which indicates that the factors that affects export ventures, choice of competitive strategies to make use of, and high position advantage in the market as well as performance of out-come as to do with how much resources and capabilities the organization can possess.

2.4 IMPORTANCE OF INNOVATION

The global business environment has fast become a global village. The system or processes for the production of goods and services is fast evolving. Hence, any manager or owner of business that ignorantly disregard the innovation trend will stand a chance of losing out of competition. In developing nations, it has been discovered by scholars that very few business owners invest in innovation and at the long run drop out of the market place [Krishnan, 2009]. The first advantage here will be that innovation brings about healthy competition in

the business environment among firms. Schumpeter, [1942] developed the word “creative destruction” a situation whereby firms compete with each other by interacting in the market environment. This then result in the ‘survival of the fittest’. Where the business that can’t stand the pressure will park up. Secondly, innovation has so much changed, the face of service in tourism, banking, and health care. According to OECD, [2007] posits that, there is a conversation between business owners and makers of policies that the activities of innovation in the society is the main that is driving the growth of any economy.

2.5 EMPIRICAL FRAMEWORK

Cohen and Levinthal, [1989] in their work “EMPIRICAL STUDIES OF INNOVATION AND MARKET STRUCTURE” “discuss the perceptible movement of empirical scholars from a narrow concern with the role firm size and market concentration toward a broader consideration of the fundamental determinants of technical change in industry. Although taste, technological opportunity, and the ability to appropriate themselves are subject to change over time, particularly in responses to radical innovations that alter technological regime, these conditions are reasonably assumed to determine inter-industry differences in innovative activity relatively long periods”. The research also argued that, “many of the most empirical regularities have been established not by estimating and testing elaborate optimization models with published data but by painstaking collection of original data, usually in the form of response to relatively simple questions”. This can be related to James Utterback’s, [1996] research on how the production of ice in America’s ice industry blossomed in the 19th-century by the “Ice King Frederic Tulo” of Boston but “in turn fell prey to the innovation of mechanical and later electrical means of refrigerator” thus, at the advent of innovation, Frederic was out of the market almost forty years after. Hence, there are so many businesses that are lacking behind for lack of not flowing in the innovation trend.

In determining the impact of employee innovativeness on the performance of the organization and business, Siddiqi & Qureshi [2016] conducted a research with a sample size of about 50 respondents and they arrived at the conclusion that there was a significant relationship between employee's creativity and organizational performance in which is as a result of empowering the employee to think critically to proffer solution to any rising problem in the organization. In addition when the employee is empowered, the result will be the effective and efficient utilization of resources to maximize the overall performance of the organization and the market share in a long run.

Ramalingam, Karim, Piaralal, & Singh [2015] in their work 'Creativity and Innovation (Organizational Factor) Influence on Firm Performance: An Empirical Study on Malaysian Telecommunication Mobile Network Operators', got to establish the fact that creativity and innovation have to be recognized as a critical force in maintaining the competitive advantage of any organization that desires to achieve higher grounds in the business environment. After having an empirical look of the 'Malaysian telecommunication mobile network operators', the work concluded that organizational performance and effectiveness is highly influenced by innovation and creativity although some organizations are not putting so much in improving human capital development which will enhance the performance of the organization.

Finally, to further establish the fact that innovation is a vital force in the business world today and the need for organizations to invest in the human capital, Gabriela Lucia Sipos & Alin Ionescu [2015] conducted an empirical work that was aimed at the effect of motivating creativity methods used by establishments in determining a country's innovative performance. The study was built on identifying connections between using stimulating 'creativity methods – such as brainstorming sessions, financial incentives for employees to develop new ideas, job rotation of staff, multidisciplinary or cross-functional work teams, non-financial incentives for employees and training employees on how to develop new ideas or creativity – and, by the other hand, innovative performance of European countries

synthetically expressed by Summary Innovation Index'. It was found that innovation had a strong influence on organizations performance which at long run resulted in the effectiveness of a country. Little wonder why most developed countries maintain their place in the global market and most underdeveloped as well as developing country's still lack behind.

This study hence, arrived at the fact that, when any organization, group, corporation, institution or Nation place value on human capital development by motivating and creating an enabling environment, the good result will be effectiveness, efficiency and performance.

3.0 METHODOLOGY

The methodology for this research work can be said to be an exploratory in that majorly, materials were gotten through secondary sources which is the informal qualitative approach which involves surfing the education database via the internet such as ERIC, EBSCO, www.mitsloan.mit.edu, <http://nml.gov/pr/eval/rogers.html>, www.ideatovalue.com and science Direct in order to get the best and relevant academic literatures on Innovation Theory and Creativity . The database were seen as very useful the reason being that they dealt on the subject matter and are also point of reference in other publications. In addition, they also provided an avenue to variety of publications and journals that are academic based. Words like Innovation, Creativity, and Technology were the major keywords and were repeated in almost all the pages..

It is important to note that literature review were restricted to English publications only.

5.0 CONCLUSION AND MANAGERIAL IMPLICATION

Innovation is recognized to be as old as the existence of mankind but the developmental process of Innovation Theory began in the year 1970. This work was able to view definitions of innovation as posited by different scholars, review on literatures on the phenomenon, its impact in industries [education and transportation], how well managers have engaged, its

importance and the identification that developing a modified conceptual framework will be a satisfactory representation of new product as much as the market, and put in place foundation for further research of the phenomenon.

The conclusion of the matter therefore is that, there has to be increased research in order to connect innovation as a theory, the size of the firm, as well as on new product and the market structure, where the theories and proofs of empirical work tends to be indecisive. Methodologically, the problem would be to differentiate one empirical idea with the other, information as well as knowledge, and to make more findings concerning the respective roles that are related to innovation.

But very importantly, a crucial step will substantiate the proof in the developmental process of new product, acceptability and retention in the market in order support the formulation of a more appropriate innovation theories and creativity. Given the importance that innovation could have positive impact on the organization, innovation should be top in the list in organizations.

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THE RELEVANCE OF E-COMMERCE ON THE GROWTH OF SMALL AND MEDIUM ENTERPRISES: A STUDY OF HEALTH MAINTENANCE ORGANIZATIONS IN THE SOUTH-SOUTH REGION OF NIGERIA

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ABSTRACT

This study is on the relevance of E-commerce on the growth of Small and Medium Enterprises in Nigeria. The study sought to find out how the use of E-commerce has affected the growth of Small and Medium Enterprises with specific focus on Health Maintenance Organizations in the South-South Region of Nigeria. The population of the study was fifty-three registered Health Maintenance Organizations in the South-South Region of Nigeria. The sample size consisted of the management and staff of the fifty three Health Maintenance Organizations who are licensed operators in the South-South Region of Nigeria (Delta, Bayelsa, Edo, Rivers, Cross-Rivers and Akwa-Ibom). The complete census technique was used to determine the sample size. The instrument used in collecting data was a structured questionnaire. The questionnaires were distributed through e-mail and retrieved through e-mail. The quantitative analysis of data was adopted and the T-test technique was applied in setting the hypotheses. The findings showed, among others, that the adoption of e-commerce by HMOs increased customers, boost profits and turn overs, has billing efficiency and payment operations, and cost reduction. It was recommended that HMO enterprise owners should be encouraged to adopt e-commerce in order to enhance their market expansion; business owners should endeavour to maintain data security by unauthorised disclosure of confidential information through the internet; policy makers should create a central e-commerce packages in which small firms can register and purchase the easy-setup software system at a subsidized cost. It was suggested that further studies be carried out to assess the technical and cost benefit analysis of e-commerce for Health Maintenance organizations in other major cities in Nigeria.

Keyword: E-commerce, SMEs, Health Maintenance Organizations, Health Care Providers.

INTRODUCTION

All over the globe the relevance of the Health Maintenance Organization has been recognised but its operations is a myth to most people. The recognition of Health Maintenance Organisations rests on the need to reach to a greater number of people through collective group health covers such as the managed care system. However, the health maintenance sector seems to be a myth to most Nigerians, despite the fact that practitioners are harnessing a fortune from it. In 2016 the International Finance Corporation, led a group of investors who invested ₦13.3 billion in Hygeia Nigeria Limited, one of Nigeria's leading Health Maintenance Organization s, a clear pointer to the profitability of the Health Maintenance industry (Financial Nigeria 2016). The internet has turned the world into a global village; advancements in Internet technology which offers innovations in business models, trades and commerce, as well as marketing practices to enhanced the ease of doing business all over the world. According to Onoka (2016) the health maintenance sector is highly monopolistic; as bigger firms who have created a niche for themselves consume a huge chunk of the markets share. Thankfully a firm's competitors are no longer the other firms in their neighbourhood which are into similar businesses; a firm's competitor is the other firm anywhere else in the world which can effectively use e-commerce to cut more

market share and reach targeted market. Technological progress in logistics and distribution enables nearly every business to buy, sell and operate on a global scale. Organizations with the use of electronic commerce otherwise known as e-commerce can carry out sales and other transactions among individuals, businesses, and organizations. Elseoud (2014) added that e-commerce has led to a paradigm shift in commercial activities; especially among Health Maintenance Organisations. Traditionally, the operations of Health Maintenance Organizations as the motherboard upon which Nigeria's National Health Insurance Scheme (NHIS) rests, involves manually registering/transacting with Health care providers (Hospitals) all over Nigeria. Apart from managing the lives allocated to them by the federal government, HMOs also provide health cover for the private sector, utilizing the hospitals in its network as a catchy selling point to marketable organizations, individuals and groups.

It is agreed that e-commerce is a new way of conducting business and its influence is increasing every year, Chong (2008). However, it is believed that the use of e-commerce has led to the outsourcing of staff by health organisations. Lin & Huang (2013) stated that the use of e-commerce has contributed to the growth of the outsourcing in the healthcare industry in order to cut cost, improved customer satisfaction, focus on core competencies, reduction in staff turnover, access to requisite skills, improved services and efficiency, increased flexibility, and economies of scale. The main challenge for market players is to set aside the required resources and expertise in order to choose the most suitable system, according to the individual organization's needs as well as their customer expectations. This innovation affords organizations such as Health Maintenance Organizations the benefits of improved operating procedures, efficiency, as it provides small/new health maintenance organisation a level playing field in accessing a wider range of markets, greater potential for partnership with more Health care providers, improved customer services, accessibility and flexibility in administration, and partnership amongst others.

At the present stage of its development, e-commerce enables HMOs to reduce significantly the financial and time resources, to improve competitiveness, access to new health care providers/enrolees, pay bills, receive claims, to obtain additional information about the needs of enrolees, to respond quickly to changes in demand. Business and purchasing rules are changing, this is partially due to the increasing integration of internet-based transactions in all kinds of markets, including healthcare. Ellen et al., (2002) explained the significant impact e-commerce could have on the cost, efficiency, and quality of the overall management and delivery.

Statement of the Problem

It has been a rigorous search/interaction for HCPs in remote locations across Nigeria especially at the south-south region to find more effective and efficient ways of providing healthcare services, even at the rural level, to meet up the increasing need of global best practices. The cost of health care continues to rise globally and e-commerce will inevitably be required to improve quality, efficiency, effectiveness and enhanced access to health care services in the most cost-efficient manner. E-health has transformed the healthcare in most developed countries while its application is still a mirage to Nigerian health practitioners. It is therefore highly worrisome as business all over the world are making frantic efforts to take advantages of the actual and potential benefits these technologies offer through e-commerce, the application of e-health is still a mirage to the Nigeria health practitioners.

Objectives of the Study

The specific objectives of the study include the following

1. To examine the effect of e-commerce on the growth of HMOs in the South-South Region of Nigeria.
2. To determine the factors that affect the adoption of e-commerce by HOMs in their service delivery.

Research Questions

1. What effect does e-commerce has on the growth of HMOs in the South-South Region of Nigeria?
2. What factors affect the adoption of e-commerce by HMOs in Nigeria?

Research Hypotheses

Based on the research questions and the statements of the problem for this study, the following hypotheses were formulated.

H₀: E-commerce has no significant effect on the growth of HMOs in Nigeria.

H₁: E-commerce has significant effect on the growth of HMOs in Nigeria

H₀: Directors perception and internet knowledge have no significant effect on the adoption of e-commerce in the service delivery of HMOs in Nigeria.

H₁: Directors perception and internet knowledge have significant effect on the adoption of e-commerce in the service delivery of HMOs in Nigeria

Significance of the Study

1. The outcome of this study will enlighten the government on the relevance of e-commerce, and how effective it can be in reaching a larger population in the provision of health care services.
2. The research work will reveal the roles e-commerce can play in assisting small and medium enterprises in performing their functions effectively and efficiently thus, leading to growth and expansion in previously monopolized markets.
3. It will reveal to the general public the relevance of e-commerce and how the general public can be assisted in their business, investment and day to day life activities.

REVIEW OF LITERATURE

Electronic commerce otherwise known as e-commerce is a powerful concept and process that has fundamentally changed the current of human life (Yaser, 2013). It is one of the main drivers of revolution in the field of Information Technology and communication. According to Leke (2014), the E-commerce boom has kicked off in Nigeria with hundreds of new online stores and services coming on board every year. He further maintained that E-commerce is a hardy rocket science, which implies an innovation that can be adopted and applied by businesses to achieve maximum productivity.

Grandon & Pearson (2004), defined Electronic commerce (e-commerce) as any business transaction which includes the process of buying, selling, transferring or exchanging products, services, or information using electronic data transmission via the Internet, such as the online payment for goods and services rendered using a credit card. Almost any product or service can be offered via e-commerce. According to Huseynov & Yildirim (2016), E-commerce is a process of carrying out commercial transactions through computer networks, such as the Internet. Abebe (2014), defined e-commerce as the process of buying and selling of information, products, and services through computer networks.

HISTORY OF ELECTRONIC COMMERCE

According to Yaser (2013) in the 1970s, the term electronic commerce, referred to electronic data exchange for sending business documents such as purchase orders and invoices electronically. The first electronic commerce was created in USA and some European countries in 1998. According to Lohse and Spiller (2000), Electronic commerce was identified as using technology such as Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT) to facilitate commercial transactions electronically. These processes were introduced in the late 1970s, allowing businesses to send commercial documents like purchase orders or invoices electronically. In the late 1980s, credit cards, automated teller machines (ATM) and Telephone Banking were also accepted as forms of electronic

commerce. The airline ticket reservation system typified by Sabre in the United States of America and Travicom in the United Kingdom was also classified as a form of electronic commerce in the 1980s. The 1990s saw the emergence of Enterprise Resource Planning Systems (ERPS), Data mining, and Data warehousing as other forms of electronic commerce. In 1990, Tim Berners-Lee invented the Worldwide Web browser and transformed an academic telecommunication network into a worldwide everyman everyday communication system called internet/www. Commercial enterprise on the Internet was strictly prohibited by National Science Foundation (NSF) until 1995. Although the Internet became popular worldwide around 1994 with the adoption of Mosaic web browser, it took about five years to introduce security protocols and Digital Subscriber Line (DSL) allowing continual connection to the internet. The World Wide Web gained enormous usage at the end of year 2000 when many European and American businesses offered their services through the internet. Since then people began to associate the word “e-commerce” with the ability of purchasing various goods through the internet using secure protocols and electronic payment systems. (Pew Research Center, 2000). These types of business are formed with beginner and unprofessional websites and it has been expanded rapidly. Electronic commerce was spread rapidly in most cities in America, Europe and East Asia in 2005. Some say, dates of electronic commerce return to prior of the Internet, but due to the costs of this style of business, only business and financial institutions and corporations could use it. But with the widespread use of the Internet to all of the people and change in the structure of electronic commerce, this kind of business has moved out from specific business case for a particular group and became the industrial form (Yaser, 2013).

E-COMMERCE FRAMEWORKS

According to Yaser (2013) Electronic commerce framework is comprised of three levels that this framework needed for successful electronic commerce

(i) Infrastructure

Having the right infrastructure is key in the use of e-commerce. Yaser (2013) stated that electronic commerce infrastructure comprises; hardware, software, databases and communications. It is used in term of World Wide Web on the Internet or other message switching methods on the Internet or other telecommunication networks.

(ii) Services

The second part of the framework include a wide range of services that provide the ability to find and present information, including the search for trading partners, negotiation and agreements.

(iii) Products and Structures

This section of the electronic commerce frameworks consists forecasts and direct provision of goods, services and trade related information to customers and business partners, cooperation and sharing of information within and outside the organization and organizing of environment of electronic marketplace and chain of supply and support.

However Turban et al., (2000), citing Kalakota and Whinston (1997), highlighted a more complex e-commerce framework diagrammatically representing applications and other support areas within the framework.

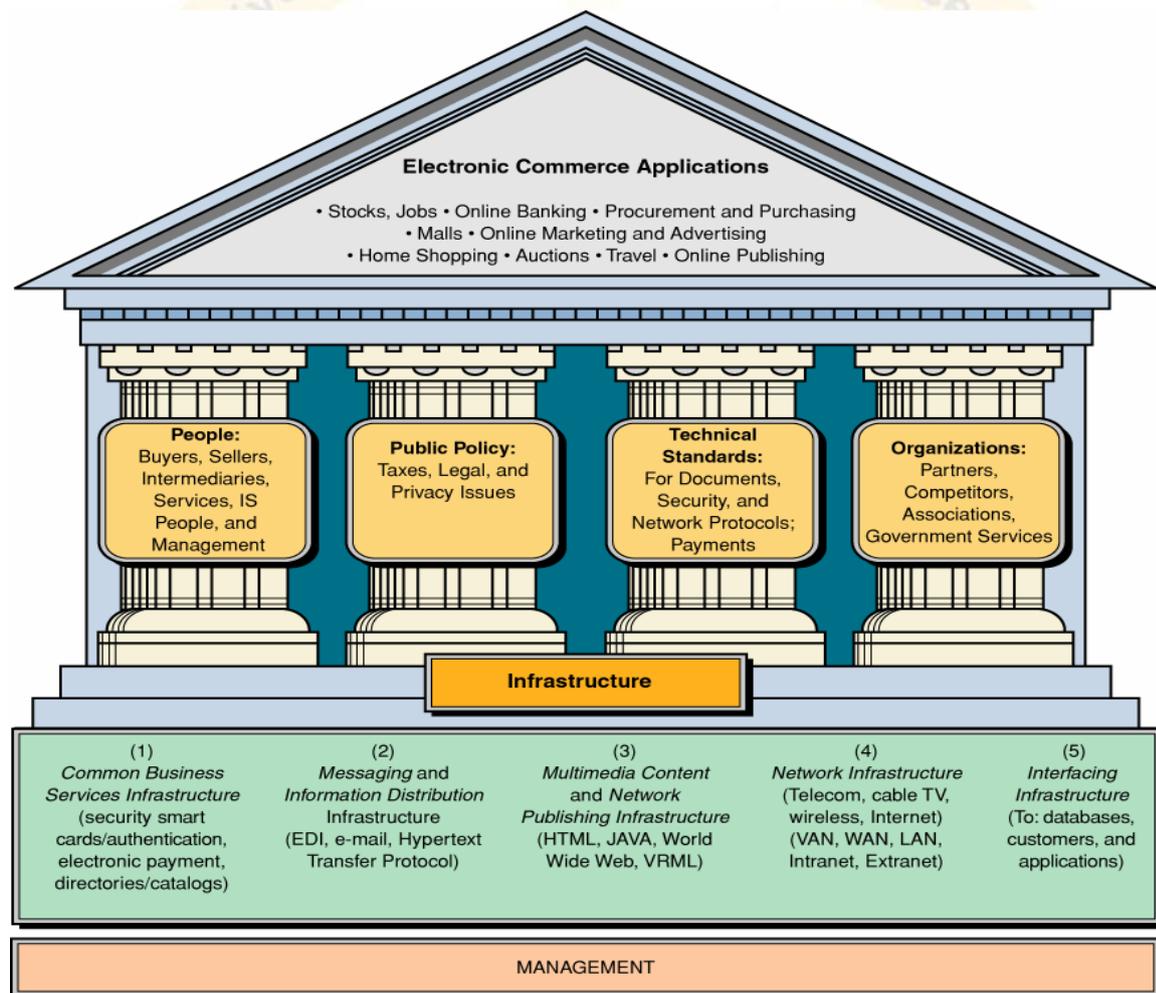


Fig: 1.1 A framework for electronic commerce. (Source: Kalakota and Whinston (1997), p.12, cited in Turban et al., 2000)

There are many e-commerce applications as portrayed by the diagram above. These applications are supported by infrastructure and the following support areas:

- **People** includes buyers, sellers, intermediaries, information system specialist, other employees and any other people participants. This is an important support area.
- **Public policy** includes legal and other policy and regulatory issues, such as privacy, protection and taxation, which are determined by government.

. **Technical standards** include all issues regarding documents, security issues which are established by government or industry-mandated policy-making group. Other technical issues range from content creation to payments to order delivery.

• **Organizations** deals with partners including joint ventures and business partnerships of various types common in electronic commerce. Also, competitors, associations and government services.

The infrastructure for E-commerce as shown in figure 1.1 is a description of the hardware, software and networks used in e-commerce. Finally, all the components of e-commerce require good managerial practices. This means that companies need to plan, organize, motivate, devise strategy, and restructure processes as needed to optimize the business use of e-commerce models and strategies. (Turban et al., 2000: Kalakota and Whinstone, 1997)

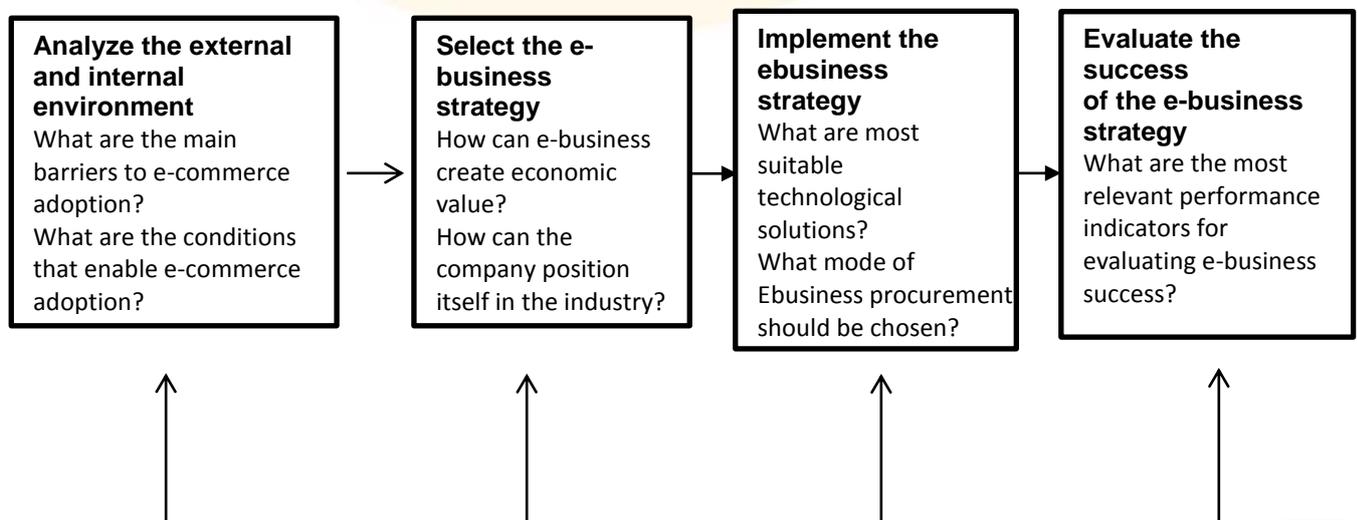
The Strategic Management Process in E-Business

According to Cote et al., (2005), having access to the web is essential for SME's just as owning a fax machine or a telephone. Companies that adopt an e-business model must often make changes in their business processes and the way they interact with suppliers and customers.

The e-business strategic management model process illustrated in figure 2.4 below follows the traditional model of strategic management. It is a systematic process consisting of four interrelated steps which every company entering into e-business should experience. The steps are

1. Analyze the external and internal environment
2. Select the e-business strategy
3. Implement the e-business strategy
4. Evaluate the success of the e-business strategy

Figure 1.2 strategic management process for E-business



SOURCE: Cote L., et al 2005 The Management Process for E-Business**(i) Analyse the Company's External and Internal Environment**

According to Cote et al., (2005), an analysis of the company's strengths and weaknesses as well as obstacles and opportunities that pertains in the traditional strategic planning model so as to guide strategic decisions is also equally crucial for e-business planning. The main barriers for e-business adoption include

- Wait-and-see attitude and sceptism on the part of clients and partners
- The nature of the company's products
- The location of the business (i.e. whether it is in a rural or an urban center)
- Lack of financial resources – the size of investing in e-business and the uncertain payback period for the investment hinders the adoption of e-business

Analyze the external and internal environment

- What are the main barriers to e-commerce adoption?
- What are the conditions that enable e-commerce adoption?

(ii) Select the e-business strategy

How can e-business create economic value?

How can the company position itself in the industry?

(iii) Evaluate the success of the e-business strategy

What are the most relevant performance indicators for evaluating e-business success?

(iv) Implement the e-business strategy

What are the most suitable technological solutions?

What mode of E-business procurement should be chosen?

What conditions enable e-business adoption?

According to Cote et al., (2005), in developing an e-business strategic plan, the company should take into account the number and nature of external factors that are compatible with the adoption of e-business. The following factors also trigger the adoption of e-commerce;

- Government financing of a specific industry to enhance speedy economic growth.
- Initiative by managers who realize the potential advantages of e-business.

THEORETICAL FRAMEWORK

Theoretically, organizations are seen as systems, (*Systems theory*). And as a system, the organization is part of a larger system which exerts pressures on the organization. Hence success or failure of the organization is linked to the activities of other players within the system. Alam (2009) opined 'Firms should not be seen in isolation but as being connected in

business systems' (*Networking Theory*). Lechner and Dowling (2000) define networks as the relationship of individual with other individuals, or relations between organizations that can have various functions.. Therefore, network relationships can be considered as an important intangible resource to support for organizations which do not have sufficient resources since it helps them to develop the links with suppliers, distributors and customers, or utilization of social contacts, including acquaintances, friends, family and kin. Also, Alam (2009) citing Rindova and Fombrun (1999) argue that resources, capabilities and core competencies are essential for a firm's competitive advantage (*Resource Based Theory*). Therefore, adequate resource support and policies to create capability are critical for organizations' growth as they are small in size and need assistance. Resource based theory provides a framework to explain how business can identify suitable measures to overcome growth obstacles, have better access to technology resources, manpower resources, financial resources, natural, and infrastructure, and access to the market. There is the need for the organization to build capabilities to accommodate environmental changes. *The dynamic capabilities framework (DCF)*. The dynamic capabilities framework (DCF) was developed by Teece, Pisano, and Shuen (1997). The key tenet of the DCF is that acquiring and implementing firm-specific capabilities could be a source of Competitive advantage for firms, in this case, Health Maintenance Organization s, operating under rapidly changing market conditions. Small and medium enterprise such as Health Maintenance Organization s acquires e-commerce technologies and utilizes it in other to have a firmer grip of the ever dynamic business environment and as a means to stay ahead of the competition, to keep in touch with their widely spread out clients, for efficiency and reference purposes. The concepts of the DCF proposed by Teece et al., (1997) include managerial and organizational capabilities and processes relating to;

- (a) Coordination/integration,
- (b) Learning
- (c) Reconfiguration/transformation.

Teece (2007) extended the key concepts of dynamic capabilities to include the following capacities;

- (a) Sensing and shaping opportunities and threats;
- (b) Seizing opportunities
- (c) Adapting, configuring, and reconfiguring the firm's tangible and intangible assets to achieve competitive advantage.

Daniel and Wilson (2003) underscored the critical role of dynamic capabilities in achieving a sustained competitive advantage by firms undergoing e-business transformation. The propositions advanced in the DCF were relevant in exploring the strategies that Health Maintenance Organizations use to implement e-commerce systems as a tool to grow their business. Because an e-commerce strategy indicates how an organization deploys its assets to achieve and sustain competitive advantage in the online market space (Torres2014), using the DCF was insightful in exploring Health Maintenance Organizations implemented e-commerce systems by acquiring, adapting, and reconfiguring organizational assets to achieve competitive advantage.

Research Methodology

Sample size

There are fifty three (53) registered Health Maintenance Organization in the South-South Region of Nigeria (Delta, Bayelsa, Edo, Rivers, Cross-River and Akwalbom). The region comprises of six states. These 53 HMOs make up the total population of the study and this is known as complete census.

Data Collection

A total of 183 questionnaires were distributed to the HMOs and HCPs and 170 were returned as follows

	No Distributed	No. Returned	Response Rate
HOMs	159	148	93.08%
HCPs	24	22	91.67%
Total	183	170	92.90%

The questionnaires were administered through e-mail and by hand and retrieved through the same methods.

Method used for Data Analysis

The method used in this study was the statistical technique of chi-square and regression and correlation methods. These were performed by the use of Microsoft Excel (2016) version.

Decision Rule

Reject H_0 and accept H_1 , if the computed Z is more than 1.96, and reject H_1 and accept H_0 if the computed Z is less than 1.96.

Presentation of Analysis of Data

The characteristic of the HMOs and HCPs used for the study are shown in the table below

Table 1: Distribution and Percentage of Return of Questionnaire to HMOs and HCPs

	No Distributed	No. Returned	Response Rate
HMOs	159	148	93.08%
HCPs	24	22	91.67%
Total	183	170	92.90%

Table 1 above showed that out of 159 questionnaires distributed to members of staff of HMOs in the 6 states of the South-South Region, 148 were returned (93.08%). Again out of 24 questionnaires distributed to member of staff of HCPs in the six states of the South-South Region, 22 were returned (91.67%). A total of 183 questionnaires were distributed and 170 were returned (92.90%).

Analysis of Data

From the Hypothesis 1: E-commerce has no significant effect on the growth of HMOs in Nigeria. This hypothesis is addressed by the responses to the question below: Do you agree that the introduction of e-commerce can increase your clientele and branch network?

Table 2: Responses to the Question

	SA	A	U	D	SD	Total	Mean	Variance
No of Respondents	58	51	14	35	12	170	34	437.5
Proportion	0.34	0.30	0.08	0.21	0.07	1.00	0.20	0.015138

Key:

SA = Strongly Agree

A = Agree U = Unsure

D = Disagree

SD = Strongly Disagree

z-Test: Two Sample for Means

	Variable 1	Variable 2
Mean	34	0.2
Known Variance	437.5	0.02
Observations	5	5
Hypothesized Mean Difference	34	
Z	0.021380411	
P(Z<=z) one-tail	0.4914711	
z Critical one-tail	1.5853627	
P(Z<=z) two-tail	0.9829422	
z Critical two-tail	1.959963985	

Decision Rule: Reject H_0 , if Z computed (1.96) is greater than Z critical and accept the alternative hypothesis. Since Z computed (1.96) is greater than Z critical (1.58), reject the H_0 and accept H_1 . Thus, e-commerce has significant effect on the growth of HMOs in Nigeria.

Hypothesis 2: Directors' perception and internet knowledge have no significant effect on the adoption of e-commerce in the service delivery of HMOs in Nigeria. This hypothesis is addressed using the responses from the question below.

Do you agree that the knowledge of e-commerce and internet operation can affect decision to adopt e-commerce in the organization?

Table 3: Responses to the Questions

	SA	A	U	D	SD	Total	Mean	Variance
No of Respondents	57	73	6	20	14	170	34	857.5
Proportion	0.34	0.43	0.04	0.12	0.08	1.00	0.20	0.029671

z-Test: Two Sample for Means

	Variable 1	Variable 2
Mean	34	0.2
Known Variance	857.5	0.02
Observations	5	5
Hypothesized Mean Difference	34	-
Z	0.01527189	3
P(Z<=z) one-tail	0.49390763	3
z Critical one-tail	1.64485362	7
P(Z<=z) two-tail	0.98781526	6
z Critical two-tail	1.95996398	5

Decision Rule: Reject H_0 , if Z computed (1.96) is greater than Z critical and accept the alternative hypothesis.

Since Z computed (1.96) is less than Z critical (2.6), accept the H_0 and reject H_1 . Thus Directors perception and internet knowledge have no significant effect on the adoption of e-commerce in the service delivery of HMOs in Nigeria.

FINDINGS, RECOMMENDATIONS AND CONCLUSION

Findings

The study revealed that the report on the utilization of e-commerce resources showed that electronic fund transfer (ETF) and e-mail were the most popular and most utilized e-commerce as 142 respondents representing 83% of the population admitted using ETF.

The study also revealed that 130 representing 76% of 170 respondents agreed that knowledge of e-commerce and internet operations cannot affect decision to adopt e-commerce in the organization.

It was further revealed that over 65% of HMOs in the South-South Region of Nigeria agreed that the use of e-commerce can increase their clientele base and branch network leading to overall business growth.

Recommendations

It was recommended, among others, that small HMO enterprise owners should be encouraged to adopt e-commerce in order to enhance their market expansion. Also, since SMEs have been established to be the backbone of an economy, it is important for policy makers to ensure that these firms are protected and helped to maximise their potentials. As part of encouraging the adoption of e-commerce by small businesses in developing e-commerce, policy makers should be advised to create a central e-commerce package in which small firms can register and purchase the easy-setup software system at a subsidised cost. This will help small businesses to strive for competitive advantage with larger firms and therefore generate more income through tax (ICT, 2013).

Conclusion

in exploring the avenue for applying the potentials of information technology in SMEs, the internet is redesigning commerce and will continue to reshape different sectors. Businesses in Nigeria cannot afford to avoid participating in the opportunities the internet is enabling through expansion of markets. Hence, entrepreneurs particularly those in HMO businesses need to realize the need for full utilization of e-commerce in order to be both successful and profitable in the country.

This study makes attempt to link the use of e-commerce to business growth as a solution to assist HMOs to grow their business in this very monopolistic industry. This study sheds light on the significance of e-commerce in the SME sector of the economy, the enabling factors as well as hindrances such as knowledge of e-commerce/internet technology and perceptions on its link towards achieving customer satisfaction.

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IMPACT OF IMPORTATION ON THE GROWTH OF SME IN NIGERIA

BY

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17PMG01685

Abstract

The research examined the effect of importation on growth of SME in a Nigeria's competitive. The secondary data were gathered from the Nigerian Bureau of Statistics, Nigerian Stock Exchange and the Central Bank of Nigeria (CBN) annual report. This study adopted ordinary least square method of data analyses. The finding revealed that trade openness (importation) has a significant effect on SMEs growth in Nigeria. It was also revealed that the exchange rate has a significant effect on SMEs growth in Nigeria, and the level at which exchange rate affects SMEs growth is relatively high. It was further showed that the exchange rate has a negative coefficient indicating that, as the exchange rate reduces SMEs growth increases. It is concluded that importation has significant effect on SMEs growth in Nigeria. It is therefore recommended that government should formulate policies, which will encourage the reduction of exchange rate in the country in order to enhance competition and improve business activities across the country, and improve the growth of SMEs across the country, as well as encouraging entrepreneurship spirit in the country.

Keywords: Importation, SMEs growth, Trade openness, Exchange rate

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The notion of small and medium enterprises (SME) was introduced into the development landscape as early as the late 1940s with the primary aim to improve trade and industrialization in the present developed nations (Organisation for Economic Co-Operation and Development, 2004). The definitions of SME are usually derived in each country, based on the role of SME in the economy, policies and programs designed by the agencies or institutions empowered to develop Small and medium scale enterprises.

For instance, a small business in the developed economies of countries like Japan, Germany and United States of America (USA), may be a medium or large-scaled business in a developing economy like Nigeria. Moreover, the definition of SME also varies overtime from agencies or developing institutions to another, depending on their policy and focus. The above variation notwithstanding, SME can be defined based on certain criteria including, turnover, number of employees, profit, capital employed, available finance, market share and relative size within the industry. The definition can be based on either some quantitative or qualitative variables. Quantitative definitions mainly express the size of enterprises, mainly in monetary terms such as turnover, asset value, profit, as well as quantitative index like number of employees.

Table 1.1: Categorization of Enterprises

Size	No. Of Employees	Total Cost Including Working Capital but excluding land
Micro	between 1 and 10	Less than 1 Million
Small	between 11 and 35	less than 40Million
Medium	between 36 and 100	above 40 million but less than 200Million
Large	101 and above	200Million and Above

Source: National Council Industry (2003)

However, the criterion that is commonly used in Nigeria is that of asset base. In the 2005 guideline on Small and Medium Enterprise Investment Scheme (SMEIS), the CBN described

SME as any enterprise with a maximum asset base of 200million naira (excluding land and working capital) with no lower or upper limit of staff. Organisation for Economic Co-Operation and Development (OECD) (2017) refers to SMEs as the firms employing up to 249 persons, with the following breakdown: micro (1 to 9), small (10 to 49) and medium (50-249).

Using quantitative indices alone to define SMEs have proven in many respects not to be satisfactory as such indices are characterized by periodic alterations due to inflation and can sometimes be misleading. The CBN's definition of SME, however, may not accommodate many small businesses in Nigeria, known as micro-enterprises.

Worthy of note also, is the fact that some enterprise may be labour intensive and so may be large in terms of number of workers employed, while on the other hand, a capital-intensive firm may be large in terms of asset base but have fewer employees. Since big and small firms incur losses alike, profit may not be a suitable yard stick for categorizing small and medium enterprises.

For the limitation of quantitative definitions, a qualitative definition based on pre-determined characteristics of SME is needful. The SME sector comprises varying types of businesses across a wide range of economic sectors. There are basically two categories: those that are growth-oriented, and those small and micro enterprises that operate at the subsistence level to provide employment and income for their owners and a relatively small number of employees. Subsistence enterprises represent most SMEs in developing countries like Nigeria.

In order to highlight the significance of SMEs in relation to the growth and development of a given economy, SMEs have been variously referred to as the "engine of growth". This stems from the fact that almost all countries that have focused on the SMEs sector and ensures its vibrancy have ended up succeeding in the significant reduction and its attendant enhancement in the quality and standard of living, reduction in crime rate, increase in per capita income as well as rapid growth in GDP among other salutary effects.

A dynamic SME sub-sector is vital and imperative for the overall economic development of the country. Aside from providing opportunities for employment generation, SMEs help to provide effective means of curtailing rural-urban migration and resource utilization. By largely producing intermediate products for use in large-scale companies, SMEs contribute to

the strengthening of industrial inter-linkages and integration. A vibrant, efficient and effective SME sub-sector generates many resultant benefits for stakeholders, employees, customers, employers as well as the entire economy's benefits. Employees require new skills and knowledge to improve their performance on the job and to compete with their counterparts in other parts of the world.

Many International Development Agencies, organizations, and financiers not only appreciate the great roles played by SMEs in poverty alleviation and overall economic development, but also invest a significant percentage of their resources in them (SMEs). A review of World Bank Operations revealed that it invested a whopping \$1.597 billion in SMEs in 2004 fiscal year, with Africa getting a sizeable share of over \$89 million. This sum was channeled through the four major development arms of the bank: International Finance Corporation (IFC), the Multilateral Investment Guarantee Agency (MIGA), the International Bank for Reconstruction and Development (IBRD), and the International Development Association (IDA).

Nigeria, Kenya and Uganda benefited from part of the new joint pilot programmed executed by IFC and IDA for SME development in 2004 to the tune of \$70million. The 2004 annual review of the IFC's Small Business Activities indicate that the IFC and IDA began SME project development in Nigeria worth \$32 million. In Kenya and Uganda, \$22million and \$16 million were also respectively invested in similar projects.

In recognition of the crucial role SMEs play in economic growth and development, the Bank of Industry generated over sixty percent (60%) of the entire loans it granted in 2004 to SMEs, the relatively high default rate notwithstanding. The Managing Director of the Bank of Industry, Dr. Lawrence Osa-Afiana also confirmed that twenty-nine (29) of the 594 loan applications received by the bank since 2001 received approval adding that N20.8 million or 19.1 percent of the total approved loans went to the SME sub-sector.

The Bank of Industry is also intensifying efforts to source cheaper funds from Development Financial Institutions (DFIs) such as the African Development Bank (ADB), African Export-Import Bank, European Development Bank, etc to on-lend to SMEs at concessionary rates and thus maximize their value addition. SMEs have no doubt been indeed recognized as the main engine of economic growth and development, a major variable for promoting private sector, development and partnership.

On the other hand, importation refers to the bringing in of goods across national borders from an external source or country. Importations are the actions of buying or acquiring products or services from another country or another market other than own. Imports are important for the economy because they allow a country to supply non-existent, scarce, high cost or low quality of certain products or services, to its market with products from other countries. Imports are transactions in goods and services to a resident of a particular country from non-residents. An import is a good brought into a jurisdiction, especially across a [national border](#), from an external source. The party bringing in the good is called an importer. An import in the receiving country is an [export](#) from the sending country.

Growth can be defined as the rise or increase in inflation-adjusted market value of goods and services produced in an economy over a given period. Economic growth can be defined as the increase in the production of goods and services over a specific period. Economic growth is believed to create more profit in businesses. Growth and its indicators are a must watch in all economies as increased profits for businesses would result in rise of stock prices that would provide capital for companies to invest and employ more staff. As more jobs are created, income rises and consumers would have more money to purchase goods and pay for services. Increased purchases trigger economic growth.

1.2 Statement of Research Problem

SMEs account for a large proportion of the total employment growth in many countries. In such countries, SMEs produce a significant share of their increases in Gross Domestic Product (GDP), while the contributions of larger enterprises tend to remain stable (ADB 2002). For instance, in the Organisation for Economic Co-Operation and Development (OECD) economies, SMEs and micro enterprises account for over 95% of firms, 60-70% of employment, 55% of GDP and generate the lion's share of new employment. In the case of developing economies, the situation is not very different. For instance, in Morocco, 93% of firms are SMEs and account for 38% of production, 33% investment, 30% export and 46% employment. Similarly, in Bangladesh, enterprises of less than 100 employees account for 99% of all firms and 58% employment. Also, in Ecuador, 99% of all private companies have less than 50 employees and account for 55% of employment.

In the case of Nigeria, well-managed and healthy SMEs constitute significant sources of employment opportunities and wealth creation. While the citizens benefit in terms of employment and income, Government also benefits by generating revenue in form of taxes.

This can be a strong factor to social stability. It is noteworthy that not all SMEs and microenterprises are in the formal sector; some of them occupy the unofficial labour market, which varies in size from an estimated 4-6% in developed countries to over 50% in developing nations.

According to the International Finance Corporation (IFC, 2006), there is a positive relationship between a country's overall level of income and the number of SMEs per 1,000 people. The World Bank's Doing Business reports indicate that a healthy SME sector corresponds with a reduced level of informal or "black market" activities. Thus, managing SME sector to reduce the number of informal business is essential in the Nigerian development project.

SMEs are regarded as the bedrock of industrialization. Because a number of them possess extensive knowledge of resources, as well as demand and supply trends, they constitute the chief supplier of input to larger firms. They also serve as the main customers to the larger firms; provide all sorts of products ranging from food, clothing, recreation, entertainment, healthcare, education, and so forth. They help in economic development through industrial disposal and production of primary and intermediate products. They can also supply the material needs of the larger enterprises. In addition, they provide specialized, and many times, personal services. In summary, SMEs constitute important sources of local supply and service provision to larger corporations.

Developing countries represent a huge, largely untapped market for large corporations. By working closely with SMEs, large corporations can develop new customer base that may not be accessible to the traditional distribution networks of these corporations, however, this is not supposed to be the main function of SMEs, they are meant to produce or create goods and render services that would compete with the international market.

SMEs also represent important sources of innovation. They tend to occupy specialized market "niches" and follow competitive strategies that set them apart from other companies. This might include re-engineering products or services to meet market demands, exploring innovative distribution or sales techniques, or developing new and untapped markets. This often makes them good partners for large corporations.

Moreover, the size and structure of SMEs give them flexibility in management approaches which make them respond swiftly to changes and adapt to market needs much more quickly

than their large enterprise counterparts in comparable industries. Thus in these days of increased emphasis on private-sector-driven economy, SMEs act as engines of the much desired private-sector-led economic growth and diversification. The development of many small and private enterprises with the associated market competition spur up entrepreneur spirit in many SMEs. This will in turn have significant impact on economic growth. This is because entrepreneurship is a vital factor in economic development and social change, since it makes for continuous innovation, and commercialization of innovation and technology.

Entrepreneurs are proactive to change. They like competition and are always ahead in the market place. They are change agents and catalyst for transforming resources into new products and services with greater utility and value. All these immensely impact on economic development and growth.

In the today's world, it has become almost impossible for countries to survive without a form of exchange or another which involves money, ideas, product and technology. As a result, every economy is affected either positively or negatively. International trade came about from the need to exchange, which developed from the barter arrangement to the currency method. Trade in Nigeria, nevertheless, became general with the introduction of the imposing regulation, which brought in their merchandises and made Nigerians their middle men. The implication of this is that Nigerians came to understand the necessity for trade both domestically and internationally.

Importation has remained an area of concern to policy makers, its importance depends on the capacity to acquire goods which cannot be manufactured in a country or which can only be manufactured at a higher cost. Similarly, it allows a nation to trade its locally produced goods to other countries of the world. The performance of an economy in terms of growth rates of output and per capita income has not only been based on the domestic production and consumption activities but also on international transaction of goods and services (Jhingan 2006).

Small and Medium-scale Enterprises (SMEs) play very important roles in the process of industrialization and sustainable economic growth, this has been recognized by developed countries. SMEs make up the largest proportion of business all over the world and play tremendous roles in employment generation, provisions of goods and services, creating a better standard of living as well as immensely contributing to the Gross Domestic Products (GDP) of countries (Paul, 2010; Ojeka and Mukoro, 2011).

In Nigeria, SMEs account for fifty percent to employment on average and fifty percent of its industrial output. SMEs represent about ninety percent of the industrial sector in terms of number of enterprises or firms, and, however, they contribute a meager one percent of GDP (Ariyo, 2004). Industrial and economic developments are flourished by SMEs in the country through efficient utilization of local resources; production of intermediate goods and services; transformation of rural technology.

SMEs are the backbone, and they play a significant role in the business landscape of any country, but there are also faced with a lot of obstacles that make the sector not to contribute optimally to the economy. Numerous studies have been carried out by past researchers on international trade and SMEs; however, the researches were conducted in the context of economic development of the nation.

With enough research on the effect of International trade and the business environment in Nigeria, this study looks to fill the research gap by examining the effects of importation on the growth of SMEs in Nigeria. Thus, the objective of this study is to examine the effect of importation on SMEs growth in Nigeria.

1.3 Research Questions

1. What is the relationship between importation and the growth of SMEs in Nigeria?
2. To what extent does importation on the growth of SMEs in Nigeria?

1.4 Objectives of the Study

The primary objective of this study is to determine the effect of importation on the growth of small and medium scale enterprises in Nigeria. In order to ascertain the main issues, the following specific objectives will be established:

1. To determine the relationship between importation and SMEs in Nigeria
2. To examine the extent to which importation influences the growth of SMEs in Nigeria.

1.5 Research Hypotheses

Hypothesis one

H₀: There is no relationship between importation and the growth of SMEs in Nigeria.

H₁: There exists a relationship between importation and the growth of SMEs in Nigeria.

Hypothesis two

H₀: Importation does not have a significant impact on SMEs growth in Nigeria

H₁: Importation has a significant impact on SMEs growth in Nigeria

1.6 Scope of the Study

This research work focuses on the impact of importation on the growth of small and medium scale enterprises in Nigeria using data from 1992-2017. The choice of this sample period is as a result of data paucity especially on one of the important control variables (commercial banks' credit to SMEs). Data were sourced from the Central Bank of Nigeria (CBN) statistical bulletin, 2017 edition.

1.7 Significance of Study

The study will be an addition to the body of knowledge and contribute to all the available literatures in this field basically because its focus is on how the importation relates to and affects the activities and growth of SMEs in Nigeria as it focuses on measuring the relationship and the impact of importation on the growth of small and medium scale enterprises in Nigeria. The scope of study as well as the method of analysis will make the research work a dependable reference material for scholars and researchers who may desire to embark on a similar subject.

In addition, the finding(s) that will result from this research work would be an eye-opener to policy makers on the impact importation exerts on SMEs growth in Nigeria and also encourage them to formulate policies that would favour the growth of SMEs so as to ameliorate and better the investment position of the country. This would, in the long run, lead to an increase in the national output, decrease in unemployment rate, and improvement in the standard of living of Nigerians, among others.

The literature is replete with studies examining the link between foreign trade and economic growth in various countries (Li, Chen and San, 2010; Sun and Heshmati, 2010; Mustafa, 2011; Sarbapriya, 2011; Ezike, Ikpesu and Amah, 2012; Javed, Qaiser, Mushtaq, Saifullaha and Iqbal, 2012; and Omoju and Adesanya, 2012), but only few have specifically determined empirically the impact of importation on SMEs growth. In other words, studies on the impact of importation on SMEs growth are particularly rare in the extant literature. This study will

contribute its quota to the existing studies on the relationship between importation and SMEs growth.

Furthermore, of the few studies that examined the relationship between importation and SMEs growth, majority used the Ordinary Least Square (OLS) method to estimate the specified models without conducting pre-estimation tests and post-estimation tests to ensure the appropriateness of the estimated model results for policy formulation and/or prescription. This study bridges that gap by conducting pre-estimation tests and post-estimation tests to ensure that the policy recommendations from the study are valid.

1.8 Methodology

This paper seeks to investigate importation as a veritable tool in the growth of Small and Medium Enterprises in Nigeria. The purpose of this study is to come up with a set of potential determinates that affect the adoption of SMEs and set of potential to adjust the activities of importation on growth of SMEs in Nigeria.

1.9 Operational Definition of Term

For this purpose of this research, the following definitions have been adopted:

SMEs: Businesses and companies with a capital not exceeding N100million, majorly owned by a single individual, with the aim of manufacturing goods or providing services with the aim of making profit.

Importation: The buying of goods and or services from other countries or the rest of the world.

Growth: Overall increase in the production of goods, services and distribution of same in an economy.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

There is a plethora of studies on the relationship of Small and Medium Enterprises (SMEs) with other macroeconomic variables including importation. This fact underscores the essence, importance and relevance of this sub-sector in the growth and development of any economy. The experiences of developed economies in relation to the roles played by SMEs buttresses the fact that the relevance of SMEs cannot be overemphasized. Hence, this chapter reviews the relevant studies on the relationship between SMEs and other macroeconomic variables including imports in the extant literature. This chapter also contains the theoretical framework of this study

2.2 Conceptual Framework

2.2.1 Concept of Importation

Importation can be defined as the art and practice of bringing goods and/or services into the country. It has been argued that it plays a prominent role in promoting economic growth and productivity in particular, and the debates have been ongoing since several decades ago. Historical validation has revealed that internationally active countries tend to be more productive than countries which produce for the domestic market (Gianni De, Honohan and Ize, 2003).

The benefit of importation for economic growth and development are difficult to estimate. Importation and international trade deals with the economic and financial interdependences among nations; international trade is a part of our everyday life, and it plays a vital role in shaping economic and social performance and prospects of countries around the world especially those of developing countries (Gianni De, Honohan and Ize, 2003). There are several risks in international business, which affects its development, and they include economic risk, Political risk, Country buyer and seller risk, Commercial risk. Other international business risks include culture difference, lack of knowledge, overseas markets, language barriers corruption in business and natural risks, these are risks which create the problems for the foreigner investors.

2.2.2 Concept of Small and Medium Scale Enterprises (SMEs)

Small and Medium-Scale Enterprises are generally privately-owned organizations set-up for the purposes of producing goods or services for profit. The criteria for classifying business enterprises under SMEs differ from country to country. The identifiable and predominant criteria across the globe include: size of capital invested, number of staff or employees, size of turnover or sales volumes and value of assets. There is no compromise as to the exact number of employees, size of capital employed, sales volumes or value of assets that qualify a business enterprise to be SME.

Relying on the number of employees/staff criterion, for instance, some countries describe all enterprises that have less than 100 employees as SMEs, others are in favor of 50 employees and some expand the net to include all firms who have less than 200 employees. The Federal Government of Nigeria in 1990 defined small-scale enterprises for the purpose of a commercial loan as those enterprises with capital investment not exceeding N2 million (excluding cost of land) or a minimum of N5 million (Aremu & Adeyemi, 2011).

Small and Medium Industries Equity Investment Scheme (SMIEIS) defined SMEs as those “enterprises with a total capital employed not less than N1.5 million, but not exceeding N200 million, including working capital, but excluding cost of land and / or with a staff strength of not less than 10 and not more than 300 (Obamuyi, 2007).

SMIEIS (2006) claimed that SMEs are those enterprises that has a total capital employed not below one million five hundred thousand but not exceeding two hundred million including working capital but excluding cost of land, with an employee strength of not below ten and not above three hundred.

SMEDAN (2005) defines SMEs based on the following criteria: small- scale enterprises are businesses with ten to forty-nine people with an annual turnover of five to forty-nine million Naira while a medium- scale enterprises that have fifty to one hundred and ninety-nine employees with a year turnover of fifty to four hundred and ninety-nine million Naira.

In Nigeria, SMEs cover economic activities within all sectors. It is clear from various definitions, showing that there is no single concept that constitutes SMEs; the definitions vary across industries and the globe. SMEs are a heterogeneous group, and SMEs owners may or may not be poor. Some are dynamic, growth-oriented, and innovative while others are not; they preferred to remain small and to continue as usual.

2.2.3 Concept of Growth

Different models of economic growth stress alternative causes of economic growth. The principal theories of economic growth include:

- a. **Mercantilism** – Wealth of a nation determined by accumulation of gold and running trade surplus
- b. **Classical theory** – Adam Smith placed emphasis on the role of increasing returns to scale (economies of scale/specialisation)
- c. **Neo-classical-theory** – Growth based on supply-side factors such as: labour productivity, size of the workforce, factor inputs.
- d. **Endogenous growth theories** – Rate of economic growth strongly influenced by human capital and rate of technological innovation.
- e. **Keynesian demand-side** – Keynes argued that aggregate demand could play a role in influencing economic growth in the short and medium-term. Though most growth theories ignore the role of aggregate demand, some economists argue recessions can cause hysteresis effects and lower long-term economic growth.
- f. **Limits to growth** – From an environmental perspective, some argue in the very long-term economic growth will be constrained by resource degradation and global warming. This means that economic growth may come to an end – reminiscent of Malthus theories.

2.2.3.1 Mercantilism

Popular at the start of the industrial revolution, Mercantilism isn't really a theory of economic growth but argued that a country could be made better off by seeking to accumulate gold and increasing exports.

2.2.3.2 Classical model

Smith argued there are several factors which enable increased economic growth

- a. Role of markets in determining supply and demand

- b. The productivity of labour. Smith argued income per capita was determined by “*the state of the skill, dexterity, and judgment with which labour is applied in any nation*” (Wealth of Nations I.6)
- c. Role of trade in enabling greater specialisation.
- d. Increasing returns to scale – e.g. specialisation we see in modern factories and the economies of scale of increased production

The classical growth theory, has little or no relevance today. It may be described as follows:

- Due to technological development, the amount of capital increases and the marginal product of labor rises.
- GDP per capita rises. With higher living standards, the population will increase.
- As population increases, the labor productivity will fall (more individuals but the same amount of capital).
- GDP per capita will fall again. When GDP per capita has fallen to a level just high enough to keep the population from starving, the increase in population will cease.

Destruction of capital, for example, through a war, works in the opposite way. The marginal product of labor falls, GDP per capita falls and the population decreases. This will again lead to an increase in the marginal product of labor and GDP per capita return to the "survival rate". The main point of the model is that population growth will always eliminate the positive effects of technological development and GDP per capita will always return to the survival level.

2.2.3.3 Neo-Classical model of Solow/Swan

The neo-classical growth model is to explain how it is possible to have a permanent growth in GDP per capita. The neo-classical theory of economic growth suggests that increasing capital or labour leads to diminishing returns. Therefore, increasing capital has only a temporary and limited impact on increasing the economic growth. As capital increases, the economy maintains its steady-state rate of economic growth.

The crucial difference between the classical and neo-classical growth model is that population is endogenous in the former and exogenous in the latter. In the classical model, population will increase or decrease depending on whether GDP per capita is higher than or lower than the survival level. In the neo-classical model population growth is not affected by GDP per capita (however, the population growth will affect the growth in GDP per capita).

In the neo-classical model, it is the **technological progress** only that affects the GDP per capita in the long run. We will have a permanent increase in GDP per capita when there is a technological development that increases productivity of labour. Permanent **growth** in GDP then requires continuous technological progress.

It is not possible for the government, except temporarily, to affect the growth rate in the neo-classical growth model. The government might be able to affect GDP per capita (and thus is the growth rate) but the growth rate always returns to the level determined by the technological progress. The same is true for savings. An increase in savings may have a temporary effect on GDP but it will have no effect in the long run.

To increase the rate of economic growth in the Solow/Swan model the economy would need:

- An increase in proportion of GDP that is invested – however, this is limited as higher proportion of investment leads to diminishing returns and convergence on the steady-state of growth
- Technological progress which increases productivity of capital/labour
- It suggests poor countries who invest more should see their economic growth converge with richer countries.

Criticisms of this neo-classical (Exogenous model)

- It doesn't explain why countries have different levels of investment as % of GDP
- Some developing countries don't attract higher levels of investment because of structural problems such as corruption, lack of infrastructure.
- It doesn't explain how to improve rates of technological progress.
-

2.2.3.4 Harrod-Domar Model – Savings Ratio and Investment

The Harrod-Domar model is a type of neo-classical model. It states growth rate depends on a function of the savings rate. Some growth theories place a large emphasis on increasing domestic savings. Savings provide the necessary funds to finance investment. It is this investment which creates further growth. This has been an important factor behind the economic growth in Asia. However, it depends on how efficient the investment is. If savings is too high it leads to lower growth because people cannot afford to consume.

2.2.3.5 New Economic Growth Theories (Endogenous growth)

Endogenous growth models, developed by Paul Romer and Robert Lucas placed greater emphasis on the concept of [human capital](#). How workers with greater knowledge, education and training can help to increase rates of technological advancement.

They place greater importance on the need for governments to actively encourage technological innovation. They argue in the free market classical view, firms may have no incentive to invest in new technologies because they will struggle to benefit in competitive markets. The model:

- Places emphasis on increasing both capital and labour productivity.
- States that increasing labour productivity does not have diminishing returns, but, may have increasing returns
- They argue that increasing capital does not necessarily lead to diminishing returns as Solow predicts. They say it is more complicated; it depends on the type of capital investment.
- Increased importance of spill over benefits from a knowledge-based economy.
- Emphasis is placed on free-markets, reducing regulation and subsidies.

Joseph Schumpeter argued that an inherent feature of capitalism was the ‘creative destruction’ – allowing inefficient firms to fail was essential for allowing resources to flow to more efficient channels.

2.2.3.6 Economic Growth for Developing Countries

The Malthus Predictions argued that economic growth may have limitations caused by lack of raw materials, climate change and overcrowding. Nevertheless, there may come a time when growth is constrained by environmental factors.

2.2.3.7 Endogenous Growth Theory

Endogenous growth theory or new growth theory was developed by Paul Romer and others. In the neo-classical model, technological progress is an exogenous variable. The neo-classical growth model makes no attempt to explain how, when and why technological progress takes place. The main objective of the endogenous growth theory is to make the technological progress an endogenous variable to be explained within the model, hence the name endogenous growth theory. There are many different explanations for technological progress. Most of them, however, have a lot of common characteristics:

- They are based on **constant return to scale for capital**.
- They consider technological development as a public good.
- They focus more on human capital.
- It is possible for the government to affect the growth rate. Higher savings also leads to higher growth, not just higher GDP per capita.
- They predict convergence of GDP per capita between countries in the long run. This is a consequence of the public good property of the technological developments.

2.2.4 Measures of Economic Growth

Economists use many different methods to measure how fast the economy is growing. Different methods are used by economists and statisticians to measure economic growth. Some of these measures include GDP, GNP, and Productivity versus Spending.

a. Gross Domestic Product

The most common way to measure the economy is real gross domestic product, or real GDP. GDP is the total value of everything - goods and

services - produced in our economy. The word "real" means that the total has been adjusted to remove the effects of inflation.

Gross domestic product is the logical extension of measuring [economic growth](#) in terms of monetary expenditures. If an economist wants to understand the productive output of the vegetable oil, for instance, he needs only to track the dollar value of all vegetable oil that entered the market during a specific period. Combine the outputs of all industries, measured in terms of dollars spent or invested, and you get total production. The productive capacity of an [economy](#) does not grow because more money move around, an economy is rather more productive because resources are used more efficiently. In other words, economic growth needs to somehow measure the relationship between total resource inputs and total economic outputs.

b. Gross National Product

Economists use GNP mainly to learn about the total [income](#) of a country's residents within a given period and how the residents use their income. GNP measures the total income accruing to the population over a specified amount of time. Unlike gross domestic product, it does not take into account income accruing to non-residents within that country's territory. Similar to GDP, it is only a measure of [productivity](#), and it is not intended to be used as a measure of the welfare or happiness of a country.

There is little difference between GDP and GNP; however, the two measures can differ significantly. For example, an economy that contained a high proportion of foreign-owned factories would have a higher GDP than GNP. The income of the factories would be included in GDP, as it is produced within domestic borders, but not in GNP, since it accrues to non-residents. Comparing GDP and GNP is a useful way of comparing income produced in the country and income flowing to its residents.

c. Productivity vs. Spending

Most economists agree that total spending, adjusted for [inflation](#), is a byproduct of productive output. They disagree, however, if increased spending is an indication of growth. Consider a scenario that, an average Nigerian works 44 hours a week being productive. Suppose there is

no change in the number of workers or average productivity but there is a law requiring all workers to work for 50 hours a week instead. The GDP in 2 the year with adjusted law will almost certainly be larger than the GDP in the previous year. This can be said to constitute economic growth because total output is what matters to those who focus on expenditures. For those who care about [productive efficiency](#) and the [standard of living](#), this question does not have a clear answer.

2.2.5 Small and Medium Scale Enterprises versus Entrepreneurship

Entrepreneurship is quite different from small and medium enterprises (SME). It is used to describe to creative, innovative, risk taking and organizational process and functions of individuals who initiate, run and nurture a business venture. It also deals with identifying opportunities, creating or improving on new and/or existing technologies, products or services, bearing the accompanied risk and receiving resultant rewards. However, it is worthy of note that all SMEs are usually supposed to be entrepreneurs and should create rather just engage in buying and selling.

Drucker, (1985) in his work, 'Entrepreneurship and Innovation', explained the difference between entrepreneurship and SME. Entrepreneurship, according to Drucker, is all about creating a new thing with added value and a great deal of innovation. This means that not every new or small business can be said to be entrepreneurial. To be entrepreneurial, a business must apply unique management concepts and techniques, develop standardized products with processes and tools designed based on training analysis of work to be done.

The process also involves the setting of required standards and controls; and creating new demands, favourable market and customers. Thus, an entrepreneur may start as a small and medium enterprise but may not remain in that category for long, however, all small and medium enterprise owners are not necessarily entrepreneurs. The development of feasible SMEs in Nigeria has been challenged over the years by several harsh economic conditions in the Nigerian business environment. Some of these challenges have been outlined by the Institute of Development Administrator of Nigeria (IDAN, 2007).

First, informal sources of finance remain the major source of funding for SMEs in Nigeria. These informal finances include personal saving and borrowing from friends, families and credit associations. Formal financial institutions such as commercial banks are still very

unwilling to grant credits to SMEs. Microfinance institutions and other schemes on the other hand, are still in their developing stages and so can only do little.

Secondly, the success of SMEs depends largely on the entrepreneurial skills. SME operators must possess the capacity to manage and acquire basic skill of planning, organizing, coordinating, leadership and communication. Creative and innovative abilities are gotten through work experience in other enterprises or through technical and managerial training schemes. However, for SMEs in Nigeria, the failure rate is quite high, and this is due to poor managerial and entrepreneurial skills necessary for the achievement of results.

Thirdly, there is the challenge of inadequate Infrastructural and Institutional Support. The infrastructural facilities in Nigeria is bad or rather weak, to present properly. Infrastructural amenities such as electricity, good supply of water, roads, etc. are the still the bane of SME growth in Nigeria. State institutions like the Police, the Judiciary and others are still not strong enough in providing internal security and fast justice. Besides, Nigeria lacks adequate protection of intellectual property. Furthermore, company registration fees for companies and products registration fees in some government agencies are the same for small and large firms, irrespective of availability of resource. Both small and large firms pay the same minimum amount in opening corporate account in many banks.

Fourthly, recurring political unrest, ethno-religious conflicts, poor governance and low accountability in public service make the Nigerian business environment unpredictable and unreliable. Some unfavourable conditions include: unstable fiscal and monetary policies, multiple taxation, poor implementation of high interest rate, high inflation rate and fluctuating exchange rates. These have invariably weakened the Nigerian economy and exposed her to the harsh international competition.

The consequences of the above has been overdependence on foreign technologies, finished goods, and deteriorated infrastructure. These conditions make the small and medium scale enterprises the major victims, much so that competitive abilities are bruised and their mere existence, a struggle. In addition, there are challenges confronting entrepreneurship in Nigeria which affects SMEs indirectly as a result of the relationship that exists between SMEs and entrepreneurship.

Several small businesses remain small for years because of the mental orientation of their owners, i.e. poor entrepreneurial drive. In Nigeria, many are in business not for passion but to

meet their daily needs. Most business owners lack the basic knowledge of managing their venture beyond the subsistence levels and as such, there is no innovation, and this would invariably affect their global competitiveness.

The economic system in Nigeria is known for producing contractors who depend on government created jobs, and middle men who flourish in the informal business sector. Besides, the concept of entrepreneurship has been reduced to individuals seeking profit through superstitious means rather than through strategic management and hard work. All these are because there is little or no entrepreneurial education.

Furthermore, the organic process of economic development also requires the education of youths in job-enhancing education such as science, engineering and technology which are needed to support the entrepreneurial potential and improve the national economy. Where these trained individuals are not significantly employed, they go to other countries with the enabling environment, then form a successful Africans in Diaspora contributing enormously to the economic development of these countries and thus the continue decrease of indigenous African entrepreneur in the continent.

Even when they come back to invest in Africa with burning desire of acquainting younger ones with the entrepreneurial spirit, spread their talent, knowledge, experience, the prevailing enabling political, ethical, economic, infrastructural, etc., environment is discouraging, making them to be employees of the state and producers of raw materials purely for export and import of finished goods from the west. This, as stated by Enwegbara (2006), has had tremendous negative effect on African economic development for a long time.

2.3 Theoretical Review

2.3.1 Comparative Advantage Theory

David Ricardo propounded this theory. The theory assumed the existence of two countries, two commodities and one factors of production. In his theory, a country exports the commodity that has lower comparative advantage and import commodity whose comparative cost is higher. The theory also assumed that the level of technology is fixed for both nations and that trade is balanced and rolls out the flow of money between nations. However, the theory is based on the labor theory of values, which states that the price of the values of a

commodity is equal to the labor time going into the production process. Labor is used in a fixed proportion in the production of all commodities.

2.3.2 Hecksher-Ohlin Trade Theory

Two Swedish economists, Eli Hecksher and Bertil Ohlin, promulgate this theory. The theory explains two issues in the theory of comparative advantage. First, what the factors that determine comparative advantage of countries are, and second, what the effects of trade on the factor of income in the trading countries are. On the assumption of equal or similar technology and tastes, Hecksher – Ohlin theory focuses on differences in relative factors of endowments and the factors of prices between nations as the major determinants of trade. The model identified difference in pre-trade product prices between nations as the basis for trade. The theory assumed two countries, two commodities and two factors. There is a perfect competition in both factors and the product market. It assumed that the factor inputs; labour and capital in these two countries, are homogeneous. Production function also exhibits a constant return to scale. The production possibility curve is concave to the origin. The model suggests that the less developed countries that are labor-abundant should specialize in the production of a primary product, especially an agricultural product because the labor requirement of agricultural is high except in the mechanized form of farming. On the other hand, the less developed countries should import capital-intensive products, mostly the manufactured goods from developed countries that are capital intensive (Weisbrot and Baker, 2002).

2.3.3 Stolper-Samuelson Theorem

According to the Stolper-Samuelson theorem, the export of a product which is relatively cheap, abundant resource makes this resource more scarce in the domestic market. Thus, the increased demand for the abundant resource leads to an increase in its price and an increase in its income. Simultaneously, the income of the resource used intensively in the import-competing product decreases as its demand falls. Simply put, this theorem indicates that an increase in the price of a product raises the income earned by resources that are used intensively in its production. Conversely, a decrease in the price of a product reduces the income of the resources that it uses intensively. The abundant resource that has comparative advantage realizes an increase in income, and the scarce resource realizes a decrease in its income regardless of industry. This trade theory concludes that some people will suffer losses from free trade even in the long-term.

2.3.4 New Trade Theory

New trade theory tries to explain empirical elements of trade that comparative advantage-based models above have difficulty with. These include the fact that most trade is between countries with similar factor endowment and productivity levels, and the large amount of multinational production (i.e., [foreign direct investment](#)) that exists. New trade theories are often based on assumptions such as [monopolistic competition](#) and increasing [returns to scale](#). One result of these theories is the [home-market effect](#), which asserts that, if an industry tends to cluster in one location because of returns to scale and if that industry faces high transportation costs, the industry will be located in the country with most of its demand, in order to minimize cost.

2.4 Empirical Review

The literature is replete with the relationship between small and medium scale enterprises (SMEs) and other macroeconomic variables including imports. However, studies on the impact of importation on SMEs development has generated little volume of empirical studies overtime, with mixed findings using cross sectional, time- series and panel data on the data gathered.

Applying econometric and non-parametric techniques on a six-year data of 31 provinces in China from 2002 to 2007, Sun and Heshmati (2010) examined the effects of international trade (imports and exports) on the growth of SMEs in China. The finding showed that an increment in international trade participation helps stimulate rapid SMEs growth in China. It was also found that the trade structure on technological exports and international trade volume of China exert positive influence on China's regional productions.

Similarly, Li, Chen and San (2010) carried out a study on the relationship between international trade and the SMEs growth of East China for the period of 1981-2008. Adopting the unit root test, co-integration analysis and error correction model, they found that foreign trade is the long-term and short-term reason of SMEs growth, but no evidence proved that there exists long-term stationary causality between the import trade and SMEs. Sarbapriya (2011) carried out similar study in India by examining the relationship between the international trade and SMEs growth in India, using annual data over the period between 1972 and 2011. The cointegration and Granger causality tests confirmed that SMEs growth and foreign trade are co integrated, implying the existence of a long-run equilibrium

relationship between the two, and the presence of bi-directional causality which runs from SMEs growth to foreign trade and vice versa.

Employing quarterly data for the period between 1987 and 2007, Mustafa (2011) used the Vector Auto Regression model (VAR) and Vector Error Correction Model (VECM) to evaluate the relationship between the international trade and SMEs growth in Turkey. The finding revealed that SMEs growth does significantly depend on both export and import growth in the short run.

In their study, Rahmaddi and Ichihashi (2011) investigated the relationship between exports and SMEs growth in Indonesia using annual time-series data for the period of 1971-2008 and employing a Vector Autoregression model (VAR) model. Based on the analysis conducted in a Vector Error Correction Model (VECM) framework, the results revealed that there is a bidirectional causal relationship between exports and economic growth and that both exports and SMEs growth are significant to the economy of Indonesia that is, exports and SMEs growth are determinants of Indonesian economic growth.

Using annual time-series data over the period of 1973-2010, Javed, Qaiser, Mushtaq, Saifullaha and Iqbal (2012) examined the impact of total exports to SMEs ratio, terms of trade, import to GDP, investment to GDP ratio, trade openness and inflation on the Pakistani economy. They further employed the statistical technique of Chow test and Ordinary Least Square (OLS) method and the empirical finding was that all the explanatory variables have a positive and significant impact on the Pakistani economy. It also indicated that imports and SMEs growth have a positive relationship. Furthermore, the study found that an increase in the import of raw materials boosted production, employment and output of Pakistan.

Using granger causality and cointegration tests, Omoke and Ugwuanyi (2010) investigates the relationship between export, domestic demand and SMEs in Nigeria. The results from Trace and Maximum Eigen Value test conducted showed that the variables do not have a long-run relationship, but the pairwise granger causality test showed that SMEs Granger causes both export and domestic demand, while a bilateral causality exists between export and domestic demand.

Using the Ordinary Least Square (OLS) regression technique and applying a combination of bivariate and multivariate models from the data covering the period 1970–2008, Ezike, Ikpesu and Amah (2012) investigated the macroeconomic impact of business on Nigerian

growth. The results revealed that both exports and foreign direct investment exert a positive and significant impact on SMEs growth in Nigeria for the period under review.

Making use of annual time-series secondary data from 1980 to 2010 and adopting the Ordinary Least Square (OLS) regression method, Omoju and Adesanya (2012) investigated the relationship between trade and growth in developing country using Nigeria as a case study. The findings showed that foreign trade (exports and imports), foreign direct investment, government expenditure and exchange rate have a significant positive impact on growth in developing countries. Since, SMEs is a component of GDP, this result implies that foreign trade has a positive influence on SMEs growth in Nigeria.

Edoumiekumo and Opukri (2013) examined the contributions of international trade to economic growth in Nigeria. The authors sourced for annual time-series data for a period of 27-year and employed the Augmented Dickey-Fuller (ADF) unit root test, Johansen cointegration test, Ordinary Least Square (OLS) statistical technique and Granger Causality test in examining the relationship. The results showed that a positive relationship exists between exports, imports and economic growth and there is a long-run relationship among the variables. However, the granger causality test showed a unidirectional relationship running from real GDP to export and running from imports to real GDP and export. This implies that SMEs output, which is a component of real GDP, will have a positive relationship with imports.

Employing the Ordinary Least Square (OLS) method, Afolabi (2013) investigated the effect of SMEs financing on economic growth in Nigeria between 1980 and 2010. The estimated model results revealed that SMEs output, commercial banks' credit to SMEs and exchange rate exert positive influence on economic development while lending rate exerts negative effects on economic growth. Sequel to this result, it was recommended that the central authority create an enabling environment for SME development.

Adopted cointegration and error correction mechanisms, Ovat (2016) examined the role played by commercial banks' credit in facilitating the growth of SMEs in Nigeria. The findings revealed that commercial banks' credit has not contributed significantly to the growth of small and medium scale enterprises in Nigeria. The author recommended that in order to support the growth of SMEs by commercial banks, SMEs should be made to have easy access to credits by commercial banks by reducing the lending rate to the barest

minimum and that devaluation of the national currency should be curtailed to reduce the cost of importing raw materials and capital goods used by the SMEs.

Ogunsiji and Ladanu (2010) argued that entrepreneurial orientation is the panacea to the ebbing productivity. They opined that in Nigeria, there is need for a non-stop growth, harmonious and balanced blend of resources with the other engines of growth. Each of these engines of growth like people, market, capital, technology and organization can only flower and blossom fully where the efficacy of entrepreneurial orientation is appreciated and implemented.

Asta and Zaneta (2010) examined the growing importance of small and medium enterprises (SMEs) and their influence on economic development of Lithuania. They noted that to improve their environmental performance, economic and social effectiveness, the integrated decision-making model, based on financial analysis, is needed which would be oriented to strategic sustainability goals, not requiring significant time, financial and human resources. The integration of sustainability management accounting (SMA) and composite sustainable development index (ICSD) methodologies makes the basis of sustainable development decision-making model for SMEs.

Akingunola (2011) assesses specific financing options available to SMEs in Nigeria and contribution with economic growth via investment level. The Spearman's Rho correlation test is employed to determine the relationship between SMEs financing and investment level. The analysis reported a significant Rho value of 0.643 at 10%. This indicated that there is significant positive relationship between SMEs financing and economic growth in Nigeria via investment level. Descriptive statistics were also used to appraisal certain financing indicators. The paper later proffer that accessibility to relative low interest rate finances should be provided to small and medium enterprises in Nigeria in order enhance economic growth.

Aremu and Adeyemi (2011) claimed that their findings have shown that most SMEs particularly in Nigeria die within their first five years of existence. It was also revealed that smaller percentage goes into extinction between the sixth and tenth year while only about five to ten percent of young companies survive, thrive and grow to maturity. Many factors have been identified as likely contributing factors to the premature death. They include insufficient capital, lack of focus, inadequate market research, over-concentration on one or two markets for finished products, lack of succession plan, inexperience, lack of proper book keeping,

irregular power supply, infrastructural inadequacies (water, roads etc), lack of proper records or lack of any records at all, inability to separate business and family or personal finances, lack of business strategy, inability to distinguish between revenue and profit, inability to procure the right plant and machinery, inability to engage or employ the right calibre staff, cut-throat competition.

Chidi and Shadare (2011) investigated the challenges confronting human capital development in small and medium-sized enterprises (SMEs) in Nigeria. It was found that human capital development in Nigerian SMEs leaves much to be desired. They recommended the need to address the issues of human capital development in SMEs and for SMEs to embrace the investor in people criteria if the desired corporate and national goals are to be realized.

Sanjo and Ibrahim (2017) examined the effect of international business on SMEs growth in a competitive environment, particularly Nigeria. The secondary data were gathered from the Nigerian Bureau of Statistics and the Central Bank of Nigeria (CBN) annual report. Adopting the ordinary least square (OLS) method to estimate the specified model, the finding revealed that trade openness as a measure of competitiveness and FDI has no significant effect on SMEs growth in Nigeria. It was also revealed that the exchange rate has a significant effect on SMEs growth in Nigeria, and the level at which exchange rate affects SMEs growth is relatively high. It was further showed that the exchange rate has a negative coefficient indicating that, as the exchange rate reduces SMEs growth increases.

Altun (2017) used qualitative method, inductive approach and interview method to engaged 20 SMEs so as to explain the determinants of the export performance of Turkish SMEs by focusing on what factors impact the performance of firms mainly exporting to Europe and Middle East. It was found that internal factors in the firm level and managerial levels have positive impact on export activities of companies exporting to Europe. Moreover, technological and political environment as external factors have positive effect on export performance of firms as well, whereas economic, social and cultural environment may have some negative effects on the firms. In the firm analysis that export to Middle East countries, some of firm level and managerial level factors have positive effects on the performance while some of them affects it negatively. Additionally, political environment and firms' technological capabilities have negative effect on export of firms. Unlike the firms exporting European region, social and cultural environment favourably effect export performance of Turkish SMEs that export to Middle East countries.

Table 2.1: Summary of Literature Review

Author(s)	Title	Findings	Gap
Afolabi, M.O. (2013)	Growth Effect of Small and Medium Enterprises (SMEs) Financing in Nigeria.	SMEs output, commercial banks' credit to SMEs and exchange rate exert positive influence on economic development while lending rate exerts negative effects on economic growth.	The study failed to carry out preliminary tests (such as unit root and cointegration tests) and post-estimation tests, thus, the result could be spurious
Akingunola, R. O. (2011).	Small and Medium Scale Enterprises and Economic Growth in Nigeria: An Assessment of Financing Options	There is significant positive relationship between SMEs financing and economic growth in Nigeria via investment level.	The study considered the aggregate output of the economy. It could have investigated the impact of SME financing on SME performance.
Altun, I. (2017).	Determinants of the Export Performance of SMEs: Comparative Analysis of Turkish SMEs Exporting to Middle East and European Regions	It was found that internal factors in the firm level and managerial levels have positive impact on export activities of companies exporting to Europe	The study used only 20 SMEs of the numerous SMEs in Turkey. This sample size may not be representative enough and the result, unreliable.
Aremu, M.A. and Adeyemi, S.L. (2011)	Small and Medium Scale Enterprises as a Survival Strategy for Employment Generation in Nigeria.	A small percentage of SMEs in Nigeria goes into extinction between the sixth and tenth year while only about five to ten percent of young companies survive, thrive and grow to maturity.	Given the limited sample size employed in the study, the result of this study is subjective.
Asta, L. and Zaneta, S. (2010)	Sustainable Development Decision-Making Model for Small and Medium Enterprises	To improve SMEs' performance, economic and social	The study failed to carry out preliminary tests (such as unit

		effectiveness, the integrated decision-making model is needed.	root and cointegration tests) and post-estimation tests, thus, the result could be spurious
Chidi, C. and Shadare, O. (2011)	Managing Human Capital Development in Small and Medium-Sized Enterprises for Sustainable National Development in Nigeria	It was found that human capital development in Nigerian SMEs leaves much to be desired	The study was limited to human capital development and failed to examine the relationship imports and SMEs growth
Edoumiekumo, S.G. and Opukri, C.O. (2013)	Economic Growth Factor in Nigeria: The Role of Global Trade	The results showed a positive relationship between exports, imports and economic growth and there is a long-run relationship among the variables.	The study failed to carry out post-estimation tests, thus, the result could not be appropriate for policy prescription
Ezike, J.E., Ikpesu, F. and Amah, P. (2012)	Macroeconomic Impact of Trade on Nigerian Growth: An empirical Evaluation.	Exports and foreign direct investment exert a significant positive impact on SMEs growth in Nigeria	The study failed to carry out post-estimation tests, thus, the result could not be appropriate for policy prescription
Javed, Z.H., Qaiser, I., Mushtaq, A., Saifullaha, and Iqbal, A. (2012).	Effects of International Trade on Economic Growth: The Case Study of Pakistan	Imports and SMEs growth have a positive relationship.	The study failed to carry out preliminary tests (such as unit root and cointegration tests) and post-estimation tests, thus, the result could be spurious
Li, Y., Chen, Z. and San, C. (2010)	Research on the Relationship between Foreign Trade and the GDP Growth of East China: Empirical Analysis Based on Causality	Foreign trade is the long-term and short-term reason of SMEs growth, but no evidence proved that there exists long-term stationary causality between the import trade and	The study did not disaggregate international trade into exports and imports to examine their individual impact on growth.

		SMEs	
Mustafa, K. (2011).	An Analysis of the Relationship between Foreign Trade and Economic Growth in Turkey.	SMEs growth significantly depend on both export and import growth in the short run	The study did not disaggregate international trade into exports and imports to examine their individual impact on growth.
Ogunsiji, S.O. and Ladanu, W.K. (2010)	Entrepreneurial orientation as a panacea for the ebbing productivity in Nigerian small and medium enterprises: A theoretical perspective	There is need for a non-stop growth, harmonious and balanced blend of resources with the other engines of growth	Its focus is purely theoretical leaving out analytical and empirical perspectives.
Omoju, O. and Adesanya, O. (2012)	Does Trade Promote Growth in Developing Countries? Empirical Evidence from Nigeria	Foreign trade, foreign direct investment, government expenditure and exchange rate have a significant positive impact on growth in developing countries	The study failed to carry out post-estimation tests, thus, the result could not be appropriate for policy prescription
Omoke, P.C. and Ugwuanyi, C.U. (2010)	Export, Domestic Demand and Economic Growth in Nigeria: Granger Causality Analysis	There is no long-run relationship among the variables, but SMEs Granger causes both export and domestic demand, while a bilateral causality exists between export and domestic demand	The study did not disaggregate the Nigerian economy into sectors to examine how exports and imports affect each sector of the economy including SMEs.
Ovat, O.O. (2016)	Commercial Banks' Credit and the Growth of Small and Medium Scale Enterprises: the Nigerian Experience	Commercial banks' credit does not contribute significantly to the growth of small and medium scale enterprises in Nigeria	The study failed to carry out post-estimation tests, thus, the result could not be appropriate for policy prescription

Rahmaddi, R. and Ichihashi, M. (2011)	Exports and Economic Growth in Indonesia: A Causality Approach Based on Multivariate Correction Model	There is a bi-directional causal relationship between exports and economic growth and that both exports and SMEs growth are significant to the economy of Indonesia	The study failed to carry out post-estimation tests, thus, the result could not be appropriate for policy prescription
Sanjo, O.M. and Ibrahim, M.O. (2017).	The Effect of International Business on SMEs Growth in Nigeria	Trade openness and FDI has no significant effect on SMEs growth in Nigeria. Exchange rate has a negative significant effect on SMEs growth in Nigeria.	The study failed to account for the result of the unit root test, cointegration test and diagnostic tests in the estimation of the specified model.
Sarbapriya, R. (2011)	Explaining Cointegration and Causality between Foreign Trade and Economic Growth: Econometric Evidence from India	SMEs growth and foreign trade are cointegrated and there is a bi-directional causality between SMEs growth and foreign trade.	The study did not disaggregate international trade into exports and imports to examine their individual impact on growth.
Sun, P. and Heshmati, A. (2010)	International Trade and Its Effects on Economic Growth in China	An increment in international trade participation helps stimulate rapid SMEs growth in China	The study did not disaggregate international trade into exports and imports to examine their individual impact on growth.

2.4 Gaps in the Literature

The literature reviewed majorly analyzed the impact of SMEs on economic growth whereas there is a dearth of studies on the relationship between SMEs growth and imports both in Nigeria and the rest of the world. This creates a gap that needs to be filled. Hence, this study will contribute its quota to the extant literature on this subject matter.

In addition, most of the above reviewed studies employed the ordinary least square (OLS) method to estimate the specified model without considering the stationarity properties of the data used as well as the level of cointegration of the variables. The method of estimation of the standard regression model, Ordinary Least Squares (OLS) method, is based on the assumption that the means and variances of these variables being tested are constant over time (that is, stationary variables). However, variables whose means and variances change over time are known as non-stationary, or, unit-root variables.

Therefore, incorporating non-stationary or unit-root variables in estimating the regression equations using OLS method without having checked for a probable relationship between the non-stationary variables using cointegration method gives misleading inferences (Glynn, Perera, and Verma, 2007). The implication of regressing a non-stationary series on another non-stationary series without having considered whether or not the two series are cointegrated lead to what is called spurious, or, nonsense regression. This therefore calls the attention of researchers to, in the first place, adopt the routine principle of testing for unit root and cointegration before a model can actually be estimated using OLS technique or otherwise, mostly when dealing with time series data. Thus, this study will fill these gaps by conducting preliminary tests (unit root test and cointegration test) employing the Autoregressive Distributed Lag (ARDL) framework in examining the relationship between imports and SMEs growth in Nigeria. Diagnostic tests will also be carried out to determine the appropriateness of the estimated model for policy formulation and/or prescription.

2.5 Theoretical Framework

The theoretical framework is the structure that can hold or support a theory of a research study. Theoretical framework introduces and describes the theory which explains why the research problem under study exists. It consists of concepts, together with their definitions, and existing theory/theories that will be used for a study. Theories are formulated to explain, predict, and understand phenomena and, in many cases, to challenge and extend existing knowledge, within the limits of the critical bounding assumptions.

For the purpose of this study, the theory adopted is the Keynesian aggregate demand function which is the sum of individual demand curves for different sectors of the economy. The aggregate demand is usually described as a linear sum of four separable demand sources:

$$AD = Y = C + I + G + (X - M) \quad -- \quad -- \quad (2.1)$$

Where

AD = Aggregate Demand

Y = Aggregate Output

C = Consumption

I = Consumption

X= Exports

M = Imports

(X – M) = Net Export

Since small and medium scale enterprises (SMEs) is a component of aggregate output (GDP) and import is a determinant of import, equation 2.1 can be rewritten as:

$$SMEY = C + I + G + (X - M) \quad \text{--} \quad \text{--} \quad (2.2)$$

Where SMEY is small and medium scale enterprises output and other variables remain as earlier defined. Equation 2.2 shows that consumption, investment, government expenditure and exports have positive relationship with SME output while import is inversely related to SME output.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter exemplifies the methodology of this study which includes model specification, a priori expectations and definition of variables as well as sources of data.

3.2 Methodology

3.2.1 Model Specification

This study analyses the impact of imports on small and medium scale enterprises (SMEs) growth in Nigeria for the period between 1992 and 2017. In this study, SME growth is the dependent variable while the primary explanatory variable of interest is imports. However, it is expedient to add other explanatory variables which have been proven to be determinants of SMEs growth in the literature. The most prominent determinant of SME growth in the literature include: exchange rate, lending rate and commercial bank credit to SMEs (Afolabi, 2013 and Ovat, 2016) employed as determinants of SME growth in their studies. First, exchange rate is crucial in international trade and to a large extent, it determines the volume of trade between the trading countries; the higher the exchange rate, the lower the volume of imports and vice versa. Second, lending rate is an important factor investors put into consideration when they approach commercial banks for credit for investment in enterprise; the higher the lending rate, the lower investors borrow and the lower the investment in and output of SMEs. Third, commercial bank credits to SMEs are crucial as their availability determines, to large extent, the volume of investment in small and medium scale enterprises; an increase in commercial bank credit to SMEs implies that more money is allocated to the sector thus, investment in SMEs will be high and vice versa. Hence, the control variables of this study include: exchange rate, lending rate and commercial bank credits to SMEs.

Based on the foregoing, the theoretical framework employed in this study and the specification of Afolabi (2013) and Ovat (2016), the mathematical model for this study can be presented as: lending rate and exchange rate

$$\text{SMEY} = f(\text{IMP}, \text{EXR}, \text{LDR}, \text{CBC}) \quad \text{--} \quad \text{--} \quad \text{--} \quad (3.1)$$

This mathematical model (Equation 3.1) can be transformed to an econometric model to include the scholastic term (error term) as follows:

$$\text{SMEY} = \beta_0 + \beta_1 \text{IMP} + \beta_2 \text{EXR} + \beta_3 \text{LDR} + \beta_4 \text{CBC} + \varepsilon_t \quad \text{--} \quad \text{--} \quad \text{--} \quad (3.2)$$

Where:

SMEY = Small and Medium Scale Enterprises' (SMEs) output (Proxied with Wholesale and Retail Trade Output as a component of Gross Domestic Product)

IMP = Imports of goods and services

EXR = Exchange Rate (₦ : US\$)

LDR = Lending Rate (%) (Proxied with Maximum Lending Rate)

CBC = Commercial Bank Credit to SMEs

β_0 = Intercept

$\beta_1 - \beta_4$ = Coefficients of the each explanatory variable

ε_t = Error Term

A Priori Expectation

$$\beta_0, \beta_2, \beta_4 > 0; \beta_1 >< 0; \beta_3 < 0$$

This implies that the intercept, exchange rate and commercial bank credits to SMEs are expected to have a positive sign indicating that they have a positive relationship with SME output growth; imports can either have a positive or negative sign indicating that imports could either increase or decrease SME growth; lending rate is expected to have negative sign because it is inversely related to SME growth.

3.2.3 Model Estimation Techniques

The present study adopts the Autoregressive Distributed Lag (ARDL) model as its empirical framework for the reason that the model offers some benefits: First, ARDL model allows for both the static and dynamic effect(s) of the independent variable(s) on the dependent variable unlike a static model that accounts for static or fixed effect(s) only. Second, ARDL framework offers a technique for checking the existence of a long-run relationship between variables, and that is referred to as the Bounds test. Bounds test is flexible as it accommodates both stationary and integrated series unlike other tests of cointegration, such as, Engle-Granger and Johansen tests, which considers only non-stationary series that are

integrated of the same order. Three issues would be looked at here: ARDL model specification; deriving the long-run (or static) model from the ARDL model (which is a short-run model), and Bounds test for cointegration.

Since this study makes use of time series secondary data, preliminary tests of stationarity such as unit root test will be conducted on each variable in the model. The unit root test is carried out using Augmented Dickey Fuller (ADF) method to determine the level of stationarity of the variables so as to guard against spurious regression. The Autoregressive Distributed Lag (ARDL) Bounds test approach to cointegration will be conducted to determine the existence of long-run relationship between the dependent and explanatory variables.

Thereafter, the estimation of the dynamic (short-run and long run) relationships between the dependent and explanatory variables of the ARDL models will be done to further investigate the impacts of importation on SMEs growth in Nigeria. Then, diagnostic test is carried out to check for the robustness of the model and see that the models do not violate any of the assumptions of the Classical Linear Regression Model (CLRM) so as to be fit for policy formulation and/or prescription.

3.2.4 Sources of Data and Unit of Measurement

Data for this study are secondary annual time-series data of macroeconomic variables of interest (small and medium scale enterprises' output, imports, exchange rate, lending rate and commercial banks' credit to SMEs) sourced from Central Bank of Nigeria (CBN) statistical bulletin, 2017 edition, for the period between 1992 and 2017. Table 3.1 presents the macroeconomic variables, their sources and units of measurement.

Table 3.1: Sources of Data and Unit of Measurement

	Variables	Unit of Measurement	Source
1.	Wholesale and Retail Output (Proxy for SME Growth)	₦' Billion	CBN Statistical Bulletin (2017)
2.	Imports of goods and services	₦' Billion	CBN Statistical Bulletin (2017)
3.	Exchange Rate	Naira : US Dollar (₦:US\$)	CBN Statistical Bulletin (2017)
4.	Maximum Lending Rate	Percentage (%)	CBN Statistical Bulletin

			(2017)
5.	Commercial Banks' Credit to SMEs	₦ Million	CBN Statistical Bulletin (2017)

CHAPTER FOUR

DATA ANALYSIS

4.1 Introduction

This chapter covers the presentation and interpretation of results of this study. Preliminary tests, such as unit root tests, are conducted to prevent spurious regression before estimating the specified equation using the ARDL framework. Post estimation tests are also carried out to check if the estimated model is good for policy prescription.

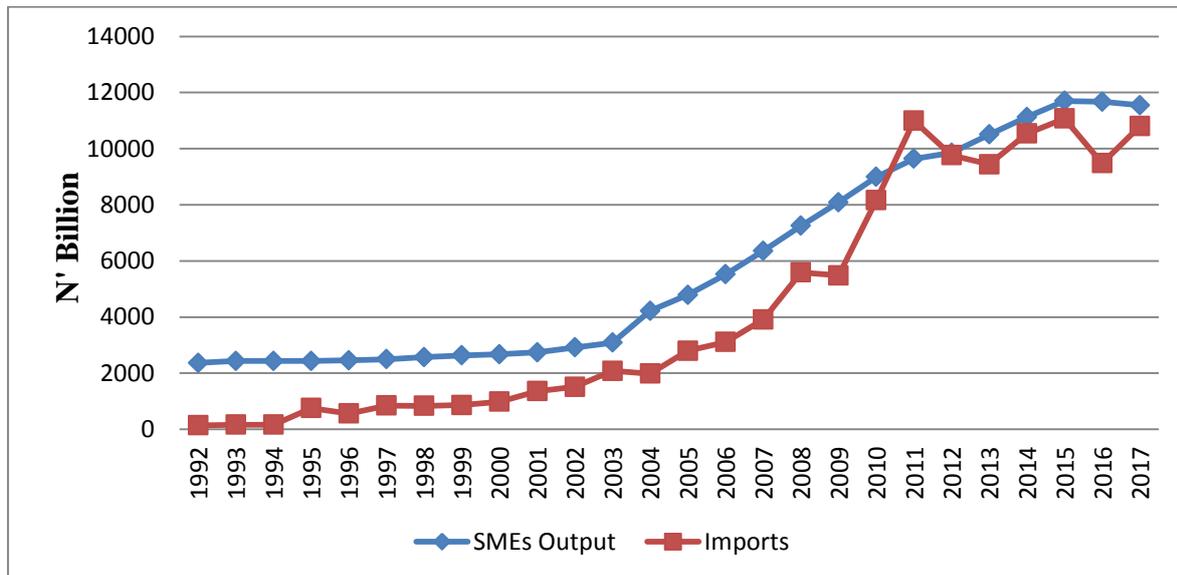
4.2 Trend Analysis of Imports and SME Output in Nigeria

The trend of imports and SMEs output in Nigeria from 1992 to 2017 is represented diagrammatically in Figure 4.1 which shows that imports and SMEs output moved in the same direction almost throughout the period under review. This shows that there is a positive relationship between imports and SMEs output in Nigeria. For instance, both import and SMEs output experienced significant growth from 1992 to 2011 before imports fell markedly in 2012. However, the streak of the upward trend of SMEs output was broken when the Nigerian economy fell into a recession in 2016 and SMEs output further fell in 2017. This trend suggests that the SMEs in Nigeria are highly dependent on the importation of capital equipment to carry out their productive activities. This could have devastating effects on the Nigerian economy as a whole given the high rate of depreciation of the exchange rate.

It is also noteworthy that the SMEs output exceeds import throughout the period under review except in 2011 when imports had a significant spike as it leapfrogged SMEs output. This unusual trend implies that the productive capacity of the SMEs in Nigeria fell below par in 2011 and imports was sought to augment the limited output of the SMEs. This also suggests the lack of backward and forward linkages among the sectors of the Nigerian economy. It shows that the productive capacity of the other sectors of the economy is relatively low thus, limiting the capacity of the SME sub-sector. It could also imply that there are not enough investors in the SME sub-sector of the Nigeria economy.

In sum, the high import-dependent nature of the Nigerian economy is also reflected in the SME sub-sector indicating that the output of SMEs will be susceptible to fluctuation as the exchange rate is highly volatile. In addition, the domestic infant industries are not able to compete favourably with their foreign counterparts. Hence, there is a need to increase the productive capacity of the domestic industries and support the infant industries by enacting policies in their favour so as to further increase their productive activities and reduce importation.

Figure 4.1: Trend Analysis of Imports and SME Output in Nigeria (1992-2017)



4.3 Preliminary Analysis

4.3.1 Descriptive Statistics

Table 4.1 presents the descriptive characteristics of the macroeconomic variables used in this study. The average values of SMEs output, imports, exchange rate, lending rate and commercial banks' credit to SMEs are ₦5865.97 billion, ₦4362.28 billion, ₦116.29:1US\$, 23.86 percent and ₦35073.49 million respectively. This suggests that the value of SMEs output outweighs the cost of imports in Nigeria and the value of commercial banks' credit to SMEs put together.

The probability values of the Jarque-Bera statistic of each variable show that the all the variables are normally distributed. The rule states that the null hypothesis (series are normally distributed) will be rejected if the Jarque-Bera probability value is less than 5 per cent and accepted if it is greater than 5 per cent. For a series to be normally distributed, the value of

skewness should be zero or not be statistically different from zero. All the variables meet this condition except lending rate thus, giving further credence to the assertion of normal distribution. In addition, the optimal threshold for kurtosis is 3; if the variable value is above 3, then the series is leptokurtic but platykurtic if below 3. Accordingly, SMEs output, imports and commercial banks' credit to SMEs are leptokurtic while exchange rate and lending rate are platykurtic.

The standard deviation is a measure used to quantify the amount of variation or dispersion of a set of data from its mean. A low standard deviation shows that the data points tend to be close to the mean while a high standard deviation indicates that data points are spread out over a wider range of values. Accordingly, Table 4.2 shows that all the variables have a very high standard deviation signifying a large deviation from their respective mean values.

Table 4.1: Descriptive Statistics

	SMEY	IMP	EXR	LDR	CBC
Mean	5865.97	4362.28	116.29	23.86	35073.49
Median	4505.37	2440.55	127.24	22.57	29044.10
Maximum	11697.59	11076.07	305.79	36.09	90176.50
Minimum	2363.61	143.15	17.30	18.36	12047.88
Std. Dev.	3624.25	4139.00	73.34	4.42	23100.88
Skewness	0.48	0.58	0.43	1.05	0.94
Kurtosis	1.58	1.66	3.26	3.55	2.97
Jarque-Bera	3.18	3.40	0.88	5.11	3.83
Probability	0.2040	0.1825	0.6448	0.0778	0.1475
Sum	152515.2	113419.2	3023.512	620.2576	911910.7
Observations	26	26	26	26	26

Where SMEY is SMEs output; IMP is imports; EXR is Exchange rate; MLR is lending rate; and CBC is commercial banks' credit to SMEs

Source: Author's Computation from Eviews9

4.3.2 Unit Root Test

Routinely, the time-series properties of macroeconomic variables need to be ascertained when carrying out time-series analysis so as to guard against obtaining spurious results. The appropriate test for checking these time-series properties is unit root test. It tests the null hypothesis of the presence of unit root as against the alternative hypothesis of the absence of unit root. The decision rule is that the null hypothesis will be rejected and be alternative hypothesis accepted should the computed t-statistic be greater than the test critical values in absolute terms or the probability value be less than 0.1; it will be accepted and be alternative hypothesis rejected should the computed t-statistic be less than the test critical values in absolute terms or its probability value be greater than 0.1 or 10 per cent significance level.

Accordingly, this study employs the Augmented Dickey-Fuller (ADF) unit root test approach to check the order of integration of the macroeconomic variables used in this study and the results are presented in Table 4.2. The results of Augmented Dickey-Fuller (ADF) show that all the variables (commercial banks' credits to SMEs, exchange rate, imports and SME growth) are stationary at first difference [I(1)] except lending rate which is stationary at level [I(0)]. This indicates that the macroeconomic variables employed in this study are a combination of I(0) and I(1) series or are integrated of different orders. This condition makes the ARDL Bounds test approach to cointegration appropriate for investigating the long-run relationship among these variables.

Table 4.2: Unit Root Test Results

	Augmented Dickey Fuller (ADF)		
	Level	First Difference	I(d)
CBC	-1.77a	-3.68c*	I(1)
EXR	-1.65b	-2.87a***	I(1)
IMP	-2.02b	-4.86a*	I(1)
LDR	-3.08a**	-	I(0)
SMEY	-2.22b	-4.54a*	I(1)

Source: Author's Computation from Eviews9

Note: *, ** and *** represent statistical significance at 1%, 5% and 10% level respectively; a, b and c denote model with constant, model with trend and constant and model without

trend and constant respectively. $I(0)$ and $I(1)$ indicate stationarity at level and first difference respectively.

4.3.3 ARDL Bounds Test Approach to Cointegration

Sequel to the result of the unit root test, cointegration test will be carried out using ARDL Bounds Test approach to cointegration. The choice of this approach is premised on the fact that our variables are integrated of different orders [$I(0)$ and $I(1)$], thus negating the use of Engle-granger and Johansen Cointegration test approach. Pesaran and Shin (1999) and Pesaran, Shin and Smith (2001) developed the ARDL cointegration approach which has three major advantages over other traditional cointegration approaches. Firstly, the ARDL framework does not require that all the variables under study be of the same order of integration; it accommodates series which are $I(0)$ or $I(1)$ or both. Secondly, it is relatively more efficient using small sample sizes. Thirdly, the ARDL framework obtains unbiased estimates of the long-run model (Harris and Sollis, 2003).

Cointegration test is carried out to determine the existence of a long-run relationship between the dependent and explanatory variables. The rule of ARDL Bounds test of cointegration states that the null hypothesis should be rejected if the value of the computed F-statistic is greater than the upper bounds value and accepted if the F-statistic is less than the lower bounds value. The ARDL cointegration test will be said to be inconclusive should the computed F-statistic fall within the lower and upper bound.

Accordingly, Table 4.3 presents the result of the ARDL Bounds test approach to cointegration which tests the null hypothesis of “No long-run relationships exist”. Following the decision rule above, the result is adjudged inconclusive because the computed F-statistic (2.62) falls between the lower bound and the upper bound critical value at 10 percent level of significance. This implies that the long run relationship among the variables (dependent and independent) is inconclusive or unascertained. Hence, it is needful to proceed to estimating the short-run and long-run ARDL model where the error correction term will confirm the existence of cointegration (long-run relationship) among the variables.

Table 4.3: Result of ARDL Bounds Test Approach to Cointegration

Significance Level	Critical Value		Computed F-Statistics
	Lower (I0) Bound	Upper (I0) Bound	

1%	3.74	5.06	
5%	2.86	4.01	2.62
10%	2.45	3.52	

The Bounds critical values for $k=5$ are obtained from Narayan (2005) case III for 40 observations.

Source: Author's Computation from Eviews9

4.4 Presentation and Interpretation of the Result

4.4.1 Analysis of the Short-Run ARDL Model Results

Table 4.4 present the results of the estimated short-run ARDL model. Firstly, the coefficient of the error correction term follows a priori expectation as it is negative, less than one in absolute value and statistically significant at 1 per cent significance level. This suggests that there is actually a long run relationship among the variables in the model as against the Bounds test result that adjudged it inconclusive thus, the error correction term confirms the existence of a long-run relationship among the variables. The error correction term shows the speed of adjustment of the dependent variable from a short-run disequilibrium in the previous period to its long-run equilibrium in the current period. Accordingly, the coefficient of the error correction term (-0.26) suggests that the speed of adjustment from a short-run deviation such as population explosion is quite slow as about 26 percent of the disequilibrium in SME growth resulting from the shock in the previous period will converge to the long-run equilibrium in the current period.

Table 4.4 also reveals that import is positively related to SME growth in Nigeria in the short run implying that an increase in import will increase SMEs growth an vice versa. The result also shows that the coefficient of imports (0.16) is statistically significant at 10 percent level implying that importation has significant influence on SME growth in Nigeria. Specifically, the result shows that SMEs output will increase by about ₦0.16 should imports increase by ₦1. This suggests that SME growth do not change in proportionate term with imports; imports increases faster than SME growth. This further gives credence to the earlier assertion that SME sub-sector is highly import-dependent. Consequently, this would result in the underdevelopment of other sectors of the Nigerian economy and hamper the backward and forward linkages of the sectors. This could also make infant industries and domestic

producers go into extinction as they would lack the capacity and capability to favourably compete with their foreign counterparts.

In addition, the coefficient exchange rate (4.97) shows that there is a positive relationship between exchange rate and SME growth in Nigeria in the short run. Specifically, a depreciation of the exchange rate by ₦1 will lead to, on the average, a ₦4.97 increase in SME growth. This result is plausible and in line with a priori expectation. Economic theory posits that a depreciation of the exchange rate makes exports cheaper and imports dearer thus, reducing the foreign competition and stimulating domestic production of the SMEs in order to meet up with the increasing demand for local products by both domestic consumers and the rest of the world. This result parallels the findings of Afolabi (2013), Ovat (2016) and Sanjo and Ibrahim (2017) who also found that exchange rate is positively related to SME growth. The coefficient of exchange rate is significant at 10 percent level of significance indicating that exchange is a determinant of SME growth in Nigeria.

Furthermore, the coefficient of lending rate (-31.09) shows that lending rate is inversely related to SME growth in Nigeria in the short run indicating that lending rate and SMEs moves in opposite direction in Nigeria. Specifically, SME will grow by approximately ₦31.09 when lending rate falls by 1 percent. The result also shows that the coefficient of lending rate is statistically significant at 10 percent level thus, suggesting that lending rate is a significant driver of SME growth in Nigeria. This finding support economic theoretical postulation which suggests a negative relationship between lending rate and investment. This result is plausible in that it confirms that an increase in lending rate would dissuade investors from borrowing thus, lowering investment in SMEs which eventually affects (lowers) the output of the sub-sector. Thus, whereas lending rate has a direct impact on investment, it indirectly influences output. This result parallels the findings of Afolabi (2013) and Ovat (2016) who found that lending rate has a negative impact on SME growth.

The result also shows that commercial banks' credit to SMEs has a significant (at 5 percent significance level) negative relationship with SME growth. Specifically, the result shows that an increase in commercial banks' credit to SMEs by ₦1 will lead to approximately ₦0.01 decrease in SME growth. This shows that commercial banks' credit to SMEs has an infinitesimal impact on SMEs growth and it suggests that investors in the SMEs sub-sector borrow money (capital) from financial institutions (Microfinance Banks) other than commercial banks. This result is in sharp contrast with theoretical postulation, which states

that an increase in access to credits stimulates output growth, and the findings of Dada (2014) and Iloh and Chioke (2015) who found that commercial banks' credits are crucial for the growth of SME in Nigeria. However, this result supports the findings of Ovat (2016). This finding confirms the declining role of commercial banks in funding SMEs in recent times in Nigeria as microfinance banks has taken its place. This could be attributed to the high lending rate commercial banks charge on credits given to investors in the SME sub-sector.

On the other hand, the Adjusted R-Squared result (0.993) indicates that about 99 percent of the variation in the SME growth is explained by imports, exchange rate, lending rate and commercial banks' credits to SMEs. This implies that this model has a very high explanatory power and could be used for policy prescription. In the same vein, the probability value of the F-Statistic shows that imports, exchange rate, lending rate and commercial banks' credits to SMEs jointly influence SME growth in Nigeria. It is noteworthy that all the explanatory variables are individually significant in influencing economic growth in Nigeria so, their joint significance is not surprising.

Table 4.4: Results of the Estimated Short-Run ARDL Model

Dependent Variable: SMEY				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(IMP)	0.1609	0.0825	1.9488	0.0662
D(EXR)	4.9676	2.4967	1.9896	0.0612
D(LDR)	-31.0907	16.0376	-1.9386	0.0676
D(CBC)	-0.0104	0.0048	-2.1746	0.0425
ECM(-1)	-0.2620	0.1246	-2.1032	0.0490

$$\text{ECM} = \text{SMEY} - (0.6144 \cdot \text{IMP} + 18.9601 \cdot \text{EXR} - 118.6657 \cdot \text{MLR} - 0.0399 \cdot \text{CBC} + 6194.8890)$$

R-squared	0.994302	Mean dependent var	6006.062
Adjusted R-squared	0.992803	S.D. dependent var	3626.421
S.E. of regression	307.6543	Akaike info criterion	14.50139
Sum squared resid	1798373.	Schwarz criterion	14.79392

Log likelihood	-175.2674	Hannan-Quinn criter.	14.58253
F-statistic	663.1168	Durbin-Watson stat	1.385164
Prob(F-statistic)	0.000000		

Source: Author's Computation from Eviews9

4.4.2 Analysis of the Estimated Long-Run Model Results

Table 4.5 presents the long-run result of the estimated ARDL model. As is the case in the short run model, a significant positive relationship exists between imports and SME growth in Nigeria in the long run such that SME growth will surge by approximately ₦0.61 if imports increase by ₦1. This shows that SME growth responds less proportionally than an increase in imports in the long run in Nigeria. This result is plausible and in consonance with economic theory which posits that an increase in the procurement of raw materials and capital equipment tends to increase production. It is worthy of note that the long-run impact of imports on SME growth is less than its short-run impact.

Similarly, the result shows that exchange rate has a significant positive effect on SME growth in Nigeria in the long run. In particular, SME will grow by approximately ₦18.96 if exchange rate depreciates by ₦1. This finding confirms the assertion of the J-curve which posits that the effect of exchange rate movement takes time before it affects economic performance (SMEs output in our case) owing to time lag in producer and consumer responses as well as imperfect competition. This account for why the long-run impact of exchange rate on SME growth far exceeds its short-run impact.

However, as against the short-run coefficient of lending rate, the long-run result depicts the existence of an insignificant negative relationship between lending rate and SME growth in Nigeria in the long run. In particular, SME growth will be stimulated by about ₦119 should lending rate increase by 1 percent. This shows that the growth of SME is highly responsive to a change in lending rate in the long run. However, this result shows that lending rate is not a significant driver of SME growth in Nigeria in the long run. Surprisingly, the long-run impact of lending rate on SMEs output growth far outweighs its short-run impact.

Similarly, the coefficient of commercial banks' credit to SMEs is negative indicating the existence of an inverse relationship between commercial banks' credit to SMEs and SME growth in the long run. Specifically, an increase in commercial banks' credit to SMEs by ₦1

will stimulate SME growth in Nigeria by approximately 0.03 percent. This result sharply contrasts theoretical expectations which postulates that increase in access to and availability of credits to investors increases investment and output. However, the result is statistically significant at 5 percent level indicating that commercial banks' credit to SMEs is an important driver of long-run SME growth. Comparatively, it is evident that the impact of commercial banks' credit to SMEs on SME growth in the long-run is greater than its short-run impact.

Summarily, the long run results show that imports, exchange rate and commercial banks' credit to SMEs influence long-run SME growth in Nigeria while lending rate does not. In other words, imports, exchange rate and commercial banks' credit to SMEs constitute important determinants of long-run SME growth in Nigeria. Also, the long-run impacts of imports, exchange rate, lending rate and commercial banks' credit to SMEs on SME growth exceed their short-run impacts.

Table 4.5: Results of the Estimated Long-Run ARDL Model

Dependent Variable: SMEY

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IMP	0.6143	0.1401	4.3848	0.0003
EXR	18.9601	7.8808	2.4059	0.0265
LDR	-118.6657	94.8803	-1.2507	0.2262
CBC	-0.0398	0.0170	-2.3412	0.0303
C	6194.8890	2710.2290	2.2857	0.0339

Source: Author's Computation from Eviews9

4.5 Post-Estimation (Diagnostic) Tests

Table 4.6 presents the results diagnostic (post-estimation) tests carried out to check the appropriateness of the model for policy formulation. It is a standard practice that before the empirical results of a study can be adjudged valid for policy formulation, diagnostic tests need to be carried out to ensure that the estimated model conform to or does not violate the assumptions of the Classical Linear Regression Model (CLRM). Specifically, the diagnostic tests include: test for normality, serial correlation, heteroscedasticity and correct specification

form. The null hypotheses are: the errors are normally distributed, there is no serial correlation, errors are heteroscedastic and the model is correctly specified respectively. The decision rule is that if the probability value of each test is less than 5 per cent level of significance, the null hypothesis will be rejected but accepted if more than 5 per cent significance level. Accordingly, the probability of all the diagnostic tests are more than 5 per cent hence, all the null hypotheses will be accepted. This suggests that the estimated model fulfils all the assumptions of CLRM in that the model is correctly specified and its errors are normally distributed, homoscedastic and free from serial correlation. Intuitively, this indicates that the results and findings of this study are appropriate for policy formulation and prescription.

Table 4.6: Diagnostic Tests

Jarque-Bera Normality Test	0.8396 (0.6572)
Breusch-Godfrey Serial Correlation LM Test	2.7455 (0.2534)
Heteroscedasticity Test (ARCH)	1.2879 (0.2564)
Ramsey RESET Test	1.0805 (0.1542)

N.B: Probability values are in parenthesis

Source: Author's Computation from Eviews9

Also, the stability of the long-run coefficient and the short-run movements for the ARDL Error Correction Model is investigated using the Cumulative Sum (CUSUM) and Cumulative Sum Squares (CUSUMSQ). The model stability condition states that the model will be adjudged stable if the plots of the CUSUM and CUSUMSQ statistics stay within the critical bounds of 5 percent significance level. Given this decision rule, a cursory look at the plots in Figure 4.2 and 4.3 reveals the estimated ARDL Error Correction Model satisfies the stability condition as both the CUSUM and CUSUMSQ statistics fall within the 5 percent critical bounds. Hence, the model is stable.

Plot of CUSUM and CUSUMSQ (Stability Test)

Figure 4.2: Plot of Cumulative Sum of Recursive Residuals

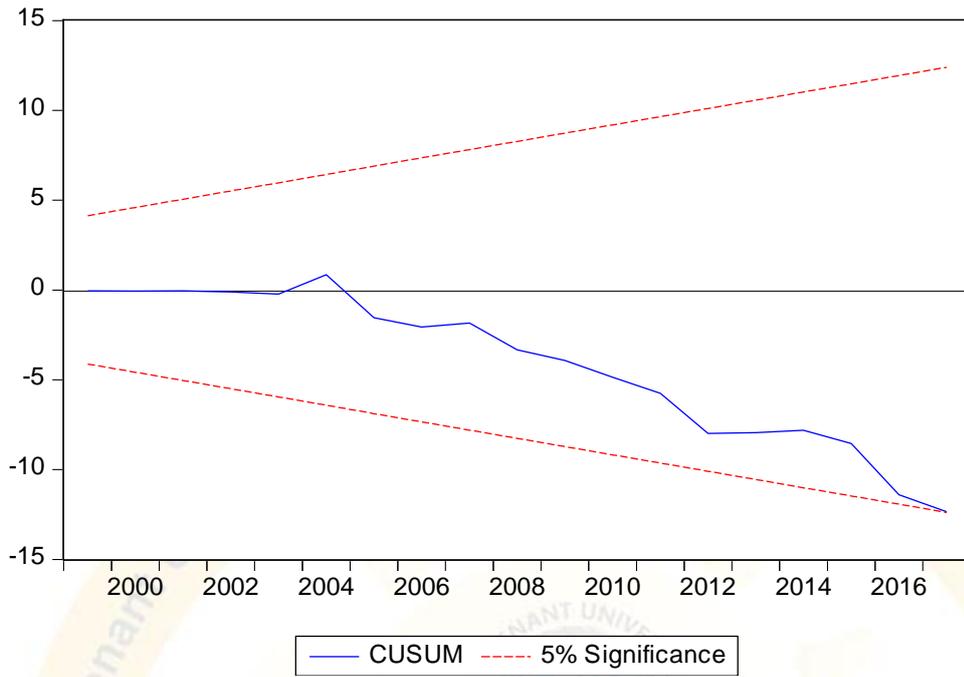
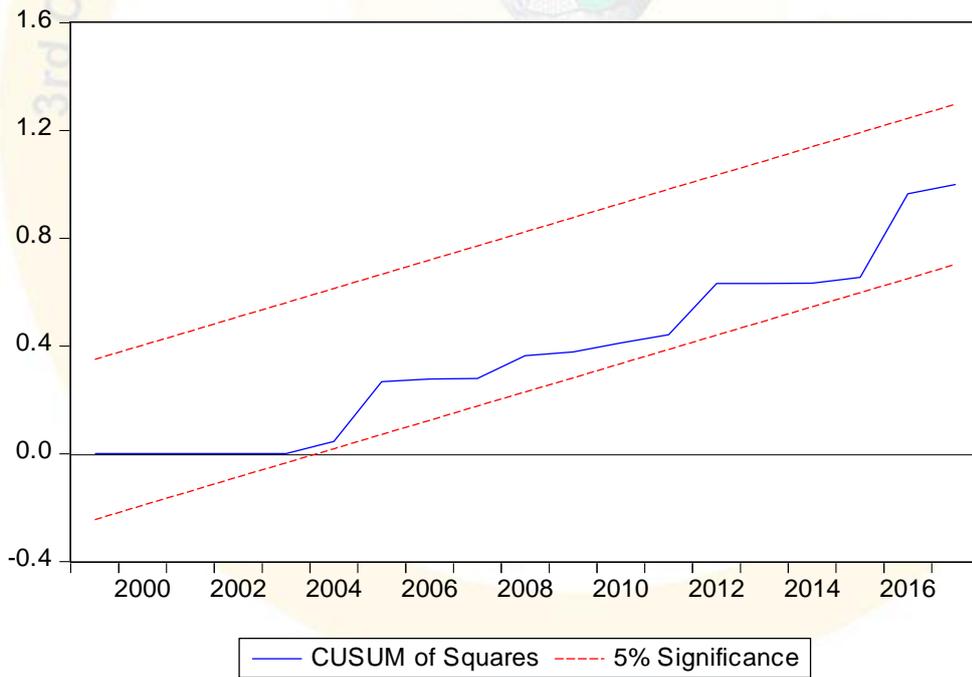


Figure 4.3: Plot of Cumulative Sum of Square of Recursive Residuals



CHAPTER FIVE

CONCLUSION, SUMMARY OF FINDINGS AND RECOMMENDATION

5.1 Introduction

The main thrust of this chapter is summary of findings, conclusion and policy recommendations based on the findings of the study. The limitation of the study and suggestions for future study are also discussed.

5.2 Summary of Findings

This study examined the impact of importation on small and medium scale enterprises (SMEs) in Nigeria using time series secondary data sourced from CBN statistical bulletin (2017) over the period between 1992 and 2017. The dependent variable of this study is SMEs output growth and its explanatory variables are imports, exchange rate, lending rate and commercial banks' credit to SMEs. Augmented Dickey Fuller unit root test was adopted to check the order of integration of the variables used in the study. The study also employed the ARDL framework to check the existence of a long-run relationship among the variables in the model and to estimate the specified short-run and long-run equation. The findings of this study can be summarized as follows:

- There is a long run relationship between SMEs output, imports, exchange rate, lending rate and commercial banks' credit to SMEs indicating that these variables converge in the long run.
- There is a significant positive relationship between imports and SMEs output in Nigeria both in the short-run and long-run indicating that imports positively affects the performance of the SMEs in Nigeria.
- There is significant positive relationship between exchange rate and SMEs output growth in Nigeria both in the short and long run suggesting that a depreciation stimulate the output growth of SMEs in Nigeria and vice versa.
- An inverse relationship exists between lending rate SMEs output growth in Nigeria both in the short-run and the long-run. However, this relationship is only significant in the short-run

- Commercial banks' credit to SMEs is inversely related to SMEs output growth both in the short-run and the long-run. The high lending rate of commercial banks and the preponderance of Microfinance Banks in recent times are the likely reasons for this negative relationship.
- The long-run impacts of imports, exchange rate, lending rate and commercial banks' credit to SMEs on SMEs output exceed their short-run impacts.

5.3 Conclusion

Given the preponderance of SMEs and the high dependence of most of the sectors of the Nigerian economy on imports, it became imperative to examine the link between imports and SMEs in Nigeria so as to put appropriate measures in place to ameliorate the performance of SMEs in Nigeria. Hence, this study was carried out to examine the impact of importation SMEs growth in Nigeria using the ARDL framework. Sequel to the empirical findings of this study, this study importation plays a pivotal role in enhancing the performance of SMEs in Nigeria. Specifically, imports an exchange rate have a significant positive relationship with the growth of SME in Nigeria both in the short-run and long-run. However, their impacts are greater in the long-run than the short-run.

Besides, it was found that lending rate and commercial banks' credits to SMEs are inversely related to SMEs growth in Nigeria. However, whereas commercial banks' credits to SMEs has a significant negative relationship with SME growth in Nigeria both in the short-run and long-run, lending rate has a significant relationship with SME growth only in the short-run. Given these findings, this study concludes that imports, exchange rate, lending rate and commercial banks' credits to SMEs are important determinants of SME growth in Nigeria.

5.4 Policy Recommendations

Since SME is an integral component of aggregate output (GDP), the link between importation and SME growth should be put in the right perspective if Nigeria desires to actualize her dream of becoming one of the twenty leading economies in the world by the year 2020. Thus, based on the findings of this study, the following recommendations are made:

- The Nigerian government should make concerted efforts geared towards encouraging local producers and infant industries to produce the raw

materials and capital equipment that SMEs would have otherwise imported from abroad.

- Given the negative impact of lending rate on SME growth, it is imperative that monetary authorities appropriately adjust the prevailing lending rate so as to attract investors and make have easy access to credit facilities to for financing their productive activities.
- Having found that commercial banks' credits to SMEs has a negative impact on SME growth, the monetary authority should ensure that the lending rate at which commercial banks lend to the SMEs is reduced to the barest minimum.
- Since imports respond to exchange rate movement, the Nigerian government and the monetary authorities should formulate appropriate exchange rate policies and develop sound exchange rate management to effectively manage exchange rate variability in Nigeria thereby cushioning the effects of the volatility on the Nigerian economy. In other words, monetary authorities should endeavor to live up to the expectations of maintaining a stable foreign exchange management in order to tame exchange rate fluctuations.
- Nigeria should give priority to the enhancement and promotion of a stable exchange rate policy that will encourage domestic investors and attract foreign investors to invest in the various sectors of the Nigerian economy so as to raise sectoral output as well as aggregate output.
- The Nigerian should be diversified and local sourcing of raw materials should be encouraged to enhance backward and forward linkage of the various sectors of the Nigerian economy.

5.5 Limitation of the Study / Suggestions for Future Research

A study of this nature cannot be carried out without encountering some difficulties in the process. It should be known to the readers of this research work that this present study has certain limitations which might affect its results in one way or the other. First, the empirical analysis of the impact of imports on SME growth in Nigeria can be more robust should it be considered sectorally; this would aid plausible comparisons of the sectors which is mostly or least affected, as the case may be, by the intensity or volume of imports into Nigeria. Second,

another major limitation is the paucity of data which limited the scope of this study to what it is. This study could have had not less than 40 years sample but for unavailability of or limited data. Third, a study to explore the channels through which importation affects SME growth in Nigeria would be useful. Finally, a panel study that will include countries from Sub-Sahara Africa can be carried out to investigate the impact of importation on the growth of SME in each country thereby creating a premise for comparing results.

TECHNOLOGICAL ORIENTATION AS A STRATEGY FOR ENTREPRENEURIAL /SMES ECONOMIC IMPACT

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Abstract

Entrepreneurial Small and medium-scale initiatives which are often referred to as SMEs are important economic actors for growth of any country, therefore policies, procedures and strategies must be formed to direct and improve organizational activities and performance of these enterprises for effective and efficient competition. The aim of this research was to critically look into technological orientation and the strategic role it plays in the competitiveness of small and medium entrepreneurial initiatives in Agege, Alaba, Satellite Town, Trade fair complex, Lagos State. A multi-stage sampling technique involving purposive, stratified and simple random techniques were employed. A total of 120 questionnaires were self-administered to randomly selected entrepreneurs in Agege, Alaba, Satellite Town, Trade fair complex, Lagos State. Data were collected, collated and analyzed using simple percentages and Regression via the Statistical Package for Social Science (SPSS version 23) software. The study reveals that technological orientation strategically postures significantly on the competitiveness of organizations and that firms should be technologically-oriented in markets to perform better in order to produce better products, enabling the firm to market innovations better, thereby achieving a superior level of performance in its industry.

Keywords: Technological Orientation, Strategy, Entrepreneurial initiatives, Economic Impact, Agege, Lagos.

1. INTRODUCTION

The Federal Ministry of Industries defines a small medium scale enterprise as any company with operating assets of less than 200 million, and employing less than 300 persons. Small and medium enterprises can be defined as businesses with turnover of less than N100MM per annum and/ or less than 300 employees in a country or a region. The rate, at which new businesses are being set up, has increased the force of competitiveness among SMEs in this present chaotic environment. Czinkota *et al.* (1983) and Ocloo, Akaba & Worwui-Brown, (2014) argue that SMEs are weak because of small local markets, entry of many firms into their markets with sometimes superior products, undeveloped regional integration and very difficult business conditions, which include lack of strategic plans, direction and decision. Every small and medium scale enterprise must adopt certain concepts in order to be the market leader in the market; these concepts would help businesses gain competitive advantage. Strategic orientation, which is one of the concepts, is widely used in the research field of strategic management, entrepreneurship and marketing. Research studies on the concept of strategic orientation have developed and have been found to have profound effect on the competitiveness of SMEs (Ogbari *et al.*, 2018b). The objectives of this study are to determine the disposition of SMEs to strategic orientation, in order to compete efficiently and effectively to create competitive edge, using some selected SMEs in Lagos state as an area of study. The specific objectives of this research study are:

- i. To determine if technological orientation adopted in entrepreneurial initiatives/SMEs has a relationship with productivity.
- ii. To examine whether learning orientation has a link with innovation in entrepreneurial initiatives/SMEs.
- iii. To investigate whether there is a relationship between entrepreneurial orientation and market share in entrepreneurial initiatives/Smes.

2. LITERATURE REVIEW

The role of strategic orientation on the competitiveness of firms has been explained using the drivers of strategic orientation of which there are three leading perspectives of strategic choices: Industry-based view, which talks about how companies compete through the strategies developed within the industry to increase performance and gain competitive advantage, Resource-based view talks about the unique resources and capabilities ultimately used by the firm to develop strategies and increase performance and institution-based view is a reflection of the formal and informal constraints of a particular institutional framework that managers confront (Demil & Lecocq, 2015; Paul, Parthasarathy & Gupta, 2017).

According to Porter (1980) and Bamiatzi *et al.*, (2016) works on the industry based view, the structure- behavior (strategy) - result (yield) pattern emerged, which basically means that the yield or the result obtained by a company depends on the features the industry have and how it is competing. In this context, the industry structure determines the behavior (strategies) of firms in the market, however **strategies** define result. Their work categorically stated that the existence of differences in results of enterprises, abounds but that one should focus rather on the structure of the industry than the behaviour, which is valid because it is a simple reflection of the environment.

Resource based view suggests that differences in the performance of companies are as a result of differences in their resources and capabilities (Yaprak, Yosun, & Cetindamar, 2018). Peng defined resource and capabilities as the tangible resources and intangible assets that a

firm chooses to support their strategies (Yu, Chavez, Jacobs & Feng, 2018). Resource, technology, or product orientations are essential approaches and link closely with the resource-based view of the firm suggesting that the performance is as a result of the development of unique resource combinations that results in new technologies, products or processes that enable firms to gain a competitive edge over the competition (Liu, & Atuahene-Gima, 2018). Institution-based view helps firms in emerging economies enhance in their competitiveness, especially when venturing abroad. Firms need to know more about the rules of the game abroad that may be different from the familiar rules at home (Wu et al., 2016; Hollender, Zapkau & Schwens, 2017; Liu, & Atuahene-Gima, 2018). The hypotheses are stated both in the null and alternative form.

Concept of Strategic orientation

Most researchers have defined strategic orientation in different ways, of which all mentions a final goal of strategic orientation which is to improve or to achieve superior performance. Zhou et al. (2005) defined strategic orientation as the company's strategic direction in developing the right ethics and behavior so as to achieve the final goal which is superior performance. As indicated by (Lumpkin & Dess, 1996; Noble, Sinha, & Kumar, 2002; Wiklund & Shepherd, 2005), the concept of strategic orientation refers to the procedures, practices, standards and decision-making styles that direct and guide the organizational activities and operations, in its internal and external environment, particularly in the context of the external environment and corporate development. Strategic orientations are a concept and construct of strategic management, entrepreneurship, technology and marketing, especially in the literature aspect. Types and levels of strategic orientation encompass Engaging in Strategic Dialogue, Strategic Planning, Strategic Measurement, Developing a Strategic Calendar and Integrating Strategic Dialogue (Cimbala, & McCabe, 2016).

Technological orientation

Many of Nigeria production system operators are still at a very low level/stage using the traditional-based approaches rather than adopting modern technologies (Olokundun et al., 2018). According to Ibidunni, et al., (2018), organizations are expected to be creative in developing new products and services that will survive in the highly competitive environment especially in this present dynamic environment of high market competitiveness. Technology helps organizations to improve in their business processes and decline cost (Ogbari, Esho, Olokundun, Ogunnaike, & Atolagbe, 2018a). Technology is one of the strategic resources that has contributed to performance of businesses and has form the cornerstone of gaining competitive advantage, (Kraaijenbring, Spender, & Groen, 2010; Wirtz et al., 2014). Technological adaptation is a noteworthy determinant of innovation capacity. Technological orientation recommends that consumers prefer technologically or mechanically superior products and services because the quality of the products will be high. Organizations must be highly creative in order to meet up with the 21st century of competitiveness in the market. Technological orientation incorporates components that represent the utilization of advanced technologies in the improvement of new products (Martín-Rojas, Fernández-Pérez, & García-Sánchez, 2017). Technological orientation also includes elements that improve the rapidness of integration of new technologies (Caridi-Zahavi, Carmeli, & Arazy, 2016) and a proactivity in the development of new technologies (Burgelman and Sayles 1986; Garud and Van de Ven 1989 ; Kazanjian, 2017) and creating new product thoughts (Kanter 1988). Because of the rapid advancement of new technologies in China, firms face great pressure to strengthen and update their technological base to enhance their competitive advantage. According to Alden & Large (2018), as a result of such managerial imperatives, past research studies, (Jeong, Pae, & Zhou, 2006; Zhou, Gao, Yang, & Zhou, 2005a; Zhou et al., 2006)

particularly in new product development and innovation literature, firms in China record an enduring interest in examining technology orientation as a crucial strategic orientation for firm success (Alden & Large, 2018). If SMEs in Nigeria are able to endure such interest in the aspect of technological orientation, there will be high productivity and firms will compete efficiently and effectively in the market. Much the same as firms in China, if firms in Nigeria adopt such managerial imperatives, past research studies, particularly in new products development and innovation literature there would be great pressure in competition but each firm will create strategies and develop on its core competencies to create an edge over other competitors (Jensen, et al., 2016). Technology orientation can also mean that a company can use its technical innovativeness to develop a new technical solution to answer and meet new needs of the users, (Varadarajan, 2017).

Learning orientation

Learning orientation according to Sinkula et al. (1997) and Mahmoud et al., (2016) is a combination of commitment to learning, open-mindedness and shared vision. Hult, Ketchen, and Slater (2002) also see learning orientation as a sub-division of the learning climate, stressing the value of learning for long-term performance (Carayannis, Samara, & Bakouros, 2015). (Hurley & Hult, 1998) suggested, Past researchers have discovered a positive relationship between organizational learning orientation and innovativeness (Altinay et al., 2016), past researches have also discovered positive relationship between new-product success (Baker & Sinkula, 1999; Gutierrez-Gutierrez et al., 2018) capability development (Celuch et al., 2002; O'Meara, Shick, Spring & Stoner, 2016) and long-term performance (Hult & Ketchen, 2001; Tzokas et al., 2015).

Learning organizations can be portrayed as "association gifted at making, procuring and exchanging knowledge, and changing its conduct to reflect new learning and bits of knowledge" (Ibidunni et al., 2019). Learning orientation is a mechanism that directly influences firms' capacity to challenge the old presumptions about the market and how a firm should be organized in order to direct the market that makes innovation easier (Baker and Sinkula, 2002; Mahmoud et al., 2016). Learning orientation is really related with knowledge creation and innovation. Learning orientation prepares the firms to get into a stage in which they will be committed to systematically challenge the fundamental beliefs and practices that define by themselves the innovation processes (Baker and Sinkula, 1999a ; Serna, Martínez & Martínez, 2016). According to Namada (2017) is a natural occurrence, but it is most effective at the point when knowledge gained from learning is deliberately and thoughtfully applied. Learning organizations utilize these knowledge to connect to networks in order to achieve the organization's mission, goals, and objectives (Barker & Camarata, 1998). Creation of value originates from learning within an organization rather than duplicating the ideas of others, and value should be the essential business objective for organizations to achieve profitability (Reichheld, 1996). Learning orientation has been observed to be emphatically related with competitive advantage. Competitive advantage includes significant competencies and critical skills in a firm that are difficult for competitors to imitate, and when legitimately exploited, positions a firm to deliver superior performance (Porter, 1990). The increasing and pressing need to competitiveness and to establish competitive advantages through innovations has resulted in considering learning a major stimulus to firm's innovativeness (Ma'atoofi and Tajeddini, 2010) due to current researches, "organizational researchers realize that competitive advantage can only be sustainable in the future through organization's learning capability" (Yang et al, 2004). Especially in this era of uncertain environment and high-intensity competition, a company with a high degree of learning orientation (LO) will have higher performance compared with its competitors. Learning orientation has a direct influence on the competitive advantage of a company, but it does not have a direct and significant impact on the performance of the company (Jiang, Mavondo &

Matanda, 2015; Wencong, Guilong & Yu, 2011). Farrell (1999) identified structure and environment to be the antecedents of learning orientation. The structural connotation denotes that organization with decentralized structures and share information by elimination of all constraints to information flow will be more learning oriented than highly centralized and formalized structures. Three environmental variables impact on learning organizations are market turbulence, competitive intensity and technological turbulence.

Concept of competitiveness and Its Strategies in SMEs

Numerous countries, especially developing ones, have seen the estimation of small and medium scale enterprises (SMEs), (Gberevbie & Ogbari, 2007; Okpara, 2009). SMEs are majorly in charge for monetary development and creation of new-jobs through their participation in new markets (Motilewa et al., 2015; Fairuz et al., 2010). Also, according to Kazem and Van der Heijden, (2006), Quince and Whittaker, (2003), researchers have noted that promoting these firms is one of the best strategies and methodologies for achieving national development and competitiveness. Strategic orientations are also a determinant of competitive sustainability according to Kerin, Varadarajan, and Peterson (1992), SMEs increase competitive advantage through the resources they have and insure so it is important for SMEs to utilize the resources efficiently and effectively to obtain, maintain and increase competitive advantage. SMEs have to analyze its external environment to identify the opportunities and threats and to analyze its internal environment in order to identify distinctive competencies (Isiavwe et al., 2015). The sources of competitive advantage in the organizations are differentiation, low costs (cost leadership), Niche marketing, high performance or technology, Quality, Vertical integration, Service, Synergy, Culture, leadership and style (van Doorn, Heyden & Volberda, 2017; Lynch, 2000; Porter, 1980).

Every organization has to strategically exploit its resources efficiently in order to enhance and sustain its competitive position. The capacity of SMEs to make, access and popularize new knowledge on global markets is principal to their sustained competitiveness. Some of the principal strategies SMEs use to compete efficiently and effectively include the innovation strategy: This is a strategy in which SMEs attempt to appropriate returns from their insight base for improvement in products or services which may or may not involve own investments in R&D. Next is the information technology strategy, which makes innovative uses of information technology with a specific end goal for the overall plan consisting of objectives, principles to diminish SME expenses and increase productivity. Thirdly is the niche strategy, in which SMEs choose to be distinctly sophisticated global players in a limited product line. It is an important strategy to be easily distinguished from other products in the market. Fourthly is the network strategy that allow SMEs work and co-operate with different firms, be it SMEs or large enterprises with a specific end goal to improve their ability to access and absorb innovations. This strategy also ensures that the network is positioned to support the business and it provides a roadmap to guide investments in people, operations and technology. Fifth on the line is the cluster strategy, this is a logical organizing principle in which SMEs use to locate in close proximity with competitors to capture synergies, in order to exploit knowledge overflows, especially in the early stages of the industrial lifecycle. Finally is the foreign direct investment strategy: This is the last strategy that empower SMEs exploit firm-specific ownership advantages abroad. It is imperative to note that measuring competitive advantage is exceptionally vital for every organization as it gives an avenue for advancement and accomplishment as the organization goes a long way in determining the overall success and accomplishment of the organizational goals and objectives (Jenner, 2015; Borsekova, Vaňová & Vitálišová, K, 2017; Heikkilä, Bouwman, & Heikkilä, 2018).

3. METHODOLOGY

Ex post facto quantitative research method and descriptive survey design was engaged in this study as it gave available access to materials based on past events with existing historical data and facts. The population of covered by the scope of this research work involves small business owners in Lagos State. While the sample frame for this research study is entrepreneurial initiatives /SME's in Lagos state, around Agege, Alaba, Satellite Town, Trade fair complex. The sampling size was determined at 120 through the Yamane's Formula (1967). Both content and construct validity was carried out on the research instrument. The Cronbach's alpha test was employed. The reliability coefficient of the research instrument is .811, this is indicated on table 1. The face-to-face approach was adopted in administering 120 copies of the questionnaire randomly to respondents out of which 97 questionnaires were recovered while 4 were invalid and therefore rejected. The remaining 93 questionnaires denoting a 77.05% response rate was eventually used. The hypotheses was tested with Pearson correlation analysis with the aid of the electronic Statistical Packages application for Social Science (SPSS) version 23.

Table 1. Reliability Statistics

Cronbach's Alpha	N of Items
.811	21

Source: field survey,(2018)

4. RESULTS

Testing of Hypothesis One

H₀: Technological orientation adopted in entrepreneurial initiatives/SMEs does not have a relationship with productivity.

H₁: Technological orientation adopted in entrepreneurial initiatives/SMEs has a relationship with productivity.

Correlations

		TECH	PRODUC
TECH	Pearson Correlation	1	.435**
	Sig. (2-tailed)		.000
	N	93	93
PRODUC	Pearson Correlation	.435**	1
	Sig. (2-tailed)	.000	
	N	93	93

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Field survey 2018

The correlation between Technological orientation and Productivity measures was tested using the Pearson production moment correlation (PPMC) coefficient. The statistical result

showed a significant positive relationship between the variables ($r = .435$, $P < 0.001$). The significance level is 0.001 while the rule of thumb for interpreting the size of the correlation hypothesis is .435; the reason for this is such that the size falls within .30 to .50 which makes this hypothesis have a low positive correlation. Therefore, the null hypothesis was rejected (H_{02}) and the alternate hypothesis (H_{a2}) accepted.

Testing of Hypothesis two

H_0 : Learning orientation does not have a link with innovation in entrepreneurial initiatives/SMEs.

H_1 : Learning orientation has a link with innovation in entrepreneurial initiatives/SMEs.

		LEARN	INNOV
LEAR N	Pearson	1	.425**
	Correlation		
	Sig. (2-tailed)		
N		93	93
INNO V	Pearson	.425**	1
	Correlation		
	Sig. (2-tailed)		
N		93	93

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Field survey 2018

The correlation between Learning orientation and Innovation measures was tested using the Pearson production moment correlation (PPMC) coefficient. The statistical result showed a significant positive relationship between the variables ($r = .425$, $P < 0.001$). The significance level is 0.001 while the rule of thumb for interpreting the size of the correlation hypothesis is .425; the reason for this is such that the size falls within .30 to .50 which makes this hypothesis have a low positive correlation. Therefore, the null hypothesis was rejected (H_{02}) and the alternate hypothesis (H_{a2}) accepted.

Testing of Hypothesis three

H_0 : There is no relationship between entrepreneurial orientation and gaining market share in SMEs.

H_1 : There is a relationship between entrepreneurial orientation and gaining market share in SMEs.

		ENTRE	MARKET	
ENTRE	Pearson Correlation	1	.311**	
	Sig. (2-tailed)			.002
	N			93
MARKET	Pearson Correlation	.311**	1	
	Sig. (2-tailed)			.002
	N			93

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Field survey 2018

The correlation between Entrepreneurial orientation and Market share measures was tested using the Pearson product moment correlation (PPMC) coefficient. The statistical result showed a significant positive relationship between the variables ($r = .311$, $P < 0.001$). The significance level is 0.001 while the rule of thumb for interpreting the size of the correlation hypothesis is .311; the reason for this is such that the size falls within .30 to .50 which makes this hypothesis have a low positive correlation. Therefore, the null hypothesis was rejected (H_{02}) and the alternate hypothesis (H_{a2}) accepted.

DISCUSSIONS

This research shows the relationship between a firm's competitiveness and the orientation of the firm. From the analysis of data gathered from respondents in this research work, technological orientation has a relationship with high productivity, learning orientation has a relationship with innovation and entrepreneurial orientation has a relationship with large market share. These variables are predictors of strategic orientation, which indicates competitiveness. The role of the firm's strategic orientation is central to the strategies or policies of the firm in competing with its competitors. The results can be summarized as follows: firstly, firms should be technologically-oriented in markets to perform better in order to produce better products, and the firm will be able to market innovations better, thereby achieving a superior level of performance, validating the works of Ritter & Gemünden (2004), which states that firms with high network capability tend to receive information about competitors' movement, which helps them take the necessary risks and quickly respond to changes in the market through current technological update. It also affirms the research of Siahaan (2017) which argues that businesses must have capabilities to transform their intellectual capital into novel services especially SMEs if they intend to grow in competitive business environment which in turn affords them the flexibility to improve their products according to the changing environmental demands. Secondly, a firm wanting to develop an innovation superior to its competitors must have a strong learning orientation drive confirming the opinion of Lennermo & Lindberg (2016), who submit that knowledge is a key resource within the born global firm since the knowledge is continuously developed during the innovative processes, enabling the firm to provoke abilities needed for their business capital and which spurs innovation possibilities. And that the learning orientation of firms purifies the extent of their job quality depicting excellence through innovative capacity further validating the works of Keune et al. (2018). Thirdly, an entrepreneurial orientation is recommended in high-growth markets to enable firms to emphasize production costs and thereby gaining large share of the market as iterated by Altinay (2016) pointing to the fact that market development, internationalization and collaboration are strong characteristics of the entrepreneur which helps in shaping the environment/industry strategically bringing about entrepreneurial innovativeness that spurs firms growth. This also establishes that the capacity to exploit opportunities, and acceptability of responsibility to anticipate future problems, and the readiness for needed change and improvement with adequate environmental awareness is a strong philosophy for unhindered growth by Zainol, Daud, Shamsu, Abubakar, & Halim (2018). The study reveals that strategic postures impact significantly on the competitiveness of organizations. Slater, Olson, & Hult, (2006) stated that to accomplish superior performance in organizations, organizations must take strategic orientations into account when developing strategies. The role of the firm's strategic

orientation is central to the overall performance of the firm in competing with its competitors.

CONCLUSIONS

This research explores and unravels some of the key business survival strategies, which have worked for a few thriving SMEs. This research also indicates organizational learning, technology, and entrepreneurial skills as an approach to competition and competitive behaviors focused at achieving competitive advantages. The measure of strategic orientation includes items that represent the use of sophisticated technologies in new products development. The rapidity of integration of new technologies and a proactivity in developing new technologies, it also includes learning to gain advanced knowledge for innovation and entrepreneurial skills to gain customer loyalty thereby having large market share. Firms should be technologically-oriented in markets to perform better in order to produce better products, and the firm will be able to market innovations better, thereby achieving a superior level of performance. Secondly, a firm wanting to develop an innovation superior to its competitors must have a strong learning orientation lastly, an entrepreneurial orientation is recommended in high-growth markets to enable firms to emphasize production costs and thereby gaining large share of the market.

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DEMYSTIFYING LEARNING CULTURE AND INNOVATION PERFORMANCE OF PROFESSIONAL FIRMS IN NIGERIA

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The business environment is changing rapidly as a result of the digital age. Creating learning culture within the organisation empowers the employees to easily anticipate and adapt to changes within the organisation, be more responsive to the market place, be goal oriented and grow through innovation. Whilst the need for organisations to constantly adapt to change and come up with training courses and new tasks/responsibilities to enable the employees have the opportunities to develop new skills or build on existing ones have become worrisome and unabated. This has made firms, especially the professional firms to still be faced with challenges of learning culture complexities. Therefore, this study assessed the role of learning culture on innovation performance of the selected professional firms in Nigeria. This study was descriptive in nature. The study adopted a mixed method (Sequential explanatory approach) to get information from 328 employees among the professional firms that were conveniently and purposively selected. The use of questionnaire (quantitative) and structured interview (qualitative) were adopted. The quantitative data were analysed using Structural Equation Modelling (SEM) to obtain results, while the qualitative data were subjected to thematic analysis. The findings indicated that the selected professional firms

applied new learning in their jobs and also support learning through their words and actions. Based on the above, the selected firms should have opportunities to apply new learning to improve workers competencies (experience, skill, and attitude) and to keep up with changes within the organization or from an outside environment.

Keywords: Learning culture, Innovation Performance

1. Introduction

The business environment is changing rapidly as a result of the digital age and based on this, firms cannot continue to rely on processes, outdated work activities, and hierarchy to keep up (Pantouvakis & Bouranta, 2013). There is need for changing the pace of individual roles and scope within the organisations. It is not enough for the individuals to be educated but they need to upgrade/advance their skills to remain important in their organisations. For employees to develop their agility and to remain engaged, there is need for organisations to embrace a learning culture which engages all the team members at each level of the hierarchical structure.

Creating learning culture within the organisation empowers the employees to easily anticipate and adapt to changes within the organisation, be more responsive to the market place, be goal oriented and grow through innovation. Innovation is the application of new ideas into process, product and other areas within the organisation that leads to increased value thereby enhancing the performance of the firm. Inkpen and Tsang, (2005) opined that learning culture is an importance aspect for sustainable innovation performance to be achieved. Innovation performance connotes the use of ideas to improve on the processes, products, procedures that increase the usefulness, significance and performance of products and services. Through a productive learning culture, firms are able to come up with new ideas which facilitates abundance of competencies (skills) to increase returns for sustainable performance.

In the present knowledge economy, learning culture plays a crucial role in improve on the processes, products, procedures thereby enhancing the performance of products and services through research and practice. The learning culture is also considered to include political and ethical dimensions that often occur in organisational contexts, including academic, for-profit, and for non-profit groups. If the learning culture of the organisation does not include sharing and collaboration, a significant management of change initiative will be needed to start changing the culture. However, if productive learning culture is antecedent to organisational success, then it is incumbent upon organisations to develop the skills, abilities and knowledge of individuals with the requisite experience, age, and education to lead the organisation.

Schein (1992) stated that there are three levels of learning culture which reflect a continuum of the observable to the embedded. These levels are a) learning opportunity, b) learning capability, and c) learning environment. Stackman, Pinder and Connor (2000) views capability as building blocks for behaviour and choice, subsequently affect the interpretation and processing of information. Studies have arguably proved that any organisation that is innovative is as a result of a supportive productive learning culture (Balestrin, Vargas and Fayard, 2008), which covers aspects of opportunity, capability and how people relate together in the business environment.

The vast amount of information available today creates a challenge for organizations and for individuals to create, absorb, and apply that which will help them be successful. Dash and Mahaptra (2010) have shown that learning culture of an organization can act as a barrier to and obstacles to achieving innovation performance. Whilst the need for organisations to constantly adapt to change and come up with training courses and new tasks/responsibilities to enable the employees have the opportunities to develop new skills or build on existing ones have become worrisome and unabated.

In Nigeria, where the business environment is characterized by high uncertainty, learning culture has become one the most crucial assets for organisations, especially the professional-driven firms. These professional firms have also become highly competitive and despite their efforts in improving their performance, they are still faced with challenges of learning culture complexities (Sagsan & Bingöl, 2010). Dash and Mahaptra (2010) have shown that the most pressing obstacle that can hinder innovation performance of the firm is learning culture. Hence, this study tends to examine role of learning culture on innovation performance among selected professional-driven firms in Nigeria.

2. Literature review

2.1 Learning culture

Rebelo and Gomes (2011) defined learning culture as a collection of processes, conventions, values, and practices that is use to encourage the employees and also to develop their knowledge and competence. Organisational learning culture supports acquiring information, distributing and sharing of learning, and also supports continuous improvement and learning of the organisation (Bates and Khasawneh, 2005). This implies that learning culture encourages spreading and sharing of what is learned by individuals which leads to the success of the organisation (Schmitz, Rebelo, Gracia, and Tomas, 2014). There are numerous features that distinguishes learning culture from the other types of cultures which includes stimulation of experimentation, ability to have leadership's commitment and support, tolerance and readiness to recognise errors, open and intense communication among others and also learn from them (Schmitz *et al.*, 2014).

Creating learning culture within the organisation empowers the employees to easily anticipate and adapt to changes within the organisation, be more responsive to the market place, be goal oriented and grow through innovation (Rebelo & Gomes, 2011). An organisation with a productive learning culture challenges its own methods continuously and ways of doing things which enhance continuous improvement and capacity ability to adapt to changes. According to Balestrin, Vargas and Fayard (2008), for an organisation to experience a productive learning culture, employees must be able to access the right learning capability, opportunity, and environment as presented in Figure 1

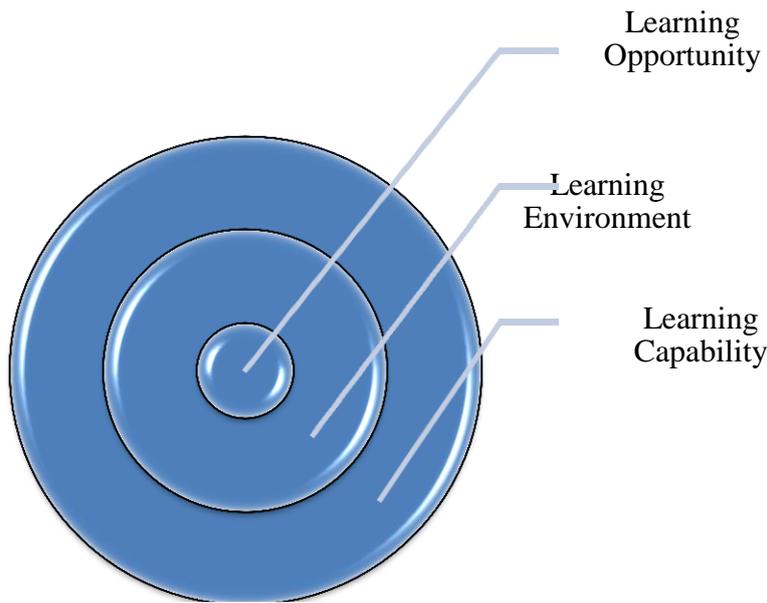


Figure 1: A Productive Learning Culture Model
Source: Balestrin, Vargas and Fayard (2008)

i. Learning Opportunity

Opportunity refers to resources and materials. Based on digital age, the role of organisations in creating learning opportunities has become worrisome (Pantouvakis & Bouranta, 2013). To create opportunities, organisations must provide the relevant information and resources that would be useful to the employees, and also help to create an environment in which learning is seen as a priority not bonus. Organisations need to constantly come up with training courses and new tasks, or responsibilities which will enable the employees have the opportunities to develop new skills or build on existing ones (Schmitz *et al.*, 2014). According to Horn, Garner, Kane and Brasel (2017), employees who strive to know or learn more can create opportunities through their discussions with their line managers or colleagues in the workplace. Learning opportunity offer access to quality not large number of choices. Learning opportunities is present both within and outside the organisation and it give the employees opportunity to extend their knowledge and also for them to use the knowledge in practice which can also contribute effectively to the development of their competencies.

ii. Learning Capability

Learning capability is the ability of an organisation to create, acquire, integrate and transfer knowledge and the ability to modify the behaviours to reflect the new cognitive situation, thereby, improving organisational performance (Gomes & Wojahn, 2016). Learning culture through learning capability has become a facilitator of organisational learning process and an instrument for promoting competitive advantage (Alegre & Chiva, 2013). Learning capability enables employee to know how to learn and not just what to learn. Learning capability is organisation's ability to transform new knowledge and apply it to the new product development with competitive advantage (Hsu and Fang, 2009). Chiva, Alegre and Lapedra (2007) recognised that there are five dimensions of learning capability which includes risk taking, interaction with the external environment, participative decision making, dialogue and experimentation and these are also considered as facilitating factors in the literature.

iii. Learning Environment

Learning environment is the surrounding that makes it possible for learners to find solutions to their problem and also provides them with necessary materials that would be relevant to them in achieving their goals (Millwood, Powell, & Tindal, 2008). It ensures that employees should focus their own development and build a supportive learning environment within the organisation. Chen and Duh (2008) stated that for organisations to experience lifelong learning, the experiences often from the learning environment is a crucial factor which is created based on interaction between learners and the learning environment. According to Vinales (2015), the learning environment is a crucial factor for employees learning which provide the employees opportunity to be more enlightened and it also help them develop their skills, knowledge, attitudes, and behaviours in order to stay relevant in the organisation.

2..2 Innovation Performance

Drucker (1985) defined innovation as endowing of resources with a new capacity in order to create wealth. According to Tushman (2013), innovation can be also be described as applying new ideas into process, product and other areas within the organisation that leads to increased value. Innovation is also the idea that an individual perceived to be new or creating of new choices or ideas (Kotler, 2003). Kotler & Kevin (2008) asserted that innovation performance connotes the use of ideas to improve on the processes, products, procedures that increase the usefulness, significance and performance of products and services (Kotler & Kevin, 2008). Presently, innovative performance is a crucial factor in determining competitiveness and the survival of firm and it was further broken down into four variables which includes the following.

i. Service Differentiation

Shafiwu and Mohammed (2013) defined differentiation is the degree in which the firm comes up with new product with unique features and the product are being introduced into the market. Service differentiation is also the way a firm use the various marketing mix activities such as the features of the products/service to help their customers/clients see the product/service as being unique, different and better from that of the firms' competitors. Scholars such as Lamb, Hair, and McDaniel (2004) and Lawal, Worlu and Ayoade, (2016) asserted that service differentiation has to do with a firm coming up with a positioning strategy that would be used to distinguish their own services from that of their competitors.

ii. Process differentiation

Process differentiation plays a vital role in competitive and strategic advantages for firms and it focus on how it is produced, delivered and consumed (Trott 2012). Process differentiation are usually within the firms which makes it very difficult for their competitors to imitate and it helps improve the product or service quality. Prajogo (2016) opined that firms who focus more on their process are better in coming up with new products to the markets than competing in established markets. Firms use process differentiation as strategic tactics to protect the firms' markets advantage and increase entry barriers for competitors (Maine et al., 2012).

iii. Value Design

Value has to do with the importance, usefulness and worth of a products or services in the mind of the customers (Kotler, 2003). The value is influence greatly by the regard's customers have for the brand. Value designs connote how firms comes up with product or service that meet different needs and preferences of customers/clients. Kotler and Kevin (2008) opined that good designs have powerful influence on profitability and competitive advantage of a business which also help them differentiate their products and services and enhance their value.

iv. Market Offering

According to Kotler and Kevin (2008), market offering is the product/service that a firm design to deliver value to the customers/client and the value can be either be to fulfil their needs or satisfy their wants. Basically, market offering according to Kotler (2003) can be differentiated along five dimensions which includes; product (features, form, features and quality); service (delivery, customer training, repair, and customer consulting); channel, personal, or image (symbols). Offering comprise of a product (tangible goods customer can buy and own) or service (intangible) and it also consist the price/amount customers/clients pays to receive the offering's benefit.

3. Research Design

The survey design method was adopted for the study and it was descriptive in nature. The unit of investigation comprised staff at different management cadres of the four (4) selected Professional based firms which are: Deloitte, Ernst and Young (E&Y), Klynveld Peat Marwick Goerdeler (KPMG) and Price-water house Cooper (PWC). The target population of this study comprised Professional based firms listed on JarusHub Nigeria (2017), Nigerian Yellow Pages (2011) and Nigeria Search Engine (2011) as presented in Table 1.

Table 1: Names and Number of Selected Professional and Technology (IT) based firms

S/N	Firms	KIBS Sector	Location	YoE	Staff Strength	Sample
1.	Deloitte	Professional	Victoria Island, Lagos	1952	336	60
2.	Ernst and Young	Professional	Victoria Island, Lagos	1989	387	69
3.	KPMG	Professional	Victoria Island, Lagos	1978	572	102
4.	PWC	Professional	Victoria Island, Lagos	1998	645	115
Total					1940	346

Source: JarusHub Nigeria (2017)

*YoE means Year of Establishment

The study randomly collected data from 346 staff of Deloitte, Ernst and Young, KMPG and PWC. The professional firms are of different size and composition; however, a percentage of the population was determined earlier (Table 1). The study used the multi-staged sampling technique comprising of the probability sampling technique and non-probability sampling techniques. For the probability sampling techniques, the use of purposive sampling (first step), stratified sampling (second step) and convenience sampling (third step) was adopted.

The collection of the quantitative data on learning culture and innovation performance of professional firms was done with the used of questionnaire. Respondents were asked to give response to items with self-administered copies of questionnaire which is structured (close-ended) in order to help achieve the research objective. A multi-item index was used to measure learning culture and performance of the sampled professional-based firms. The questionnaire is divided into two different sections, the demographics of the participants and the section regarding the variables on learning culture and innovation performance. To measure these variables, twenty-three items were adapted as presented in Table 2.

Table 2: Items in the questionnaire and their sources

	Definition	First-order Variable	# Items	Source
Learning Culture ability to encourage employees and organisations develop knowledge and competence	Learning opportunity	Items = 3	Adopted from Rebelo & Gomes, (2011)
		Learning capability	Items = 3	
		Learning environment	Items = 3	
Innovation Performance	... ability to use creative and innovative ideas to develop products, processes and procedures that increases the importance of the products and services.	Service differentiation	Items = 5	Porter (1980, 1996); Parnell, 2011; Parnell and Hershey, 2005
		Process differentiation	Items = 3	
		Value design	Items = 3	
		Market offering	Items = 3	

3.2 Measurement and Instrumentation

The paper adopted Confirmatory Factor Analysis (CFA) to evaluate the validity of items and the fit of the measurement model. The convergent phase was adopted for the validation of the items. The study adopted the conditions to assess convergent validity as presented in Table 3. This indicates that all loading scales and items are significant when they are equal or above value criterion of 0.70; while the composite reliability is expected to be greater than 0.80 and finally, each Average Variance Extracted estimate (AVE) must be higher than 0.50 as recommended by Fornell and Larcker (1981) and Bagozzi and Yi (1988). The measurement models (result of internal consistency and convergent validity) proved that scale items have satisfied and met all the three conditions as acclaimed by Anderson and Gerbing (1998). To validate the construct validity, measures of discriminant validity were conducted. Essentially, measures of discriminant validity help us determine if two measures that should not correlate are actually not interrelated and correlated.

Measurement	Loading	Indicator Reliability	Error Variance	Compose Reliability	Ave. Variance Estimated
	≥ 0.7		≤ 0.5	≥ 0.8	≥ 0.5
B. LEARNING CULTURE					
LC1	0.7547	0.5696	0.4304	0.9301	0.7406
LC2	0.8622	0.7434	0.2566		
LC3	0.7183	0.5160	0.4840		
LC4	0.7649	0.5851	0.4149		
LC5	0.7111	0.5057	0.4943		
LC6	0.6846	0.4687	0.5313		
LC7	0.7043	0.4960	0.5040		
LC8	0.6967	0.4854	0.5146		
LC9	0.7954	0.6327	0.3673		
C. INNOVATION PERFORMANCE					
IP1	0.8675	0.7526	0.2474	0.8446	0.7602
IP2	0.7222	0.5216	0.4784		
IP3	0.7398	0.5473	0.4527		
IP4	0.8738	0.7635	0.2365		
IP5	0.6883	0.4738	0.5262		
IP6	0.7638	0.5834	0.4166		
IP7	0.8174	0.6681	0.3319		
IP8	0.7285	0.5307	0.4693		

Table 4: Measurement Models (Result of Internal Consistency and Convergent Validity)

4. Data Analysis and Presentation

Out of 346 copies of questionnaire distributed to the managers of three hierarchical levels (strategic, tactical and operational) in the four selected professional firms, only 328 copies, representing 80%, were retrieved to form the basis of the analysis. The descriptive statistics of the items for knowledge socialization is shown in Table 5:

Table 5: Descriptive Statistics of Learning Culture among Selected Professional firms

Research Items	PF #1	PF #2	PF #3	PF #4
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Learning Opportunity				
Employees have opportunities to apply new learning in their jobs immediately after a learning activity.	4.7414 (.4417)	4.6885 (.5927)	4.1837 (.5980)	3.7748 (.8809)
Employees clearly understand the learning expectations their managers have of them.	3.9828 (.7130)	4.6557 (.6294)	4.2041 (.5913)	3.7207 (.8220)
Managers provide feedback to staff regularly regarding progress toward learning goals.	4.2586	4.3115	4.1531	3.6396

	(.8284)	(.5639)	(.5626)	(.7603)
Learning Capability				
Managers actively support learning through their words and actions.	4.5000 (.5043)	4.8361 (.3733)	4.2245 (.5281)	3.3874 (.6546)
Managers regularly recognize and reward employees who apply learning to their work.	4.7414 (.4417)	4.8197 (.3876)	4.3571 (.4816)	3.8108 (.8368)
Feedback and self-reflection are part of the routine of all our work activities.	4.2586 (.4423)	4.3115 (.6767)	4.1429 (.5177)	3.8378 (.7076)
Learning Environment				
I prefer receiving critical feedback at the time I do something wrong.	4.4828 (.5041)	3.5902 (.5310)	3.8163 (.5045)	3.6667 (.8773)
Employees have the resources (time, money, materials, tools, etc.) to apply learning to jobs.	4.5000 (.5044)	3.5246 (.8944)	3.7449 (.6474)	3.7838 (.7793)
Am informed on how my results could have been better. when receiving critical feedback,	4.2241 (.8386)	4.1967 (.6858)	4.0918 (.4781)	3.9459 (.7114)

Source: Field Survey (2018)

Interpretation:

Table 5 above shows the descriptive statistics of responses on the impact of learning culture in the four (4) professional firms used in this research study. Generally, from the statistical results displayed in the table, responses from the staff and management in all the professional firms were classified into three (3) namely: learning opportunity, learning capability and learning environment.

For **learning opportunity**, the table revealed that employees have opportunities to apply new learning in their jobs immediately after a learning activity. Based on the result, PF #1 had the highest mean value, followed by PF #2. It was also agreed by the selected professional firms that Employees clearly understand the learning expectations their managers have of them. PF #2 took the lead in terms of the mean value. It can also be said that respondents (staff) from the selected firms alluded that managers provide feedback to staff regularly regarding progress toward learning goals, especially PF #2 recording the highest mean values. While PF # 4 had the least value.

For **learning capability**, the table revealed that managers actively support learning through their words and actions. Based on the result, PF #1 had the highest mean value, while PF #4 had the least mean score. It was also agreed by the selected professional firms that managers regularly recognize and reward employees who apply learning to their work. PF #1 took the lead in terms of the mean value, followed by PF #2. It can also be said that respondents (staff) from the selected firms alluded that feedback and self-reflection are part of the routine of all our work activities, especially PF #3 recording the highest mean values.

From the findings on **learning environment**, it can be inferred that respondents (staff and management) of the sampled professional firms especially PF #1 indicated that prefer receiving critical feedback at the time they do something wrong. All the sampled firms also

supported this claim. Moreso, it can be adduced from the responses that respondents (staff and management) of the sampled professional firms especially PF # 1 indicated that their employees have the resources (time, money, materials, tools, etc.) to apply learning to jobs.

Hence, to establish the degree of relationship, SMART PLS was adopted. SMART PLS is only concerned with measurement model assessment with reflective formative constructs and show model fit indices. The reason for using SMART PLS is to have robust findings and the results are consistent at large. Partial Least Square also facilitate different indicators of goodness-of-fit. Bentler and Wu (2002) and Kaplan (2008) argued that different indicators of goodness-of-fit are usually adopted in various research concepts. The analyses of this hypotheses were presented in figure 2 and 3.

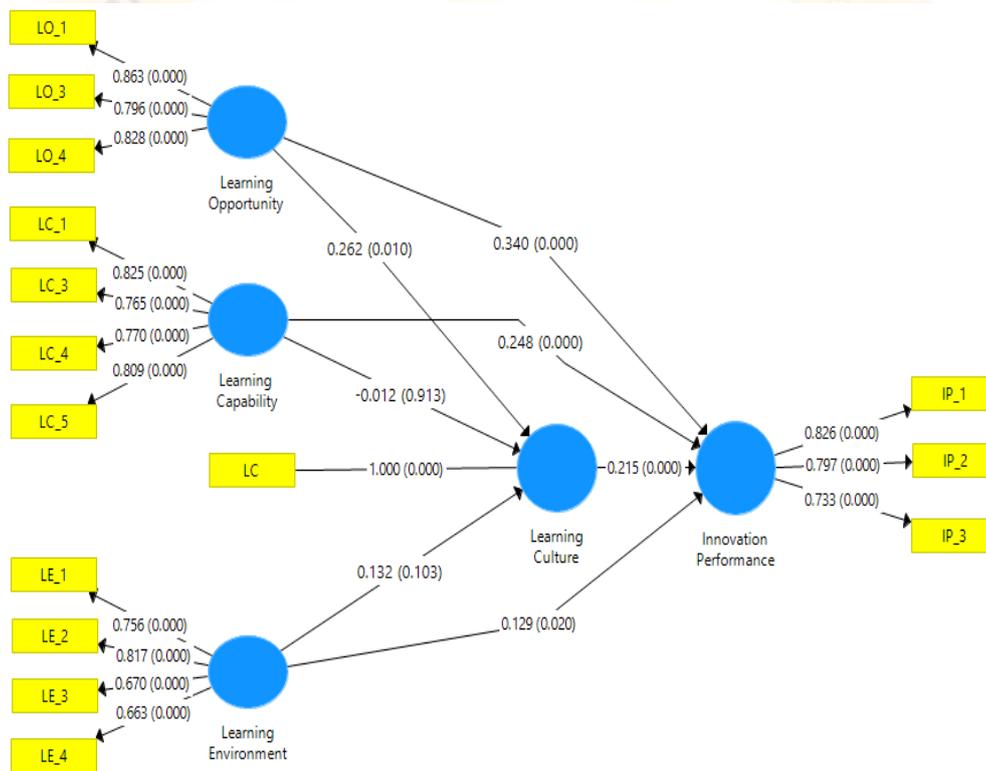


Figure 2: Path Co-efficient and P-Values

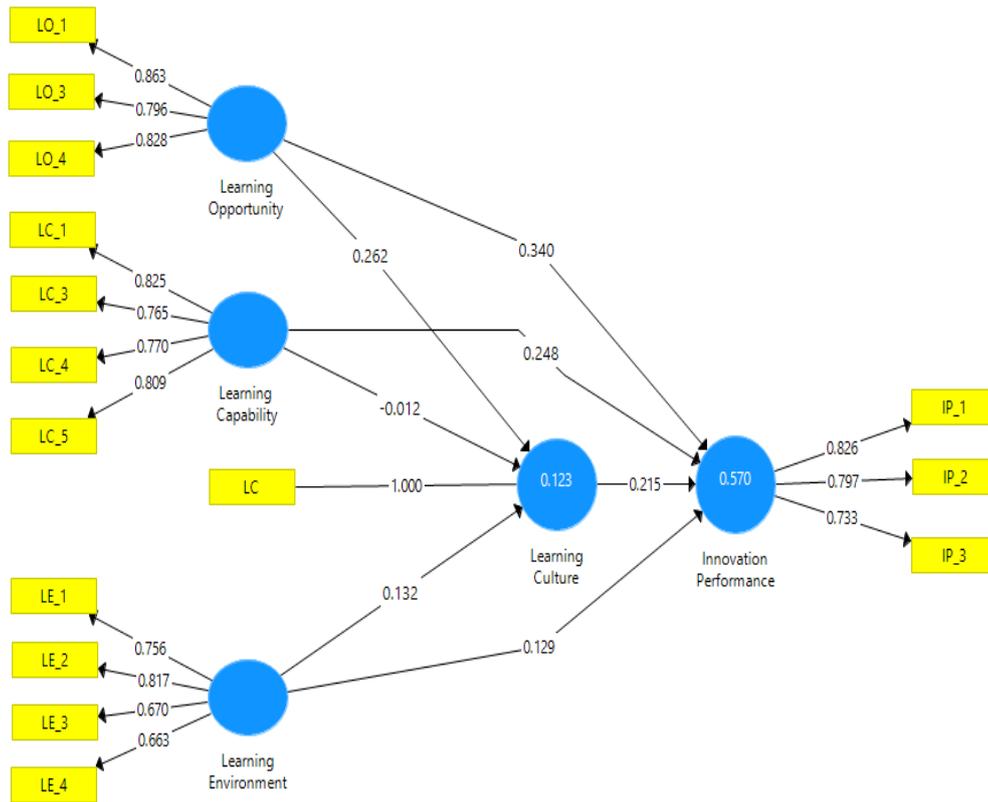


Figure 3: Path Co-efficient

Table 6: Validity, Path Coefficients and Discriminant Analysis

Construct Reliability and Validity					
Matrix	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted	
Innovation_Performance	0.695	0.708	0.829	0.618	
Learning_Capability	0.803	0.807	0.871	0.628	
Learning_Culture	1.000	1.000	1.000	1.000	
Learning_Environment	0.706	0.710	0.819	0.532	
Learning_Opportunity	0.774	0.782	0.869	0.688	
Path Coefficients Hypothetical Decision					
	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (OI/ST. DEV)	P Values
Learning_Capability -> Innovation Perf	0.248	0.243	0.067	3.721	0.000
Learning_Capability-> Learnin_Culture	-0.012	-0.011	0.118	0.100	0.921
Learning_Culture-> Innovation Perf	0.215	0.217	0.045	4.767	0.000

Learning_Env. -> Innovation Perf	0.129	0.134	0.057	2.253	0.025
Learning_Env. -> Learnin Culture	0.132	0.132	0.079	1.669	0.096
Learning_Opportunity -> Innovation Perf	0.340	0.340	0.062	5.501	0.000
Learning_Opportunity -> Learning Culture	0.262	0.263	0.101	2.601	0.010
R-Square (R2)					
	R - Square			R-Square Adjusted	
Innovation Performance	0.570			0.564	
Learnin Culture	0.123			0.114	
Fornell-Lacker Criterion for Discriminant Validity					
	Innovation_ Perf.	Learning_ Capability	Learning_ Culture	Learning_ Environmt	Learning_ Opportunity
Innovation_Performance	0.786				
Learning_Capability	0.667	0.793			
Learning_Culture	0.438	0.286	1.000		
Learning_Environment	0.578	0.682	0.291	0.730	
Learning_Opportunity	0.692	0.791	0.337	0.639	0.829

Interpretation and Implications

Table 6 displayed the role of learning culture on innovation performance among the selected professional firms using variance-based structural model. Based on the statistical result, it was recorded that learning culture plays a crucial role and has a positive significant on innovation performance. Sparingly, learning capability, learning opportunity and learning environment all had a very strong significant on innovation performance. This connotes that they all have a strong significant in innovation performance. Hence, the positive association between learning capability, learning opportunity, learning environment and innovation performance in the four selected professional firms became stronger. This is an indication that as each of the organisations practice encourages an enabling learning culture supported with learning environment, capability and opportunity; innovation performance is also increasing especially in the professional firms. Importantly, the total variance explained by the model as a whole was 57.0%. This also implies that 57.0% variance of innovation performance is explained by learning culture (learning environment, capability and opportunity).

6. Conclusion and Recommendation

To summarize, we argue that learning culture plays a significant role in enhancing innovation performance of the firm. Learning opportunity gives employees the opportunities to apply

new learning to their various tasks immediately after a learning activity while learning capability enables managers to actively support learning through their words and actions and in the learning environment, employees have the necessary resources (time, money, materials, tools, etc.) to apply learning to jobs and they create room for feedback. When an organization develops stronger learning culture, it would become more innovative thereby enhancing the performance of the firm. It is therefore necessary for organisations to build a healthy learning culture which entails employees having the required learning opportunity, capability and environment they require to perform their various duties or tasks thereby enhancing the performance of the organisation.

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ORGANIZATIONAL STRUCTURE AND STRATEGY OF SMEs AS A TOOL FOR EFFECTIVENESS

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Abstract

Structure and strategy are relevant in any business ventures. It is one of the fundamental aspects SMEs should consider when setting up a business because it helps bring about innovation, productivity and efficiency in the business.

This paper is conducted to show how structure and strategy can help enhance effectiveness towards SMEs using Citeco global as a case study. The research was considered after having seen how most SMEs fold up after the demise of the owner/ idea generator or the unwillingness to continue the business at a certain stage of it.

It is of importance that SMEs see structure and strategy as a disruptive innovation which can help sustain their business in the long run.

In the course of this research, we looked at how structure and strategy will boost SMEs growth in our economy and the various structural types that can be practised by different SMEs.

The study shows the relationship between the strategies and structures an SME uses and the effects it has on the productivity, growth and longevity of the SME.

Key words: Structure and strategy, Innovation, Effectiveness, SMEs

INTRODUCTION

The SMEs of today are operating in an increasingly demanding market in which the right structure and strategy that the SMEs need to actualize their goals may not be considered due to their struggle for survival.

The purpose of having a good structure is to allocate work among staff of the SMEs, and also have a proper coordination strategy to monitor activities of staff in order to make sure it is geared towards actualizing the goals and objectives of the SME. Organizational structure is a hierarchical concept of subordination of entities that collaborate to achieve a common aim and it also entails the modes in which it shall operate.

Organizational structure shows how activities like task or job description are allocated, coordinated and supervised toward the achievement of organizational goals and objectives.

Mullins (2007:564) said organization structure is the pattern of relationship among positions in the organization and among members of the organization.

Organizational structures make possible the application of the process of management and creates a frame work of order and command through which the activities of the organization be planned, organized, directed and controlled. Organizational structure define tasks and responsibilities, work roles relationships and channels communication.

Organizational structure is primarily set up for the purpose of promoting co-operation. It permits the relation of co-coordinated thought and action even though organizational relationship becomes more complete with growth. Organizational structure is never the whole story; it is just a way of dividing responsibilities among staff. It is meaningless unless there are supported appropriate systems, strategy and a consistent culture.

Organizational structure is important in any SME because there will be little or no problem as regards task allocation and responsibility, authority (department heads and subordinates).

STATEMENT OF THE PROBLEM

Few SMEs have a proper structure, and they put in place strategies to help the organization and staff achieves its aims. It is no wonder small businesses collapses especially when the founder is no more because adequate structure wasn't put it place to keep the business concern going. No one thinks about an organization's structure until something goes wrong and profits plummet or customers complain. That's when reporting relationships and business culture come under scrutiny. A proactive SME that knows the worth of effective structure takes the time to analyze the organizational structure and strategy from the start and make sure it facilitates efficient decision making and brings about productivity.

Conflict occurs in many companies in Nigeria because there is no proper structure in place. Company policies and procedures are not enforced, causing employee dissension and confusion where there is no organization structure. Approvals take longer because no one knows who is in charge when multiple departments interact.

Lack of structure can impede the work force from achieving desired results. Additionally, poor communication among department leaders could filter down into the rest of the organization.

This research work is to investigate the above problems and provide solutions at the end of this work.

RESEARCH OBJECTIVES

1. To identify the impact of a proper chain of command on staff growth in SMEs.
2. To examine the impact of good company policy on efficient workflow in SMEs.
3. To examine the impact of work specialization on productivity in SMEs.

RESEARCH QUESTION

1. What is the impact of chain of command on staff growth in SMEs?
2. What is the impact of work specialization on Productivity in SMEs?
3. What is the impact of good company policy on workflow in SMEs?

RESEARCH HYPOTHESIS

H₁: Chains Of Command have a significant effect on staff growth in SMEs.

H₂: Work specializations have a significant effect on productivity in SMEs.

H₃: Good company policies have a significant effect on workflow in SMEs.

INDEPENDENT VARIABLES- Organizational structure and strategy (chain of command, company policy, work specialization,)

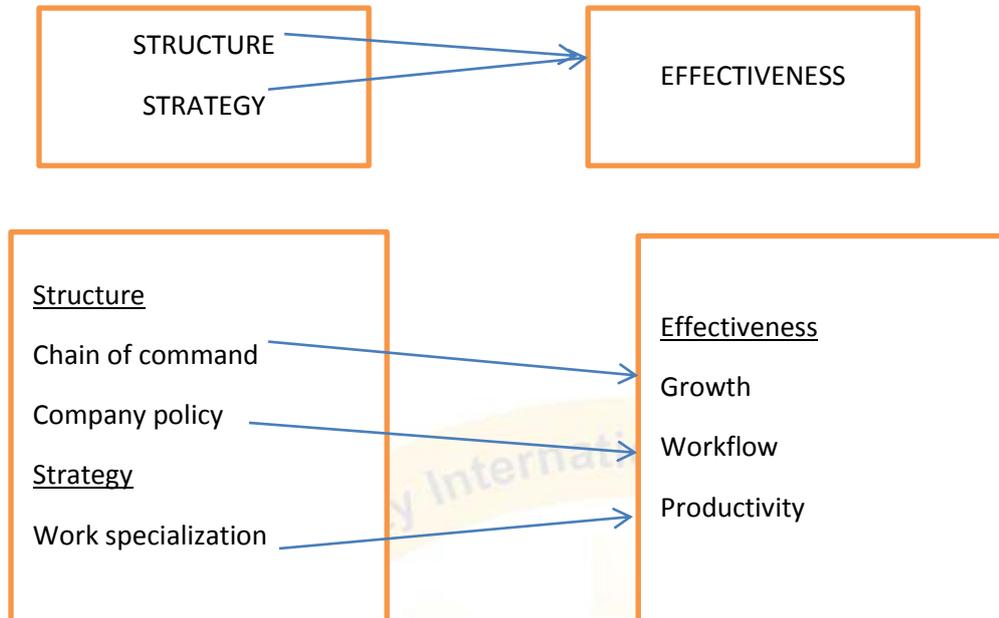
DEPENDENT VARIABLES- Effectiveness (Growth, workflow, productivity)

AIM OF THE STUDY

To investigate organizational structure as a tool for effectiveness

RESEARCH MODEL

Tools



QUESTIONNAIRE QUESTIONS

- 1) Chain of command enhances my work effectiveness
- 2) Work rotation enhances ones skills
- 3) Responsibilities are clearly assigned by the team head
- 4) Staff inputs and ideas are considered when making decision
- 5) Induction is compulsory for all employee
- 6) Development programs are mandatory for all employee
- 7) I am satisfied with my area of specialization
- 8) My job description is in sync with my skills
- 9) Work specializations brings about team bonding
- 10) I get promoted every two years
- 11) Trainings are organized for staff quarterly

- 12) I get excited when promotion comes with increased salary
- 13) Task are distributed evenly in my department
- 14) Workflow system is flexible in my organization
- 15) Every team is been managed by a team head
- 16) Productivity leads to job security
- 17) Meeting my KPIs increases my incentives

LITERATURE REVIEW

WHAT IS ORGANIZATIONAL STRUCTURE?

Organizational structure has to do with how activities (task allocation, supervision and coordination) are directed towards the achievement of the SME's goals and objectives. It also determines how information flows from various levels within the organization. It is also considered as the viewing glass or perspective through which individuals see their organization and its environment. A carefully designed organizational structure is required for success in a competitive business environment. Having a good organizational structure isn't enough without a well-defined and well-designed management system that can lay out as a solid foundation for running the organization. For this to be done effectively, the organization must address all contextual and cultural factors that may affect the operation of such organization. These factors could be internal and external relationships, competition, strategic challenges. The structure of an organization will determine the modes in which it operates and performs in such a way that it allows for allocation of responsibilities for various job functions in respect to department and individual. A proper structure should have a chain of command and good company policy. Herein are how it fosters growth and workflow in a company.

CHAIN OF COMMAND: in organizations, decisions are passed down from company head to the mid-level managers to the operational managers. Some command hierarchies allow front line employees to proffer solutions to an immediate challenge first before reporting it to management for policies formulation to tackle such problem/challenge in the future. Chain of command helps simplify decision making and these decisions are communicated properly

from the top –down decision tree. It also provides accountability for every action in the work environment.

COMPANY POLICY: having a laid down company policy brings about efficient workflow among staff because staffs are aware of the rules and regulation of the SME. It outlines the responsibilities of both employer and employees, right of the workers as well as the business interests of the organization. Company policy should address the issue of employee conduct, privacy, equal opportunity, attendance, substance abuse etc.

TYPES OF ORGANIZATIONAL STRUCTURE

Various structures work for different organizations even in similar industry because there always be differences in every brand; just like no two people are the same. Bearing in mind those structures are the reason why businesses are referred to as an organization.

Common types of organizational structures are:

1. **Functional Structure:** this has to do with specialty where everyone is assigned to different departments (sales, marketing, human resources, customer services, finance) based on his/her skills. The advantage of this structure is that individual is dedicated to a single function as this clearly defined the roles and expectations. Some small and medium sized business implements this kind of structure.
2. **Divisional Structure:** is one that structure leadership according to various projects, subsidiaries and products they operate. This structure allows each business units to operate as its own company with its own president.
3. **Matrix Structure:** This structure mixes employees across different superiors, divisions or departments. For instance, in this structure an employee can handle both customer services and sales.

DEFINITION OF ORGANIZATIONAL STRATEGY

A realistic organizational structure is one that has a good strategy, once the strategy is clearly understood by the team; the organization has a better chance of been productive.

Organizational strategy entails actions an SME intends to take to achieve its long and short term goals; these actions are called strategic plans. For an SME to be sustainable in the long run there has to be continuous changes in their strategies so as to have a good market share against their competitors. Also, an SME has a competitive advantage when it implements strategies which competitors are unable to duplicate or too expensive to initiate. Therefore, a

continuous upgrade in strategies may have a positive effect on SME's structure, productivity and outcomes.

Strategy is important for continuous growth and success of SMEs. It is concerned with making choices among available alternatives. To choose a strategy, SMEs pursue one alternative over other. These choices are influenced by opportunities or threats of organizational environment. Choice of selecting strategy is also affected by the nature and quality of business internal resources, capabilities and core competencies. Effectively formulated strategies integrate, assemble and allocate resources and competencies in order to align them in its external environment. There is a variety of strategies having their own features and benefits. Some of the major classified strategies are business level strategy, corporate level strategy, acquisition and restructuring strategies, international strategies and cooperative strategy.

1. **Business level strategy:** It is an integrated and coordinated set of commitments and actions that firms use to gain a competitive advantage by exploiting core competencies in specific product markets. It indicates the choice the firm to compete in challenging market situations. To make a choice is important as it is linked to a firm's long term performance. Business level strategy is a core strategy that every firm must form to describe its planning to compete with others.
2. **Corporate level strategy:** It specifies actions a firm takes to gain a competitive advantage by selecting and managing a group of different businesses competing in various other markets. These strategies help companies to select new strategic positions which are expected to increase firm's value.
3. **Merger, Acquisition and Takeover strategies:** Merger is a strategy through which firms agree to integrate their operations on a relatively coequal basis. Acquisition is a strategy through which can firm buys a controlling, or 100 percent interest in another firm with the intent of making the acquired firm a subsidiary business within its portfolio. Here management of acquired firm reports to the management of acquiring firm. It may be a reason for resistance from employees. Takeover is a special type of acquisition strategy wherein the target firm does not ask the acquiring firm's bid.
4. **International strategy:** It is a strategy through which the firm sells its goods or services outside its domestic market. This strategy yields potential new opportunities.
5. **Cooperative strategy:** It is a strategy in which firms work together to achieve a shared objective. By cooperating with other companies a company is able to leverage

its core competencies to grow and improve its performance. It may include strategic alliances and joint ventures.

EFFECTIVENESS OF ORGANIZATIONAL STRUCTURE AND STRATEGY

The effectiveness of having a good structure is that it determines who gets to participate in the decision making processes and how their views shape the actions of the SMEs. Also, it gives foundation on which standard operating system and routine rest. Not having a formal structure in place may prove difficult for certain employees to know who to report to. This can lead uncertainty as to who is responsible for certain things. Having a structure can help improve efficiency and provide clarity for everyone at every level; this also means every department or team can be more productive as they are probably to be more focused.

Organizational Strategy and Structure in SMEs are limited in their choices of adaptive behavior to which top management believes will allow the effective direction and control of human resources. Therefore, top executives' theories of management are an important factor in analyzing an SME's ability to adapt to its environment. According to this model, a select group of owner-managers was able to direct large numbers of employees by carefully standardizing and routinizing their work and by placing the planning function solely in the hands of top managers. Under this type of management system, employees could be expected to perform up to some minimum standard, but few would be likely to exhibit truly outstanding performance.

Organizational structure and strategy indicates an enduring configuration of tasks and activities (Skivington and Daft, 1991). It is found that a structure encourages communication (Burns and Stalker, 1961) and increases employee satisfaction and motivation (Dewar and Werbel, 1979), because in less centralized environments, free flow of lateral and vertical communication is encouraged, experts on the subject had greater say in decision-making than the designated authority (Burns and Stalker, 1961), a structured organization inhibits interactions among organizational members and prevents imaginative solutions to problems. Structure can influence knowledge management processes through shaping patterns and frequencies of communication among organizational members, stipulating locations of decision-making and affecting efficiency and effectiveness in implementing new ideas. Knowledge management can carry over the structural impact onto organizational effectiveness, because the way knowledge is organized, knowledge management activities are coordinated, and the extent to which knowledge management practices are embedded in the

daily work processes influence the effectiveness and efficiency of organizational performance. At the same time, structure influences organizational effectiveness through channels other than knowledge management. It influences organizational effectiveness through non knowledge related functions, especially through routinized processes, tasks, and systems, because of their minimal involvement of active knowledge management.

RESEARCH METHODOLOGY

The purpose of this study is to explain the relationship between organizational structure, strategy and organizational effectiveness in SMEs. This section will detail on the research design, population of study, sampling and data collection procedures.

POPULATION OF STUDY: The study population consists of staff of Citeco global Ikeja, Lagos. It has a study sample of 24 and distributed them questionnaire prepared for this purpose and the response rate was 95%.

SAMPLE SIZE DETERMINATION: The study population consists of the staff of Citeco global. The study sample consisted of 25 samples, questionnaires were distributed for this purpose and the response rate was 95%, bringing the size of the sample surveyed to 24 people. The questionnaires were prepared in accordance with the objectives and hypothesis of the study.

SAMPLE FRAME

$N/1+N(e)^2$

Where N is population

E is constant 0.05

$= 25/1+25(0.05)^2$

$=24$

DATA ANALYSIS

The first section is on the preliminary presentation of data which involves the demographic characters while the last is on the test of hypothesis and ratio analysis of Citeco global Ikeja, Lagos. Analysis was done using computer software called SPSS (statistical package for social science).

DATA PRESENTATION

This section presents the demographic characteristics of the respondents. Only three characters were treated: Age, Gender, and Educational Qualification

GENDER

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid MALE	10	41.7	41.7	41.7
FEMALE	14	58.3	58.3	100.0
Total	24	100.0	100.0	

This shows that 10 respondents representing 41.7% were male, 14 respondents were female representing 58.3%.

AGE

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 28-37	13	54.2	54.2	54.2
38-47	11	45.8	45.8	100.0
Total	24	100.0	100.0	

This indicates that 13 respondents representing 54.2% were between the ages of 28-37, 11 respondents representing 45.8% are between the of 38-47. This shows that majority are between the ages of 28-37 due to the company employment style of recruiting young graduates.

EDUCATIONAL QUALIFICATION

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid BSC	19	79.2	79.2	79.2
MASTER	5	20.8	20.8	100.0
Total	24	100.0	100.0	

This indicates that 19 respondents representing 79.2% are BSc holders, 5 respondents representing 20.8 are Master's degree holders.

TEST OF HYPOTHESIS**HYPOTHESIS ONE:**

H₁: Chains Of Command have a significant effect on staff growth.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.323 ^a	.105	.064	.34289

a. Predictors: (Constant), CHAINOFCOMMAND

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.302	1	.302	2.570	.123 ^b
	Residual	2.587	22	.118		
	Total	2.889	23			

a. Dependent Variable: GROWTH

b. Predictors: (Constant), CHAINOFCOMMAND

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.965	.503		7.886	.000
	CHAINOFCOMMAND	-.237	.148	-.323	-1.603	.123

a. Dependent Variable: GROWTH

HYPOTHESIS TWO

H₂: Work specializations have a significant effect on productivity.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.245 ^a	.060	.017	.59031

a. Predictors: (Constant), WORKSPECIALIZATION

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.490	1	.490	1.406	.248 ^b
	Residual	7.666	22	.348		
	Total	8.156	23			

a. Dependent Variable: PRODUCTIVITY

b. Predictors: (Constant), WORKSPECIALIZATION

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.919	.733		5.350	.000
	WORKSPECIALIZATION	-.341	.287	-.245	-1.186	.248

a. Dependent Variable: PRODUCTIVITY

HYPOTHESIS THREE

H₁₃: Good company policies have a significant effect on workflow

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.071 ^a	.005	-.040	2.79533

a. Predictors: (Constant), COMPANYPOLICY

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.868	1	.868	.111	.742 ^b
Residual	171.905	22	7.814		
Total	172.773	23			

a. Dependent Variable: WORKFLOW

b. Predictors: (Constant), COMPANYPOLICY

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.785	4.723		.378	.709
COMPANYPOLICY	.625	1.875	.071	.333	.742

a. Dependent Variable: WORKFLOW

CONCLUSION

From the findings, the study concluded that having a robust organizational structure and strategy helps in organizational productivity in SMEs, helps in staff growth in terms of promotions and development, and also affect workflow positively.

This study shows that even the smallest of organization needs to have a proper structure and strategy to aid it in actualizing its company's goals and vision.

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TRADE LIBERALIZATION AND AGRICULTURAL OUTPUT IN NIGERIA: AN ARDL COINTEGRATION ANALYSIS

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ABSTRACT

The empirical relationship between trade liberalization and its effect on the agricultural output in Nigeria was investigated in this study. Trade liberalization was captured by degree of openness and proxied as total trade to GDP, while Agricultural output was captured by total Agricultural product. The effect of trade liberalization on the agricultural output in Nigeria was estimated using the auto-regressive distributed lag (ARDL), since it was observed that the variables were of different order of integration. The scope of the study was between 1985 and 2016. Source of data was from the World Development indicator (WDI) of the World Bank and the Central Bank of Nigeria (CBN) Statistical Bulletin. Empirical result shows that trade liberalization has an adverse effect on agricultural output on the long run.

Keywords: Agricultural Output, Trade Liberalisation, Agricultural Sector, Agricultural Policy

1.0 INTRODUCTION

The fact that the agricultural sector was the mainstay of the Nigerian economy before the advent of oil cannot be overemphasized. However, the stagnation of the agriculture sector contributed to droughts, migration into the city and reorientation of the population for imported food products as a result of increased revenues generated from the sale of oil, (Obasanho, 2017). In the 1980's, there was a world oil glut that affected the Nigeria revenue base adversely and as such our foreign exchange was affected badly. As a result of this Nigeria was unable to service its foreign financial obligations which eventually lead to the

introduction of structural adjustment programme in 1986. Most of the policies of SAP tend towards market liberalization.

Moreso, in all economies of the world whether developed, developing or underdeveloped the agricultural sector provides food for the populace, as well as major source of employment with over 70 percent for the Nigerians in particular. Agriculture also provides one of the major export components after oil about 4 percent, this makes the agricultural sector a very important sector in Nigeria. In addition, the economies of the world have become increasingly linked over the years as a result of globalization and as such, trades among countries have expanded. Trade liberalization which is the process of reducing or removal of trade restrictions and barriers to international trade among countries remains a very controversial issue in developing economies especially in Nigeria. As captured by Okodua and Alege (2014), a major goal of trade reform policy was to integrate the Nigerian market into the global market by liberalizing the economy and enhancing the competitiveness of domestic industries.

While some schools of thought believe that trade liberalization plays a very vital role in the development of an economy others believe that it is simply a necessary evil. Studies like Wajahat and Azria (2015) show that there is little or no evidence suggesting that trade liberalization induces accelerated agricultural production growth, whereas some analyses provide empirical evidence confirming the link between trade openness and agricultural production growth when trade liberalization is introduced (Andersen and Babula, 2008). This study however, provides an empirical investigation of the effect of trade liberalization on the Nigerian agricultural sector using time series data this will help to draw implications for policy implementations. More specifically, the study seeks to investigate the impact of international trade liberalization as proxied by trade openness has on agricultural output in conjunction with other economic factors such as agricultural employment and foreign direct investment. Further, this study examines whether or not the regional Free Trade Agreements (FTA) like AFCFTA (African Continent Free Trade Area) generates economic benefits to Nigeria's agricultural sector.

The study is therefore, structured as follows: section 1 is the Introduction, Section 2 examines other literature relevant to the study, Section three discusses the research methodology, Section 4 and 5 is on results presentation and discussions, Conclusion and recommendations respectively.

2.0 LITERATURE REVIEW

Empirical studies relating to the effect of trade openness on developing economies and most especially the impact that trade liberalization has on agricultural output has received a lot of attentions over the years. Alege and Osabuohien (2013) attributed this to the stability that developing economies can achieve through active participation in the global economy while exploring the virtue of intraregional trade. Theories like that of the Classical, Neo-Classical and others all suggest that trade liberalization is a policy and process that involves the relaxation or removal of restriction on tradable goods and services between countries (Kume et al 2003, Topolova 2007).

Studies suggest that international trade is a critical tool for development and growth. Since the end of the Second World War, trade has expanded rapidly. It is believed that trade has contributed to development and growth enormously between the developed countries of North America, Europe, Japan and Australia over the years. To understand Africa's place in the current multilateral trade system, it is imperative that we examine briefly the historical trade relations of the continent with the rest of world. Africa has been involved in global trade with the rest of the world even before colonization era. Trade route crossing Sahara desert from West Africa to the Mediterranean shows that there was connection between Africa and other continents before the sixteenth century, Odiambo (2007). The trend of marginalizing Africa intensified during colonial era. The continent was merely seen as a place for extracting raw materials for Europe and other parts of the world. When the GATT (General Agreement on Tariffs and trade) was established in 1947, most territories in Africa were still under European colonial rule. On January 1, 1948 the GATT regime was ratified by 23 countries in Geneva. Southern Rhodesia (present Zimbabwe) and South Africa, that were under minority white rule, were the only African countries that signed the GATT system. Though eight trade rounds were held under GATT from 1947 to 1994, the participation of young African states was very minimal even as their number increased in the multilateral trade arrangement. On the other hand, the rich nations entrenched their power and influence in the GATT negotiations especially in the eight rounds. Odiambo (2007). Africans major fear in international trade lies in the fact that Farm subsidies and export support distort international prices of agricultural goods and this tremendously affects many African countries that rely on agricultural trade. Agricultural support in the developed countries also leads to dumping of cheap agricultural products into African countries. This results into loss of market to Africa's agricultural exports and has also negative impact on food security.

Before the discovery of oil in Nigeria, agricultural products were the only goods considered export commodities. Apart from being the major export earning in Nigeria before oil discovery, their importance can be measured in terms of their contribution to total export and total non-oil exports earning. The importance of Agricultural sector contributions to the Nigerian economy in the past decades cannot be overemphasized, and is still a major sector despite the oil boom; basically it provides employment opportunities for the teeming population, eradicates poverty and provides export earnings for the economy. According to economics history, agricultural revolution provides fundamentally the pre-condition for take-off for any economy. Agriculture has a strong hold in an economy, for without it a country will always depend on foreign countries to feed its population (Oji-Okoro, 2011)

Despite the fact that Nigeria is rich in oil and other mineral resources, the economy is still largely dependent on agricultural sector. Agriculture is the largest contributor to Gross Domestic Production (GDP) with crops accounting for 80 percent forestry 3 percent and fishery 4 percent. It provides employment for about 70 percent of the labor force and the food and fiber needs of a large and increasing population. The agro-industrial enterprises depend on the sector for raw materials whilst 88% of the non-oil exports earning come from the sector.

Okonkwo (2015) looked at trade liberalization and economic growth the nigerian experience (1971-2012). The main objective of the study was to ascertain how trade liberalization has

affected the Nigerian agricultural sector using the ARDL estimation techniques. His findings were that there were clear indications that imports and exports significantly affect the Nigerian economy in a positive way.

Anowor (2013) examined the impact of trade liberalization on Nigeria agricultural performance with special interest on export sub-sector using time-series analysis. It is stated clearly that performance of Nigeria agricultural sector and its export sub-sector is a function of trade liberalization. The results confirm that agricultural degree of openness and agricultural export to import price ratio were significant in the both models; whereas, agricultural capital formation, real exchange rate and foreign investment on agriculture are not significant.

In the work of Ogundipe, Ojeaga, and Alege (2014) titled 'International Trade, Do Institutions Matter? Evidence from Regional Studies Openness and Economic growth in developing countries. The study examined the relationship between trade and institutions across regions using panel data for seven regions for the period 1980 to 2010 (31 years) and general method of moment estimation method (GMM). They concluded that domestic and international institutions tends to be promoting exports across regions while the domestic institutions were more or less reducing protectionist in nature.

A study by Akanni, Adeokun, and Akintola, (2005) investigated the effects of trade liberalization on Agricultural exports in Nigeria. The result showed that the policy had tremendous effects on the level and value of exports in agricultural sub-sector. High value of co-efficient of elasticity further confirmed that export trade in these four commodities would dominate the Nigerian agricultural export trade for years to come. To measure gross earnings from agricultural export trade, therefore, according to them it becomes necessary for policy makers to formulate policies that will eventually enhance investment in cocoa, groundnut and palm produce as this will lead to increased output and values of these crops in this country if well implemented.

In their own contributions, Ojeyinka et al., (2017) examined the impact of trade liberalization on performance in the Nigerian economy, with special reference to agricultural and manufacturing sectors. They used two different models to capture the joint effects of trade liberalization on the two sectors. The Generalized Method of Moment technique was adopted to estimate the role of trade liberalization on the performance of the selected sectors. The study shows a significant positive impact of trade liberalization on the output of agricultural sector while a negative but significant relationship exists between measures of trade liberalization and manufacturing output in Nigeria. The study also reveals that exchange rate exerts a positive but insignificant impact on agricultural output while the effect of inflation on agricultural output is positive and significant within the study period. Unlike the agricultural output, both exchange rate and inflation have negative impact on manufacturing sector's output. Moreover, finding from the study also confirmed the possibility of substantial economic linkage between the two sectors, as their magnitudes were positive and significant which suggests some significant level of interdependence between them in the Nigerian economy.

Usman (2011) employed Ordinary least square, (OLS) techniques to study the performance evaluation of foreign trade and economic growth in focuses on the workings of trade on Nigeria economic growth. In carrying out this objectives, linear multiple regression model analysis was used in assessing various components of foreign trade. The result from the study observed that export, import, and exchanged rate are all negatively related to real output of Nigeria with 19 percent, 8.7 percent and 52 percent respectively and the adjusted R2 is 71 percent for the period, 1970 to 2005. They further opined that foreign trade policies should be reexamined and competitive produces should be produced by local industries.

The work on Trade Liberalization And Economic Growth In Nigeria; A Cointegration Analysis by Felix Olaifa, Subair, Biala (2013) adopted the ordinary least squares in estimating the influence of trade liberalization on economic growth in Nigeria between 1970 and 2012 with a view to examining whether a long term relationship exists between the two and also to check for structural change that may have occurred with the implementation of a free trade regime in 1986. The Result shows that liberalization supports economic growth in Nigeria with an evidence of a long run relationship. Strong evidence was found to support a structural change taking place in 1986 with the adoption of free trade policy. However export was reported to be negatively related to growth.

3.0 METHODOLOGY

The nature of data used for this work is secondary data from CBN Statistical bulletin and WDI. The study measures the period between 1985 and 2016 and the variables used includes: Agricultural output, Trade openness, Foreign direct investment, Agricultural employment and Agricultural loan. The measurement techniques employed includes: Unit root test with Philip Perron determine the stationarity or otherwise of the variables and co integration test using auto-regressive distributed lag (ARDL) model.

3.1 MODEL SPECIFICATION

The model to be estimated is presented below in its implicit form as:

$$\text{AGDP} = f(\text{TOPN}, \text{FDI}, \text{AGEMP}, \text{ACGSF}) \quad (1)$$

Linear transformation of the model in equation (1) is further expressed as:

$$\text{AGDP} = \beta_0 + \beta_1 \text{TOPN}_t + \beta_2 \text{FDI}_t + \beta_3 \text{AGEMP}_t + \beta_4 \text{ACGSF}_t + \mu_t \quad (2)$$

Where:

AGDP : Agricultural Output (Contribution of Agriculture to GDP.)

TOPN : Trade Openness.

FDI : Foreign Direct Investment

AGEMP : Agricultural Employment.

ACGSF : Agricultural Credit Guarantee Scheme Fund

β_1 to β_4 : Are Coefficients

μ_t : The error term

A priori Expectations: $\beta_0 > 0$; $\beta_1 > 0$; $\beta_2 > 0$; $\beta_3 > 0$; $\beta_4 > 0$;

3.2 TECHNIQUE OF ESTIMATION

The autoregressive distributed lag (ARDL) model is being used for decades to model the relationship between (economic) variables in a single-equation time-series setup. Its popularity also stems from the fact that co-integration of non-stationary variables is equivalent to an error-correction (EC) process. The existence of a long-run/co-integrating relationship can be tested based on the EC representation. The ARDL was employed to test for the long run relationship between the variables used in the model. The justification for the use of the ARDL was because of the mixture of the stationarity of the variables both at level and at first difference.

3.3 DATA SOURCE AND MEASUREMENT

As earlier stated, the data used for this work is secondary data from CBN Statistical bulletin and WDI. The study measures the period between 1985 and 2016 and the variables used includes: Trade openness, foreign direct investment, Agricultural employment and Agricultural loan while agricultural output is the dependent variable.

Table 3.1: Data Description and Measurement

S/N		SYMBOLS	DESCRIPTION	SOURCE	MEASUREMENT
DEPENDENT VARIABLE					
1	Agricultural GDP	AGDP	Agricultural output percentage of GDP	CBN Statistical Bulletin	Percentage
EXPLANATORY VARIABLES					
2	Trade Openness	TOPN	Trade percentage of GDP	WDI	Percentage
3	Foreign Direct Investment	FDI	Total Foreign Direct investment	WDI	Percentage
4	Agricultural Employment	AGEMP	Total Agricultural Employment	WDI	Percentage
5	Agricultural Credit Guarantee Scheme Fund	ACGSF	Agricultural Loan	CBN Statistical Bulletin	Percentage

SOURCE: Compiled by the Researcher

4.0 RESULTS AND DISCUSSION

This section centres on the estimation and discussion of empirical results as found from the study. The study looks at the effect of the explanatory variables on the dependent variable especially trade openness.

4.1 STATIONARITY TEST

This present study employs the Phillip Perron to test for presence or otherwise of a unit root among the variables of the model. The analysis of the Phillip Perron unit root result in Table 1 shows that all the variables with the exception of foreign direct investment were not stationary at level. This implies that the null hypothesis of unit root cannot be rejected for the variables of agricultural GDP (AGDP), trade openness (TOPN), agricultural employment (AGEMP) and agricultural loans (ACGSF) but cannot be accepted for foreign direct investment. Consequently, the variables were further differenced once to achieve a stationary series as shown in column four of Table one. At this stage the unit root null hypothesis could no longer be accepted to the variables since they have all been integrated of order one.

Table 1; Phillip Perron (PP) Unit Result

Variables	PP at Levels	5 Percent Critical value	First Difference	5 Percent Critical value
AGDP	-1.480362	-2.957110	-6.386260**	-2.960411
TOPN	-2.249101	-2.957110	-7.961078**	-2.960411
FDI	-3.457221*	-2.957110	-11.95696**	-2.960411
AGEMP	-0.268927	-2.957110	-4.291371**	-2.960411
ACGSF	-1.184058	-2.957110	-3.699870**	-2.960411

*, ** denotes significance level at 5 percent and 1 percent
Source Authors' computation with E-views 10.0

Co integration (Bound Test) Result

Table 2: Bound Test Result

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
		Asymptotic: n=1000		
F-statistic	3.992356	10%	2.68	3.53
k	4	5%	3.05	3.97
		2.5%	3.4	4.36
		1%	3.81	4.92

Source; Authors' computation with E-views 10.0

In order to establish the presence of a long run relationship between trade liberalisation, foreign direct investment, agricultural employment, agricultural loans and agricultural output, this study variables were subjected to co integration test using auto-regressive distributed lag (ARDL) model. The rationale for the choice of the ARDL model is informed by the mixture of series that were stationary at level (FDI) and the ones that were integrated of order one (AGDP, TOPN, AGEMP and ACGSF). In such a case, the use of ARDL becomes more appropriate than other methods of co integration such as Johanson and Jesulius (1988) and Engle Granger residual based approaches.

In this approach the Pesaran critical values at 1 percent and 5 percent significance level is compared with the F-statistic. A higher F-statistic in relation to the Pesaran critical values at 1 percent or 5 percent indicates the existence of a co integrated relations between agricultural output and other explanatory variables. An F-statistic value that is higher than the Pesaran lower bound critical value but less than the upper bound value is seen to inconclusive while an F-statistic that is below the lower and upper bound critical values reveals no evidence of co integrated series. Given the result of the bound testing in Table 2, it could be observed that the F-statistic (3.992) is found greater Pesaran lower (3.050) and upper (3.97) critical values at 5 percent significance level. The result therefore provides evidence in support of the existence of a long run relationship among the variables in the model.

Table 3 ARDL Long run Estimates

Dependent Variable: AGDP

Method: ARDL

Selected Model: ARDL(1, 4, 3, 4, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
AGDP(-1)	0.260631	0.234736	1.110316	0.2928
TOPN	-0.062014	0.023017	-2.694301	0.0225
TOPN(-1)	0.054661	0.020171	2.709836	0.0219
TOPN(-2)	0.067184	0.020398	3.293697	0.0081
TOPN(-3)	-0.042186	0.023186	-1.819445	0.0989
TOPN(-4)	-0.027967	0.019710	-1.418896	0.1863
FDI	0.031888	0.105750	0.301538	0.7692
FDI(-1)	-0.012155	0.092111	-0.131962	0.8976
FDI(-2)	-0.122626	0.094496	-1.297679	0.2235
FDI(-3)	-0.301605	0.105992	-2.845543	0.0174
AGEMP	0.231517	0.088706	2.609934	0.0260
AGEMP(-1)	-0.013968	0.127695	-0.109387	0.9151
AGEMP(-2)	-0.229811	0.101304	-2.268536	0.0467
AGEMP(-3)	0.238067	0.114362	2.081702	0.0640
AGEMP(-4)	0.106746	0.113918	0.937049	0.3708
ACGSF2	9.157780	4.409368	2.076892	0.0645
ACGSF2(-1)	-5.520191	5.133570	-1.075312	0.3075
C	-8.610880	4.895271	-1.759020	0.1091
R-squared	0.970265			
F-statistic	18.12772			
Prob(F-statistic)	0.000024			
Durbin-Watson stat	2.305102			

Source Authors' computation with E-views 10.0

4.2 DISCUSSION OF RESULT

Table 3 indicates the long-run result of the ARDL model used in this study. As shown the result trade liberalisation indicates a significant inverse relationship with agricultural output at 5 percent level of significance. Particularly a percentage increase in trade openness at the current period reveals a 0.062 decline in agricultural output holding other variables at constant. Further analysis of the result shows that trade liberalisation exhibits a significant positive lag effect on agricultural output such that the trade liberalisation at lag 1 and 2 suggest a significant impact of 0.055 and 0.067 at percent and 1 percent significant levels. It is also observed that though foreign direct investment at current period reveals no significant relationship with agricultural output, it revealed a significant inverse effect at lag 3 with an estimated impact of 0.302 percent significant at 5 percent level. At its current period, agricultural employment indicates a significant direct relations with agricultural output at percent level of significance. A closer observation of the result shows that a percentage increase in agricultural employment increases agricultural output by 0.232 percent. The result further implies that agricultural employment constitutes a significant positive determinant of the level of agricultural output in Nigeria. A deeper observation of the estimated lag coefficient of agricultural employment reveals a significant inverse and positive impact on agricultural output at lag 2 and 3 respectively. Specifically a percentage increase in agricultural employment results to a 0.230 decline in agricultural output at lag 2 while a percentage rise in agricultural employment brings about a corresponding increase in agricultural output by 0.238 percent at the third lag.

More evidence from the estimated result from the agricultural credit guarantee scheme fund at current period suggests a significant positive effect on agricultural output. It is noted that a percentage increase in agricultural credit guarantee scheme fund brings about a more proportionate effect (9.158) on agricultural output. Consequently, agricultural credit guarantee scheme fund suggests no significant cumulative effect on agricultural output shown in Table 3 result.

The R-squared result shows that 97.02 percent of the total variations in agricultural output was attributed to the changes in the explanatory variables. The F-statistic (18.128; P-value<0.01) result indicates the model statistical significance at 1 percent significance level. Durbin Watson statistic (2.305) reveal no significant evidence of serial auto-correlation in the model.

Table 4 Short-run co efficient

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8.078147	1.473494	-5.482306	0.0003
D(TOPN)	-0.062014	0.013933	-4.450815	0.0012
D(TOPN(-1))	0.002968	0.013815	0.214872	0.8342
D(TOPN(-2))	0.070153	0.012796	5.482427	0.0003
D(TOPN(-3))	0.027967	0.013584	2.058821	0.0665
D(FDI)	0.031888	0.058724	0.543014	0.5990
D(FDI(-1))	0.424231	0.089212	4.755323	0.0008
D(FDI(-2))	0.301605	0.082791	3.642948	0.0045
D(AGEMP)	0.231517	0.055348	4.182944	0.0019
D(AGEMP(-1))	-0.115002	0.061861	-1.859033	0.0927
D(AGEMP(-2))	-0.344813	0.059049	-5.839427	0.0002
D(AGEMP(-3))	-0.106746	0.074074	-1.441071	0.1801
D(ACGSF2)	9.157780	2.677656	3.420073	0.0065
CointEq(-1)*	-0.739369	0.123346	-5.994264	0.0001
R-squared	0.885936			
F-statistic	8.961902			
Prob(F-statistic)	0.000073			
Durbin-Watson stat	2.305102			

Source Authors' computation with E-views 10.0

Table 4 shows the short-run regression results that establishes the relationship between trade liberalisation, foreign direct investment, agricultural employment, agricultural loans and agricultural output in Nigeria. Evidence from the short-run result shows that the changes in the explanatory variables explained 0.880 percent of the total variations in agricultural output. The F-statistic (8.962; p-value<0.01) indicates that the model is statistically significant at 1 percent significant level. The Durbin Watson statistic (2.305) suggests no serial auto correlation in the model.

More evidence from the result indicates that trade liberalisation is negatively related to agricultural output in the short-run. Economically, at 1 percent significance level, a percentage increase in trade liberalisation retards agricultural output by 0.062 percent. Conversely, a significant positive relationship was observed trade liberalisation lagged coefficient. This implies that in the short-run there exists a significant positive lag effect of trade liberalisation on agricultural output. It could further be noted that though foreign direct investment do not significantly influence agricultural output in the short-run, it has a significant positive lag effect at 1 percent level.

Notably, agricultural employment exerts a significant direct impact on agricultural output while its lagged coefficient reveals an inverse relations with agricultural output. Agricultural loans in the short-run suggests a significant positive contribution to agricultural output. This shows that agricultural loans could be considered a significant factor that influences agricultural production particularly in the short-run analysis.

The model adjustment mechanism as revealed in the error correction term (-0.739) implies that 73.9 percent of the errors associated with the system could be corrected per time. This further indicates a high adjustment speed for the model.

5.0 RECOMMENDATIONS

The following recommendations have been proffered based on the empirical result obtained from this study. The result shows that there is a negative relationship between trade openness and agricultural output on the long run. It is important to note that Nigeria is already involved in one form of trade or the other with other countries and as such the question of trade liberalization is more of what we bring to the table. Currently we import much more than we export and as such the study recommends in line with the findings that agricultural loan should be made more accessible to farmers as AGCSF showed a positive relationship with the AGDP. More so, Government should invest more in agriculture to attract more employment to the sector as AGEMP also showed a positive relationship with the AGDP. Finally, it is also recommended Government should ensure political and macroeconomic stability so as encourage more of foreign direct investment especially into the agricultural sector.

5.1 CONCLUSION

The main aim of this research work is to ascertain the relationship between trade liberalization and agricultural output. It was observed that trade openness has adverse effect on agricultural output in particular this can be attributed to some factors as has been outlined in the recommendation. Trade in general might be good for the economy as suggested by some authors however when it comes to agricultural output it has adverse effect. This therefore calls for caution on policy makers to consider all sectors of the economy when making policies relating to trade openness.

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THE RELEVANCE OF E-COMMERCE ON THE GROWTH OF SMALL AND MEDIUM ENTERPRISES: A STUDY OF HEALTH MAINTENANCE ORGANIZATIONS IN THE SOUTH-SOUTH REGION OF NIGERIA

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ABSTRACT

This study is on the relevance of E-commerce on the growth of Small and Medium Enterprises in Nigeria. The study sought to find out how the use of E-commerce has affected the growth of Small and Medium Enterprises with specific focus on Health Maintenance Organizations in the South-South Region of Nigeria. The population of the study was fifty-three registered Health Maintenance Organizations in the South-South Region of Nigeria. The sample size consisted of the management and staff of the fifty three Health Maintenance Organizations who are licensed operators in the South-South Region of Nigeria (Delta, Bayelsa, Edo, Rivers, Cross-Rivers and Akwa-Ibom). The complete census technique was used to determine the sample size. The instrument used in collecting data was a structured questionnaire. The questionnaires were distributed through e-mail and retrieved through e-mail. The quantitative analysis of data was adopted and the T-test technique was applied in setting the hypotheses. The findings showed, among others, that the adoption of e-commerce by HMOs increased customers, boost profits and turn overs, has billing efficiency and payment operations, and cost reduction. It was recommended that HMO enterprise owners should be encouraged to adopt e-commerce in order to enhance their market expansion; business owners should endeavour to maintain data security by unauthorised disclosure of confidential information through the internet; policy makers should create a central e-commerce packages in which small firms can register and purchase the easy-setup software system at a subsidized cost. It was suggested that further studies be carried out to assess the technical and cost benefit analysis of e-commerce for Health Maintenance organizations in other major cities in Nigeria.

Keyword: E-commerce, SMEs, Health Maintenance Organizations, Health Care Providers.

INTRODUCTION

All over the globe the relevance of the Health Maintenance Organization has been recognised but its operations is a myth to most people. The recognition of Health Maintenance Organisations rests on the need to reach to a greater number of people through collective group health covers such as the managed care system. However, the health maintenance sector seems to be a myth to most Nigerians, despite the fact that practitioners are harnessing a fortune from it. In 2016 the International Finance Corporation, led a group of investors who invested ₦13.3 billion in Hygeia Nigeria Limited, one of Nigeria's leading Health Maintenance Organizations, a clear pointer to the profitability of the Health Maintenance industry (Financial Nigeria 2016). The internet has turned the world into a global village; advancements in Internet technology which offers innovations in business models, trades and commerce, as well as marketing practices to enhance the ease of doing business all over the world. According to Onoka (2016) the health maintenance sector is highly monopolistic; as bigger firms who have created a niche for themselves consume a huge chunk of the markets share. Thankfully a firm's competitors are no longer the other firms in their neighbourhood which are into similar businesses; a firm's competitor is the other firm anywhere else in the world which can effectively use e-commerce to cut more market share and reach targeted market. Technological progress in logistics and distribution enables nearly every business to buy, sell and operate on a global scale. Organizations with the use of electronic commerce otherwise known as e-commerce can carry out sales and other transactions among individuals, businesses, and organizations. Elseoud (2014) added that e-commerce has led to a paradigm shift in commercial activities; especially among Health Maintenance Organisations. Traditionally, the operations of Health Maintenance Organizations as the motherboard upon which Nigeria's National Health Insurance Scheme (NHIS) rests, involves manually registering/transacting with Health care providers (Hospitals) all over Nigeria. Apart from managing the lives allocated to them by the federal government, HMOs also provide health cover for the private sector, utilizing the hospitals in its network as a catchy selling point to marketable organizations, individuals and groups.

It is agreed that e-commerce is a new way of conducting business and its influence is increasing every year, Chong (2008). However, it is believed that the use of e-commerce has led to the outsourcing of staff by health organisations. Lin & Huang (2013) stated that the use of e-commerce has contributed to the growth of the outsourcing in the healthcare industry in other to cut cost, improved customer satisfaction, focus on core competencies, reduction in staff turnover, access to requisite skills, improved services and efficiency, increased

flexibility, and economies of scale. The main challenge for market players is to set aside the required resources and expertise in order to choose the most suitable system, according to the individual organization's needs as well as their customer expectations. This innovation affords organizations such as Health Maintenance Organizations the benefits of improved operating procedures, efficiency, as it provides small/new health maintenance organisation a level playing field in accessing a wider range of markets, greater potential for partnership with more Health care providers, improved customer services, accessibility and flexibility in administration, and partnership amongst others.

At the present stage of its development, e-commerce enables HMOs to reduce significantly the financial and time resources, to improve competitiveness, access to new health care providers/enrolees, pay bills, receive claims, to obtain additional information about the needs of enrolees, to respond quickly to changes in demand. Business and purchasing rules are changing, this is partially due to the increasing integration of internet-based transactions in all kinds of markets, including healthcare. Ellen et al., (2002) explained the significant impact e-commerce could have on the cost, efficiency, and quality of the overall management and delivery.

Statement of the Problem

It has been a rigorous search/interaction for HCPs in remote locations across Nigeria especially at the south-south region to find more effective and efficient ways of providing healthcare services, even at the rural level, to meet up the increasing need of global best practices. The cost of health care continues to rise globally and e-commerce will inevitably be required to improve quality, efficiency, effectiveness and enhanced access to health care services in the most cost-efficient manner. E-health has transformed the healthcare in most developed countries while its application is still a mirage to Nigerian health practitioners. It is therefore highly worrisome as business all over the world are making frantic efforts to take advantages of the actual and potential benefits these technologies offer through e-commerce, the application of e-health is still a mirage to the Nigeria health practitioners.

Objectives of the Study

The specific objectives of the study include the following

3. To examine the effect of e-commerce on the growth of HMOs in the South-South Region of Nigeria.
4. To determine the factors that affect the adoption of e-commerce by HOMS in their service delivery.

Research Questions

3. What effect does e-commerce has on the growth of HMOs in the South-South Region of Nigeria?
4. What factors affect the adoption of e-commerce by HMOs in Nigeria?

Research Hypotheses

Based on the research questions and the statements of the problem for this study, the following hypotheses were formulated.

H₀: E-commerce has no significant effect on the growth of HMOs in Nigeria.

H₁: E-commerce has significant effect on the growth of HMOs in Nigeria

H₀: Directors perception and internet knowledge have no significant effect on the adoption of e-commerce in the service delivery of HMOs in Nigeria.

H₁: Directors perception and internet knowledge have significant effect on the adoption of e-commerce in the service delivery of HMOs in Nigeria

Significance of the Study

4. The outcome of this study will enlighten the government on the relevance of e-commerce, and how effective it can be in reaching a larger population in the provision of health care services.
5. The research work will reveal the roles e-commerce can play in assisting small and medium enterprises in performing their functions effectively and efficiently thus, leading to growth and expansion in previously monopolized markets.
6. It will reveal to the general public the relevance of e-commerce and how the general public can be assisted in their business, investment and day to day life activities.

REVIEW OF LITERATURE

Electronic commerce otherwise known as e-commerce is a powerful concept and process that has fundamentally changed the current of human life (Yaser, 2013). It is one of the main drivers of revolution in the field of Information Technology and communication. According to Leke (2014), the E-commerce boom has kicked off in Nigeria with hundreds of new online stores and services coming on board every year. He further maintained that E-commerce is a hardy rocket science, which implies an innovation that can be adopted and applied by businesses to achieve maximum productivity.

Grandon & Pearson (2004), defined Electronic commerce (e-commerce) as any business transaction which includes the process of buying, selling, transferring or exchanging products, services, or information using electronic data transmission via the Internet, such as the online payment for goods and services rendered using a credit card. Almost any product

or service can be offered via e-commerce. According to Huseynov & Yildirim (2016), E-commerce is a process of carrying out commercial transactions through computer networks, such as the Internet. Abebe (2014), defined e-commerce as the process of buying and selling of information, products, and services through computer networks.

HISTORY OF ELECTRONIC COMMERCE

According to Yaser (2013) in the 1970s, the term electronic commerce, referred to electronic data exchange for sending business documents such as purchase orders and invoices electronically. The first electronic commerce was created in USA and some European countries in 1998. According to Lohse and Spiller (2000), Electronic commerce was identified as using technology such as Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT) to facilitate commercial transactions electronically. These processes were introduced in the late 1970s, allowing businesses to send commercial documents like purchase orders or invoices electronically. In the late 1980s, credit cards, automated teller machines (ATM) and Telephone Banking were also accepted as forms of electronic commerce. The airline ticket reservation system typified by Sabre in the United States of America and Travicom in the United Kingdom was also classified as a form of electronic commerce in the 1980s. The 1990s saw the emergence of Enterprise Resource Planning Systems (ERPS), Data mining, and Data warehousing as other forms of electronic commerce. In 1990, Tim Berners-Lee invented the Worldwide Web browser and transformed an academic telecommunication network into a worldwide everyman everyday communication system called internet/www. Commercial enterprise on the Internet was strictly prohibited by National Science Foundation (NSF) until 1995. Although the Internet became popular worldwide around 1994 with the adoption of Mosaic web browser, it took about five years to introduce security protocols and Digital Subscriber Line (DSL) allowing continual connection to the internet. The World Wide Web gained enormous usage at the end of year 2000 when many European and American businesses offered their services through the internet. Since then people began to associate the word “e-commerce” with the ability of purchasing various goods through the internet using secure protocols and electronic payment systems. (Pew Research Center, 2000). These types of business are formed with beginner and unprofessional websites and it has been expanded rapidly. Electronic commerce was spread rapidly in most cities in America, Europe and East Asia in 2005. Some say, dates of electronic commerce return to prior of the Internet, but due to the costs of this style of business, only business and financial institutions and corporations could use it. But with the widespread use of the Internet to all of the people and change in the structure of electronic

commerce, this kind of business has moved out from specific business case for a particular group and became the industrial form (Yaser, 2013).

E-COMMERCE FRAMEWORKS

According to Yaser (2013) Electronic commerce framework is comprised of three levels that this framework needed for successful electronic commerce

(iv) Infrastructure

Having the right infrastructure is key in the use of e-commerce. Yaser (2013) stated that electronic commerce infrastructure comprises; hardware, software, databases and communications. It is used in term of World Wide Web on the Internet or other message switching methods on the Internet or other telecommunication networks.

(v) Services

The second part of the framework include a wide range of services that provide the ability to find and present information, including the search for trading partners, negotiation and agreements.

(vi) Products and Structures

This section of the electronic commerce frameworks consists forecasts and direct provision of goods, services and trade related information to customers and business partners, cooperation and sharing of information within and outside the organization and organizing of environment of electronic marketplace and chain of supply and support.

However Turban et al., (2000), citing Kalakota and Whinston (1997), highlighted a more complex e-commerce framework diagrammatically representing applications and other support areas within the framework.

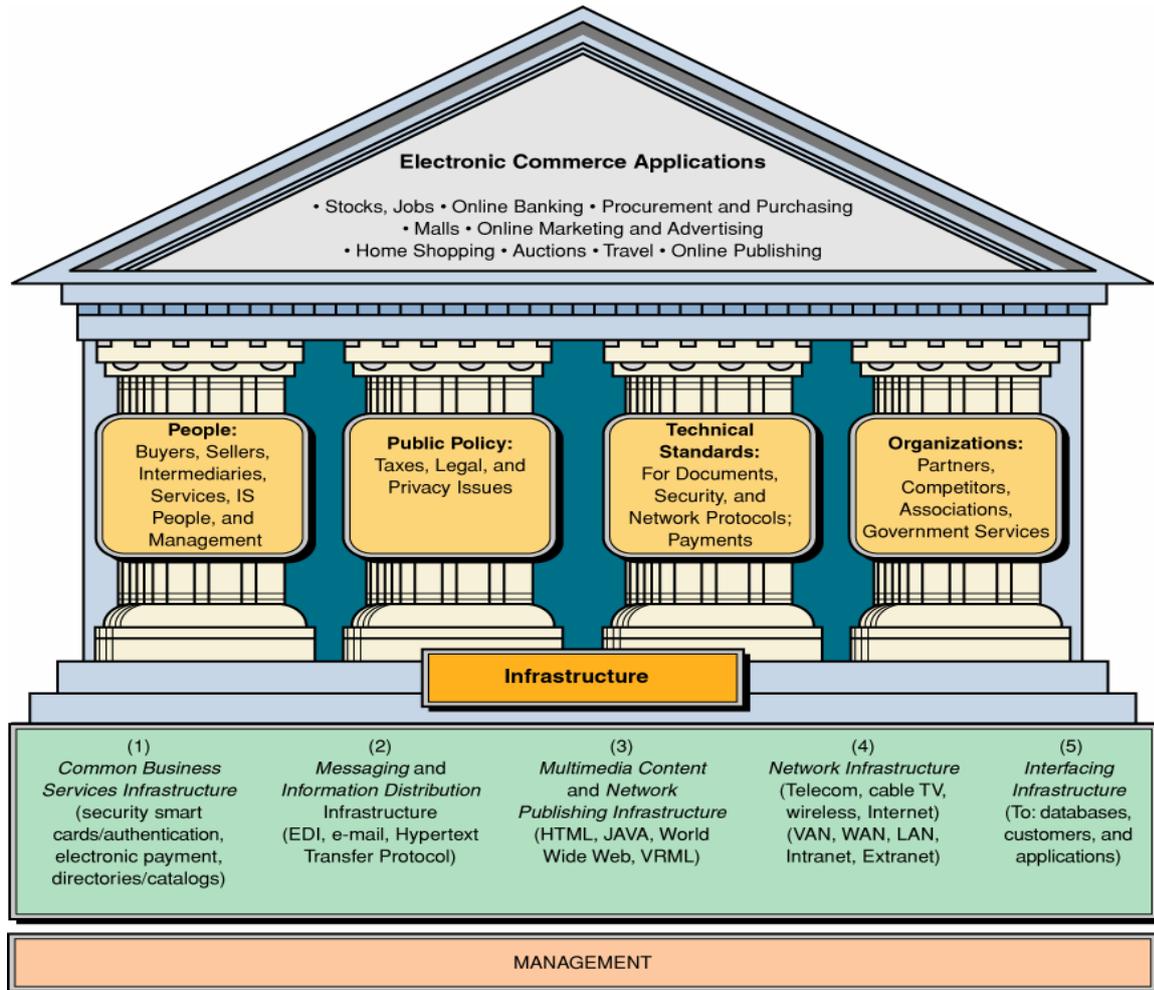


Fig: 1.1 A framework for electronic commerce. (Source: Kalakota and Whinston (1997), p.12, cited in Turban et al., 2000)

There are many e-commerce applications as portrayed by the diagram above. These applications are supported by infrastructure and the following support areas:

- **People** includes buyers, sellers, intermediaries, information system specialist, other employees and any other people participants. This is an important support area.
- **Public policy** includes legal and other policy and regulatory issues, such as privacy, protection and taxation, which are determined by government.
- **Technical standards** include all issues regarding documents, security issues which are established by government or industry-mandated policy-making group. Other technical issues range from content creation to payments to order delivery.
- **Organizations** deals with partners including joint ventures and business partnerships of various types common in electronic commerce. Also, competitors, associations and government services.

The infrastructure for E-commerce as shown in figure 1.1 is a description of the hardware, software and networks used in e-commerce. Finally, all the components of e-commerce

require good managerial practices. This means that companies need to plan, organize, motivate, devise strategy, and restructure processes as needed to optimize the business use of e-commerce models and strategies. (Turban et al., 2000: Kalakota and Whinstone, 1997)

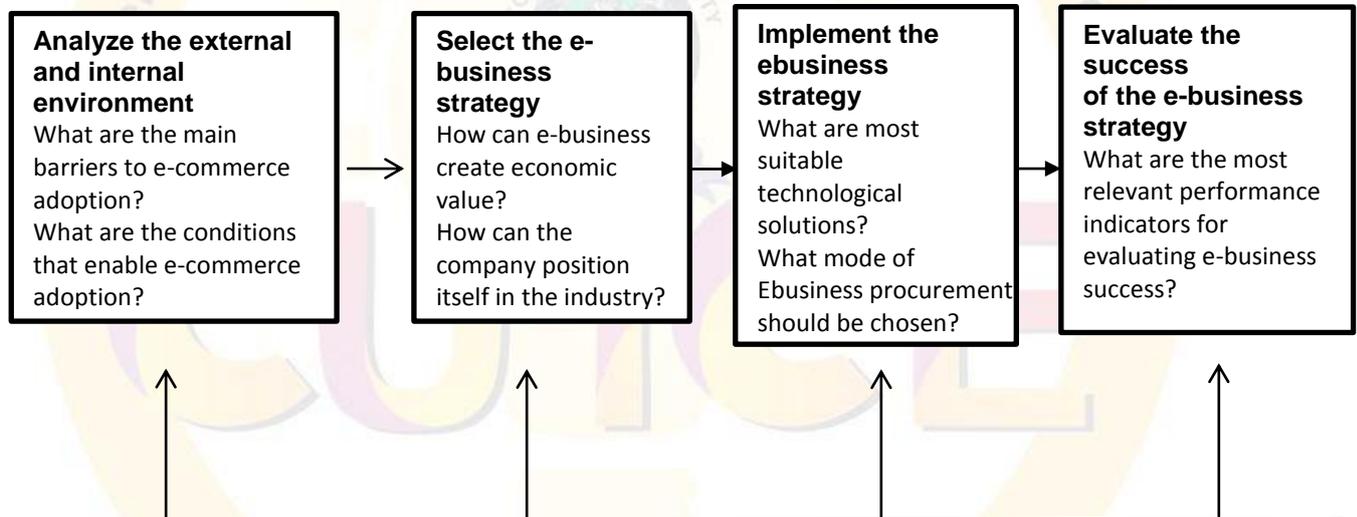
The Strategic Management Process in E-Business

According to Cote et al., (2005), having access to the web is essential for SME's just as owning a fax machine or a telephone. Companies that adopt an e-business model must often make changes in their business processes and the way they interact with suppliers and customers.

The e-business strategic management model process illustrated in figure 2.4 below follows the traditional model of strategic management. It is a systematic process consisting of four interrelated steps which every company entering into e-business should experience. The steps are

1. Analyze the external and internal environment
2. Select the e-business strategy
3. Implement the e-business strategy
4. Evaluate the success of the e-business strategy

Figure 1.2 strategic management process for E-business



SOURCE: Cote L., et al 2005 The Management Process for E-Business

(v) Analyse the Company's External and Internal Environment

According to Cote et al., (2005), an analyses of the company's strengths and weaknesses as well as obstacles and opportunities that pertains in the traditional strategic planning model so as to guide strategic decisions is also equally crucial for e-business planning. The main barriers for e-business adoption include

- Wait-and-see attitude and sceptism on the part of clients and partners

- The nature of the company's products
- The location of the business (i.e. whether it is in a rural or an urban center)
- Lack of financial resources – the size of investing in e-business and the uncertain payback period for the investment hinders the adoption of e-business

Analyze the external and internal environment

- What are the main barriers to e-commerce adoption?
- What are the conditions that enable e-commerce adoption?

(vi) Select the e-business strategy

How can e-business create economic value?

How can the company position itself in the industry?

(vii) Evaluate the success of the e-business strategy

What are the most relevant performance indicators for evaluating e-business success?

(viii) Implement the e-business strategy

What are the most suitable technological solutions?

What mode of E-business procurement should be chosen?

What conditions enable e-business adoption?

According to Cote et al., (2005), in developing an e-business strategic plan, the company should take into account the number and nature of external factors that are compatible with the adoption of e-business. The following factors also trigger the adoption of e-commerce;

- Government financing of a specific industry to enhance speedy economic growth.
- Initiative by managers who realize the potential advantages of e-business.

THEORETICAL FRAMEWORK

Theoretically, organizations are seen as systems, (*Systems theory*). And as a system, the organization is part of a larger system which exerts pressures on the organization. Hence success or failure of the organization is linked to the activities of other players within the system. Alam (2009) opined 'Firms should not be seen in isolation but as being connected in business systems' (*Networking Theory*). Lechner and Dowling (2000) define networks as the relationship of individual with other individuals, or relations between organizations that can have various functions. Therefore, network relationships can be considered as an important intangible resource to support for organizations which do not have sufficient resources since it helps them to develop the links with suppliers, distributors and customers, or utilization of social contacts, including acquaintances, friends, family and kin. Also, Alam (2009) citing Rindova and Fombrun (1999) argue that resources, capabilities and core competencies are essential for a firm's competitive advantage (*Resource Based Theory*). Therefore, adequate

resource support and policies to create capability are critical for organizations' growth as they are small in size and need assistance. Resource based theory provides a framework to explain how business can identify suitable measures to overcome growth obstacles, have better access to technology resources, manpower resources, financial resources, natural, and infrastructure, and access to the market. There is the need for the organization to build capabilities to accommodate environmental changes. ***The dynamic capabilities framework (DCF)***. The dynamic capabilities framework (DCF) was developed by Teece, Pisano, and Shuen (1997). The key tenet of the DCF is that acquiring and implementing firm-specific capabilities could be a source of Competitive advantage for firms, in this case, Health Maintenance Organizations, operating under rapidly changing market conditions. Small and medium enterprise such as Health Maintenance Organizations acquires e-commerce technologies and utilizes it in other to have a firmer grip of the ever dynamic business environment and as a means to stay ahead of the competition, to keep in touch with their widely spread out clients, for efficiency and reference purposes. The concepts of the DCF proposed by Teece et al., (1997) include managerial and organizational capabilities and processes relating to;

- (a) Coordination/integration,
- (b) Learning
- (c) Reconfiguration/transformation.

Teece (2007) extended the key concepts of dynamic capabilities to include the following capacities;

- (a) Sensing and shaping opportunities and threats;
- (b) Seizing opportunities
- (c) Adapting, configuring, and reconfiguring the firm's tangible and intangible assets to achieve competitive advantage.

Daniel and Wilson (2003) underscored the critical role of dynamic capabilities in achieving a sustained competitive advantage by firms undergoing e-business transformation. The propositions advanced in the DCF were relevant in exploring the strategies that Health Maintenance Organizations use to implement e-commerce systems as a tool to grow their business. Because an e-commerce strategy indicates how an organization deploys its assets to achieve and sustain competitive advantage in the online market space (Torres2014), using the DCF was insightful in exploring Health Maintenance Organizations implemented e-commerce systems by acquiring, adapting, and reconfiguring organizational assets to achieve competitive advantage.

Research Methodology

Sample size

There are fifty three (53) registered Health Maintenance Organization in the South-South Region of Nigeria (Delta, Bayelsa, Edo, Rivers, Cross-River and Akwalbom). The region comprises of six states. These 53 HMOs make up the total population of the study and this is known as complete census.

Data Collection

A total of 183 questionnaires were distributed to the HMOs and HCPs and 170 were returned as follows

	No Distributed	No. Returned	Response Rate
HMOs	159	148	93.08%
HCPs	24	22	91.67%
Total	183	170	92.90%

The questionnaires were administered through e-mail and by hand and retrieved through the same methods.

Method used for Data Analysis

The method used in this study was the statistical technique of chi-square and regression and correlation methods. These were performed by the use of Microsoft Excel (2016) version.

Decision Rule

Reject H_0 and accept H_1 , if the computed Z is more than 1.96, and reject H_1 and accept H_0 if the computed Z is less than 1.96.

Presentation of Analysis of Data

The characteristic of the HMOs and HCPs used for the study are shown in the table below

Table 1: Distribution and Percentage of Return of Questionnaire to HMOs and HCPs

	No Distributed	No. Returned	Response Rate
HMOs	159	148	93.08%
HCPs	24	22	91.67%
Total	183	170	92.90%

Table 1 above showed that out of 159 questionnaires distributed to members of staff of HMOs in the 6 states of the South-South Region, 148 were returned (93.08%). Again out of 24 questionnaires distributed to member of staff of HCPs in the six states of the South-South

Region, 22 were returned (91.67%). A total of 183 questionnaires were distributed and 170 were returned (92.90%).

Analysis of Data

From the Hypothesis 1: E-commerce has no significant effect on the growth of HMOs in Nigeria. This hypothesis is addressed by the responses to the question below: Do you agree that the introduction of e-commerce can increase your clientele and branch network?

Table 2: Responses to the Question

	SA	A	U	D	SD	Total	Mean	Variance
No of Respondents	58	51	14	35	12	170	34	437.5
Proportion	0.34	0.30	0.08	0.21	0.07	1.00	0.20	0.015138

Key:

SA = Strongly Agree

A = Agree U = Unsure

D = Disagree

SD = Strongly Disagree

z-Test: Two Sample for Means

	Variable 1	Variable 2
Mean	34	0.2
Known Variance	437.5	0.02
Observations	5	5
Hypothesized Mean Difference	34	
Z	0.021380411	
P(Z<=z) one-tail	0.4914711	
z Critical one-tail	1.5853627	
P(Z<=z) two-tail	0.9829422	
z Critical two-tail	1.959963985	

Decision Rule: Reject H_0 , if Z computed (1.96) is greater than Z critical and accept the alternative hypothesis. Since Z computed (1.96) is greater than Z critical (1.58), reject the H_0 and accept H_1 . Thus, e-commerce has significant effect on the growth of HMOs in Nigeria.

Hypothesis 2: Directors' perception and internet knowledge have no significant effect on the adoption of e-commerce in the service delivery of HMOs in Nigeria. This hypothesis is addressed using the responses from the question below.

Do you agree that the knowledge of e-commerce and internet operation can affect decision to adopt e-commerce in the organization?

Table 3: Responses to the Questions

	SA	A	U	D	SD	Total	Mean	Variance
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No of Respondents	57	73	6	20	14	170	34	857.5
Proportion	0.34	0.43	0.04	0.12	0.08	1.00	0.20	0.029671
z-Test: Two Sample for Means								

	<i>Variable 1</i>	<i>Variable 2</i>
Mean	34	0.2
Known Variance	857.5	0.02
Observations	5	5
Hypothesized Mean Difference	34	
Z	-0.015271893	
P(Z<=z) one-tail	0.493907633	
z Critical one-tail	1.644853627	
P(Z<=z) two-tail	0.987815266	
z Critical two-tail	1.959963985	

Decision Rule: Reject H_0 , if Z computed (1.96) is greater than Z critical and accept the alternative hypothesis.

Since Z computed (1.96) is less than Z critical (2.6), accept the H_0 and reject H_1 . Thus Directors perception and internet knowledge have no significant effect on the adoption of e-commerce in the service delivery of HMOs in Nigeria.

FINDINGS, RECOMMENDATIONS AND CONCLUSION

Findings

The study revealed that the report on the utilization of e-commerce resources showed that electronic fund transfer (ETF) and e-mail were the most popular and most utilized e-commerce as 142 respondents representing 83% of the population admitted using ETF.

The study also revealed that 130 representing 76% of 170 respondents agreed that knowledge of e-commerce and internet operations cannot affect decision to adopt e-commerce in the organization.

It was further revealed that over 65% of HMOs in the South-South Region of Nigeria agreed that the use of e-commerce can increase their clientele base and branch network leading to overall business growth.

Recommendations

It was recommended, among others, that small HMOs enterprise owners should be encouraged to adopt e-commerce in order to enhance their market expansion. Also, since SMEs have been established to be the backbone of an economy, it is important for policy makers to ensure that these firms are protected and helped to maximise their potentials. As part of encouraging the adoption of e-commerce by small businesses in developing e-commerce, policy makers should be advised to create a central e-commerce package in which small firms can register and purchase the easy-setup software system at a subsidised cost.

This will help small businesses to strive for competitive advantage with larger firms and therefore generate more income through tax (ICT, 2013).

Conclusion

in exploring the avenue for applying the potentials of information technology in SMEs, the internet is redesigning commerce and will continue to reshape different sectors. Businesses in Nigeria cannot afford to avoid participating in the opportunities the internet is enabling through expansion of markets. Hence, entrepreneurs particularly those in HMO businesses need to realize the need for full utilization of e-commerce in order to be both successful and profitable in the country.

This study makes attempt to link the use of e-commerce to business growth as a solution to assist HMOs to grow their business in this very monopolistic industry. This study sheds light on the significance of e-commerce in the SME sector of the economy, the enabling factors as well as hindrances such as knowledge of e-commerce/internet technology and perceptions on its link towards achieving customer satisfaction.

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INDUSTRY 4.0 AS A DISRUPTIVE AGENT TO TECHNOLOGY EDUCATION BODY OF KNOWLEDGE

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Abstract:

Technology education is a resource intensive body of knowledge which is necessary tools for development of any nation. This body of knowledge has metamorphosed from manual based to mechanical and later automation as a result of series of industrial transformations. Similarly, it is currently facing a serious revolution due to proliferation and diffusion of information and communication technology. The contemporary revolution is changing the way users and machines communicates in work environment. To accommodate the revolution, nations are changing their curriculum and pedagogy to digital orientation. However, many studies have shown that, technology education is bedeviled by multiple shortcomings ranging from lack of facilities, unqualified manpower etc. Therefore, the main aim of this paper is to appraise industry 4.0 scenario in relation to contemporary status of technology education and propose possible measures to mitigate effects of the challenges on Nigeria educational objectives.

Keywords: Industry 4.0, Technology education, Transformation of Technology,

Introduction

Industry 4.0 simply refers to "fourth industrial revolution" which in other hand means integrated automation and data that is used for optimization of production, enhanced flexibility and efficiency within a smart factory environment (M.A. K. Bahrin, M F Othman, 2016). This revolution is driven by artificial intelligence, automation, ubiquitous mobile supercomputing, intelligent robots, self-driving cars, neuro-technological brain enhancements, genetic editing etc; the evidence of dramatic change is all around us and it's happening at exponential speed. Historically, steam-powered mechanical systems in the first industrial revolution have been transformed into a structure in which cyber-physical systems take place in a very short time (M.T. Dewa, D Q Adams, 2018) In the first industrial revolution, mechanical production systems emerged by using water and steam power. In the ongoing process, mass-producing technologies have emerged using electric energy and this is called the second industrial revolution (Rennung, Luminosu, & Draghici, 2016) . At the beginning of the 1970s, the automation of production processes, along with the intensive use of electronic technology, led to digital transformation, making the production processes in the industry faster (Stock & Seliger,) . The industrial revolutions can be described as follows: production with the help of machines, serialization of production, automation of production, and finally the 4th industrial revolution, adaptation to the production systems of information and communication technologies (M.A. K. Bahrin, M F Othman, 2016) In summary, these processes led to a shift from muscle strength to mechanical strength. We can define the fourth industrial revolution as the digitalization of the industry by communicating all the structures within the production systems (M.T. Dewa, D Q Adams, 2018) This revolution, which accelerates the production processes by making all the units in the production systems communicate with each other over the internet, promises that intelligent systems will be in all areas.

Brief History of Fourth Industrial Revolution (IR 4.0)

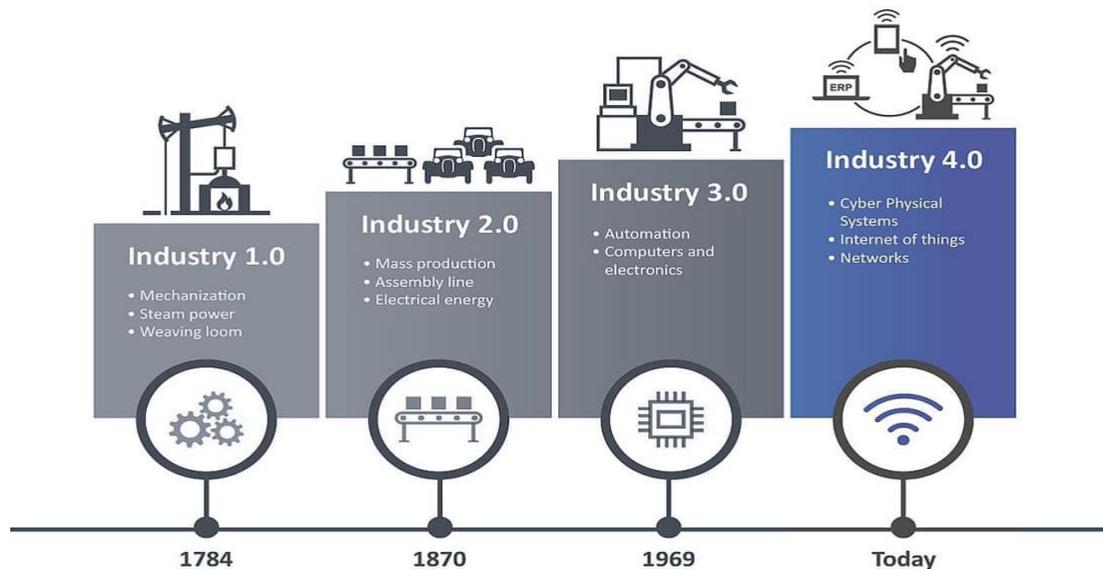
The first Industrial Revolution, the Industry 1.0, that started in the 1760s and lasted into 1830s, the production evolved from physical strength to machine power. Increasing in quantity and improving in quality, the machines used steam power. After production was mechanized during the First Industrial Revolution, the "Second Industrial Revolution" was triggered, along with the development of technology.

The period between 1840 and 1870 is called Industry 2.0 and also known as technological Revolution. Industry 2.0 was all about the Mass Production first powered by electricity, then kept moving by oil. This new technology superior to steam power ensured that the machines are further advanced and the production increased greatly. With the mass production, iron and steel raw materials have become widespread and allowed the heavy industry to develop. The term "automation" was first used in the middle of Industry 2.0. Delmar Harder, Ford's vice president of production, first described what we described as factory automation in 1947. During the first half of the 20th century, two Big World Wars had started one after the other and country borders had been shattered. Negative economic developments such as the Global Crisis in 1929 slowed the pace of industrialization of all countries.

After the effects of the World Wars, beginning in the late 1960s, Industry 3.0 started to support electrical mechanization with the power of computers. The computers that mentioned, are called the Programmable Logic Controllers (PLCs). These controllers can automate a specific process, machine function, or even an entire production line.

Another important progress during the Third Industrial Revolution was the development of communication technologies along with the supercomputer. The most important innovation that has influenced the development of technology was the discovery of the internet. It has changed everything. The internet connected PLCs, computers, sensors, robots, mainframes, and people all over the world enabled businesses to do things even more intelligently and efficiently.

In the Fourth Industrial Revolution, the machines began to manage themselves and the production process, so they no longer needed manpower. Figure 1 shows the graphical representation of how industrial revolution metamorphose from stem engines to contemporary smart driven systems



Source: D Zone

Factors Driving Industry 4.0

The manufacturing industry is increasingly shifting towards producing more technologically-complex products. It is no longer enough for the manufacturing industry to make better things – creating innovative products and services that will meet customer needs - but also to make things better - facilitating the design engineering, service planning and execution as well as improving the management and production processes. Furthermore, despite steady improvements in the manufacturing output and employment in the sector, renewed investments will be needed to build the necessary infrastructure and increase resources to support the continuous growth. This emphasis on “making better things while making things better” is driven by the following factors (M.A. K. Bahrin, M F Othman, 2016) :

- xiii. Rate of technology advancement and its convergence - technology changes driven by applications of these technology in the manufacturing industry such as but not limited to Big Data, the Internet of Things, and cloud computing;
- xiv. Shifts in the global economic order; economic realignment due to changes in the developed world, and the rise of fast-growth emerging economies;
- xv. Knowledge & Skills for the future in retaining talent and producing future workforce by taking advantage of the opportunities of this transformation;
- xvi. Competitiveness of nations and firms - greater global competition as firms must defend their domestic markets while simultaneously tapping new market segments for long-term growth;
- xvii. Changing customer behaviour – influenced by values, personalization and customization and the emergence of new products and new services attributes that are forcing manufacturing firms to reassess their manufacturing systems of production.
- xviii. Increased regulations - environmental concerns and standards-based factors like ISO compliance that apply across an increasingly interconnected world.

Considering the above factors, economists, futurists and other experts have been good at predicting the demise of jobs they haven't been great at pointing to the new jobs that will emerge, whether people will be equipped to do them and whether they'll produce adequate income. But things don't need to be so bleak or dystopian (Stock & Seliger,). The reality is that the jobs of the future will be the ones that machines can't do and it's fair to say anything that can be measured or is based on rules will be automated. This is great news because it means we can automate the work and humanize the jobs. On this note therefore, the only safe harbor for future technology education body of knowledge are the following (Ministry of International Trade and Industry, 2017) ;

- **creative endeavors**, everything from scientific discovery to creative writing and entrepreneurship
- **social interaction**, robots just don't have the kind of emotional intelligence that humans do
- **physical dexterity and mobility**, millennia of hiking mountains, swimming lakes and dancing practice gives humans extraordinary agility and physical dexterity.

The Global Efforts on Industry 4.0

- xxi. Since 2011 the United States (US) government began a series of national-level discussions, actions and recommendations, titled ‘Advanced Manufacturing Partnership (AMP)’, to ensure the US to be prepared to lead the next generation of manufacturing (R. Rafael, 2014) (Rafael, Jackson Shirley, and Liveris 2014).
- xxii. In 2012, the German government passed the ‘High-Tech Strategy 2020’ action plan, which annually sets billions of euros aside for the development of cutting-edge technologies. As one of the ten future projects in this plan, the ‘Industrie 4.0’ represents the German ambitions in the manufacturing sector (S, 2017).
- xxiii. The French government initiated a strategic review in 2013, named the ‘La Nouvelle France Industrielle’, in which 34 sector-based initiatives are defined as France’s industrial policy priorities.
- xxiv. In 2013, the United Kingdom (UK) government presented a long-term picture for its manufacturing sector until the year of 2050, called the ‘Future of Manufacturing’. It aims to provide a refocused and rebalanced policy for supporting the growth and resilience of UK manufacturing over the coming decades.
- xxv. The European Commission launched the new contractual Public-Private Partnership (PPP) on ‘Factories of the Future (FoF)’ in 2014. It is under the Horizon 2020 programme that plans to provide nearly 80 billion euros of available funding over 7 years (from 2014 to 2020) (European Commission 2016).
- xxvi. In 2014, the South Korea government announced the ‘Innovation in Manufacturing 3.0’ that emphasized four propulsion strategies and assignments for a new leap of Korean manufacturing
- xxvii. The Chinese government issued the ‘Made in China 2025’ strategy alongside the ‘Internet Plus’ plan in 2015. It prioritizes ten fields in the manufacturing sector to accelerate the informatization and industrialization in China.
- xxviii. In 2015, the Japanese government adopted the 5th Science and Technology Basic Plan, where particular attentions have been paid to the manufacturing sector for realizing its world-leading ‘Super Smart Society’
- xxix. The Singapore government has committed \$19 billion to its RIE 2020 Plan (Research, Innovation and Enterprise) in 2016. Eight key industry verticals have been identified within the advanced manufacturing and engineering domain (National Research Foundation 2016).
- xxx. In 2017, Ministry of International Trade and Industry of Malaysia, developed a draft National Industry 4.0 Policy Framework. This document targets a range of stakeholders, with the aim of encouraging manufacturing firms to work with the entire manufacturing ecosystem to address the challenges and act on the identified enablers. The topics covered are linked to Malaysia’s business and competitive advantages and the drivers, potential disruptors and technology developments in the manufacturing industry (Ministry of International Trade and Industry, 2017) .

Challenges of industry 4.0 to TVET Body of Knowledge

Like the revolutions that preceded it, the Fourth Industrial Revolution (Industry 4.0) has the potential to raise global income levels and improve the quality of life for populations around the world. To date, those who have gained the most from it have been consumers able to afford and access the digital world; technology has made possible new products and services that increase the efficiency and pleasure of our personal lives. Ordering a cab, booking a flight, buying a product, making a payment, listening to music, watching a film, or playing a game—any of these can now be done remotely. In the future, technological innovation will also lead to a supply-side miracle, with long-term gains in efficiency and productivity. Transportation and communication costs will drop, logistics and global supply chains will become more effective, and the cost of trade will diminish, all of which will open new markets and drive economic growth.

This revolution brings with it, an exciting possibility, new solutions to global challenges, and employment opportunities for jobs that have yet to be invented. At the same time, it comes with the potential for technological

unemployment that drives downward pressure on income security and social agency while society adapts to the new normal. Combined with climate change and rapid global population growth this century is the most challenging that our species has ever faced. Governments, educators and parents alike must ask the question about how they can prepare present and future generations to thrive in this transforming world.

At the same time, as the economists Erik Brynjolfsson and Andrew McAfee have pointed out, the revolution could yield greater inequality, particularly in its potential to disrupt labor markets. As automation substitutes for labor across the entire economy, the net displacement of workers by machines might exacerbate the gap between returns to capital and returns to labor. On the other hand, it is also possible that the displacement of workers by technology will, in aggregate, result in a net increase in safe and rewarding jobs.

- The current industrial revolution is based on cyber-physical systems. The networked machines and human beings now cooperate in decision making. It should be noted that Industry 4.0 brings with it a new situation for employees.
- In this new situation, there are more flexible production systems, with shorter cycles, shorter delivery times, optimized management of stocks, more flexible working times and more flexible tasks.
- Moreover, Industry 4.0 means that “Human intervention is no longer necessary”, it was highlighted in the presentation, while there is also improve co-decision of skilled workers regarding their own working times.
- Industry 4.0 also means masses of data, the handling of data, and complete control of processes, while it also means a dissolution of work boundaries and that working time is simply a variable within the complex optimization plan of a factory.
- Today’s intelligent information systems and computers are capable of making decisions independently, and this leads to a new quality in the division of labour between man and machine.

With these challenges, there are three questions that highly relevant: (1) How much technology is adequate? (2) How much Human involvement may (still) remain? (3) How can the three dimensions of sustainability be secured?

In addition to being a key economic concern, inequality represents the greatest societal concern associated with the Fourth Industrial Revolution. The largest beneficiaries of innovation tend to be the providers of intellectual and physical capital—the innovators, shareholders, and investors—which explains the rising gap in wealth between those dependent on capital versus labor. Technology is therefore one of the main reasons why incomes have stagnated, or even decreased, for a majority of the population in high-income countries: the demand for highly skilled workers has increased while the demand for workers with less education and lower skills has decreased. The result is a job market with a strong demand at the high and low ends, but a hollowing out of the middle. Discontent can also be fueled by the pervasiveness of digital technologies and the dynamics of information sharing typified by social media. More than 30 percent of the global population now uses social media platforms to connect, learn, and share information. In an ideal world, these interactions would provide an opportunity for cross-cultural understanding and cohesion. However, they can also create and propagate unrealistic expectations as to what constitutes success for an individual or a group, as well as offer opportunities for extreme ideas and ideologies to spread. In extension, Industry 4.0 will affect TVET body of knowledge in the many ways such as;

Industry 4.0 and the Technology Education Body of Knowledge

11. Diverse time and place.

Students will have more opportunities to learn at different times in different places. eLearning tools facilitate opportunities for remote, self-paced learning. Classrooms will be flipped, which means the theoretical part is learned outside the classroom, whereas the practical part shall be taught face to face, interactively U.Musa, R. M. (2018). A review of obstacles of ICT usage in nigerian tertiary educational institutions. *International Journal of Human Resource Studies*, 8(4), 169-179. . Relatively, apps and highly sophisticated software will serve as laboratory to some extents.

12. Free choice.

Though every subject that is taught aims for the same destination, the road leading towards that destination can vary per student. Similarly, to the personalized learning experience, students will be able to modify their learning process with tools they feel are necessary for them. Students will learn with different devices, different programs and techniques based on their own preference. Blended learning,

flipped classrooms and BYOD (Bring Your Own Device) form important terminology within this change (Pettinger, 2016a).

13. Project based.

As careers are adapting to the future freelance economy, Technology students of today will adapt to project-based learning and working. This means they have to learn how to apply their skills in shorter terms to a variety of situations. Students should already get acquainted with project-based learning in high school. This is when organizational, collaborative, and time management skills can be taught as basics that every student can use in their further academic career (Pettinger, 2016)

14. Field experience.

Because technology can facilitate more efficiency in certain domains, curricula will make room for skills that solely require human knowledge and face-to-face interaction. Thus, experience in 'the field' will be emphasized within courses. Schools will provide more opportunities for students to obtain real-world skills that are representative to their jobs. This means curricula will create more room for students to fulfill internships, mentoring projects and collaboration projects etc (S, 2017)

15. Data interpretation.

Though mathematics is considered one of three literacies, it is without a doubt that the manual part of this literacy will become irrelevant in the near future. Computers will soon take care of every statistical analysis, and describe and analyses data and predict future trends. Therefore, the human interpretation of these data will become a much more important part of the future curricula of technology education. Applying the theoretical knowledge to numbers, and using human reasoning to infer logic and trends from these data will become a fundamental new aspect of this literacy (Pettinger, 2016b)

Conclusion

Industry 4.0 has come and will certainly affect manufacturing and in extension affects technical skillset and the way the skills are learnt and practice. In automated processes, technology learning needs to be structured differently. Errors and stoppages pose too much of a risk. More of the learning must therefore be organized in separate spaces, e.g. in virtual learning environments. As a corollary, the corresponding learning opportunities need to be borne in mind at an early stage when production facilities are being designed. Technology education and training must be involved in future. Even today, companies are cooperating more with partners in the higher education sector to train the next generation of skilled workers. But Technology education and training must not leave this field to the higher education establishments alone, particularly as no uniform standards exist as yet. On the contrary, it must develop its own concepts for Technology Education & Training "4.0". These include new partnerships between learning venues and hybrid qualification routes in collaboration with higher education establishments, e.g. in the context of advanced vocational qualifications. Enabling employees to gain qualifications must be integrated into the implementation of Industry 4.0 from the very start. For it is also important to shape the world of work to meet human needs.

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Appendix

Year	SMEs Output (₦' Billion)	Imports (₦' Billion)	Exchange Rate (₦:US\$)	Maximum Lending Rate (%)	Commercial Banks' Credit to SMEs (₦' Million)
1992	2,363.61	143.15	17.30	31.20	20,400.00
1993	2,434.51	165.63	22.05	36.09	15,462.90
1994	2,434.99	162.79	21.89	21.00	20,552.50
1995	2,436.69	755.13	21.89	20.79	32,374.50
1996	2,457.40	562.63	21.89	20.86	42,302.10
1997	2,494.26	845.72	21.89	23.32	40,844.30
1998	2,569.09	837.42	21.89	21.34	42,260.70
1999	2,633.32	862.52	92.69	27.19	46,824.00
2000	2,675.45	985.02	102.11	21.55	44,542.30
2001	2,742.34	1,358.18	111.94	21.34	52,428.40
2002	2,920.11	1,512.70	120.97	30.19	82,368.40
2003	3,088.31	2,080.24	129.36	22.88	90,176.50
2004	4,220.22	1,987.05	133.50	20.82	54,981.20
2005	4,790.51	2,800.86	132.15	19.49	50,672.60
2006	5,521.46	3,108.52	128.65	18.70	25,713.70
2007	6,360.81	3,911.95	125.83	18.36	41,100.40
2008	7,252.60	5,593.18	118.57	18.70	13,512.20
2009	8,085.44	5,480.66	148.88	22.62	16,366.49
2010	8,992.65	8,163.97	150.30	22.51	12,550.30
2011	9,640.90	10,995.86	153.86	22.42	15,611.70
2012	9,853.68	9,766.56	157.50	23.79	13,863.46
2013	10,507.90	9,439.42	157.31	24.69	15,353.04
2014	11,125.80	10,538.78	158.55	25.74	17,424.30
2015	11,697.59	11,076.07	193.28	26.71	12,949.48

2016	11,669.06	9,480.37	253.49	27.29	12,047.88
2017	11,546.45	10,804.85	305.79	30.68	79,227.37

Source: CBN Statistical Bulletin (2017)

CAN DISRUPTIVE INNOVATION REPOSITION NIGERIAN SMALL AND MEDIUM ENTERPRISES FOR SUSTAINABLE ENTREPRENEURSHIP PRACTICES? A CRITICAL REVIEW OF THE LITERATURE

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Abstract

This study sought to address three pertinent questions: (i) is the theory of disruptive innovation significantly applicable to the Nigerian SME sector? (ii) to what extent can disruptive innovation influence Nigerian SMEs for sustainable entrepreneurship practices? (iii) what mechanisms are necessary to facilitate disruptive innovation for sustainable entrepreneurship in the SMEs sector of Nigeria? This study, through a critical review of the literature, seeks to establish germane thoughts that proffer solutions to the three research issues raised. Findings from this study were directed towards further research, and direct policy makers and the SMEs sector of Nigeria and like economies on the applicability of disruptive innovation in steering sustainable entrepreneurship practices.

Keywords: Disruptive innovation, Sustainable entrepreneurship, Small and medium enterprises, Nigeria

1. Introduction

The small and medium enterprises' (SMEs) sector of Nigeria is largely dominated by firms that operate within an informal market structure. However, fewer number of firms have been captured within the legal and institutional frameworks of business operations in the country. This singular dominance of the informal market of the SMEs sector, spells a number of characteristics for that part of the economy.

Despite these afore mentioned issues, the informal sector of Nigeria's economy largely influences economic stability that is presently being experienced, to the degree which it does exist. For example, job creation within this sector is massive, and accounting for about Sixty-five percent of Nigeria's GDP (Bank of Industry, 2018). This will mean that, government

income, from the informal sector, especially in states that are predominantly dominated by informal market, is quite high. More so, a large number of internationalization of business activities in the country can be traceable to the informal markets in the country. These active engagements in business activities, notwithstanding, Africa, and especially Nigeria, has been noticed to be associated with fast growing rates of poverty, increasing loss of job and unsustainability of businesses, particularly in the SMEs sector (Etuk, Etuk & Baghebo, 2014). As observed by Onukwuli, Akam & Onwuka (2014) and Ibidunni et al (2018) sustainability of businesses result, not only from having a strong desire for starting a business, but ensuring a continuous process of innovation that keeps the firm on a continuous path of scaling. Bearing in mind the opportunities that abound for small and medium enterprises springing forth in Nigeria to harness disruptive innovation as a strategy for growth and sustainable entrepreneurship this study set of to make original contributions to the existing literature. Consequently, these issues leave the research community and practitioners within the SME space in Nigeria with three pertinent questions: (i) is the theory of disruptive innovation significantly applicable to the Nigerian SME sector? (ii) to what extent can disruptive innovation influence Nigerian SMEs for sustainable entrepreneurship practices? (iii) what mechanisms are necessary to facilitate disruptive innovation for sustainable entrepreneurship in the SMEs sector of Nigeria?

2. Literature Review

2.1. Theory of Disruptive Innovation

The theory of disruptive innovation has proved to be a powerful way of thinking about innovation-driven growth. Many leaders of small, entrepreneurial companies see it as their guiding star. For the past few years, the theory of disruptive innovation has been very influential in business circles and a powerful tool for predicting which industry entrants will succeed. Unfortunately, the theory has also been widely misunderstood, and the “disruptive” label has been applied too carelessly anytime a market newcomer shakes up well-established incumbents. Christensen (1997) clarified what classic disruption entails as a small enterprise targeting overlooked customers with a novel but modest offering and gradually moving upmarket to challenge the industry leaders. Despite its common misapplication, the theory is an interesting scientific conjecture, and an extension of previous thinking on Joseph Schumpeter’s (2003) process of creative destruction in industries. It breaks from the previous literature by focusing blame for displacement of industry leaders on management rather than on faltering firm capabilities.

Unfortunately, disruption theory is in danger of becoming a victim of its own success. Despite broad dissemination, the theory’s core concepts have been widely misunderstood and its basic tenets frequently misapplied. Furthermore, essential refinements in the theory over the past 20 years appear to have been overshadowed by the popularity of the initial formulation. As a result, the theory is sometimes criticized for shortcomings that have already been addressed. Many researchers, writers, and consultants use “disruptive innovation” to describe any situation in which an industry is shaken up and previously successful incumbents stumble. But that’s much too broad a usage. And when new technology is developed, disruption theory does not dictate what managers should do. Instead it helps them make a strategic choice between taking a sustaining path and taking a disruptive one (Danneels, 2004).

2.3. An Evaluation of Disruption in Nigeria's SMEs sector

Disruptive innovations are made possible because they get started in two types of markets that incumbents overlook. Low-end footholds exist because incumbents typically try to provide their most profitable and demanding customers with ever-improving products and services, and they pay less attention to less-demanding customers. In fact, incumbents' offerings often overshoot the performance requirements of the latter. In the case of new-market footholds, disrupters create a market where none existed. Put simply, they find a way to turn non consumers into consumers (Henderson, 2006). For example, in the early days of photocopying technology in Nigeria, Xerox Nigeria Limited targeted large corporations and charged high prices in order to provide the performance that those customers required. Many who were priced out of the market, made do with carbon paper or mimeograph machines. Later, new challengers introduced personal copiers, offering an affordable solution to individuals and small organizations and a new market was created. From this relatively modest beginning, personal photocopier makers gradually built a major position in the mainstream photocopier market that Xerox valued.

In business, a disruptive innovation is an innovation that creates a new market and value network and eventually disrupts an existing market and value network, displacing established market-leading firms, products, and alliances. Not all innovations are disruptive, even if they are revolutionary. Disruptive innovations tend to be produced by outsiders and entrepreneurs in startups, rather than existing market-leading companies. Most of these startups are in the SMEs. The business environment of market leaders in Nigeria does not allow these SMEs to pursue disruptive innovations when they first arise, because they are not profitable enough at first and because their development can take scarce resources away from sustaining innovations which are needed to compete against current competition. A disruptive process can take longer to develop than by the conventional approach and the risk associated to it is higher than the other more incremental or evolutionary forms of innovations, but once it is deployed in the market, it achieves a much faster penetration and higher degree of impact on the established markets.

2.4. Facilitating Mechanism for Disruptive Innovation & Sustainable Entrepreneurships in Nigeria's SMEs sector

Most innovation, disruptive or not, begins life as a small-scale businesses. SMEs in Nigeria do need to respond to disruption if it's occurring, but they should not overreact by dismantling a still-profitable business. Instead, they should continue to strengthen relationships with core customers by investing in sustaining innovations. In addition, they can create a new division focused solely on the growth opportunities that arise from the disruption. Of course, as the disruptive stand-alone business grows, it may eventually steal customers from the core. We are eager to keep expanding and refining the theory of disruptive innovation, and much work lies ahead. For example, universally effective responses to disruptive threats remain elusive. Our current belief is that SMEs should create a separate division that operates under the protection of senior leadership to explore and exploit a new disruptive model. In certain cases, a failed response to a disruptive threat cannot be attributed to a lack of understanding, insufficient executive attention, or inadequate financial investment. The challenges that arise from being an incumbent and an entrant simultaneously have yet to be fully specified.

Lourdes, Victor & Cambra-Fierro (2017) found that under conditions of disruptive change, the ability to make the final customer the focal point and to build a comprehensive understanding of the overall supply network are key in shaping and taking advantage of future opportunities for SMEs. Meanwhile, SMEs inhabit different value networks, at least until the day that their disruptive innovation is able to invade the older value network. At that time, the SMEs in Nigeria, can at best only fend off the market share and allow their managers respond to a potential “disruptive” competitor by simply leveraging on the following three ways: First, SMEs should leverage on existing capabilities. SMEs managers should analyze how their existing capabilities can be deployed most profitably. If current capabilities can be used or extended, it may make sense to expand into a new market. Second, SMEs should calculate the value of winning. Christensen and his collaborators seem to assume that no matter what industry or market a company is in, it should fight to maintain control. Thirdly, SMEs should consider working collaboratively. The prospect of an entrepreneur with new technology potentially disrupting incumbent businesses can make managers wary of cooperating with entrants (Ergun, Bulut, Alpkın & Demircan, 2004).

3. Methodology

This study, through a critical review of the literature, seeks to establish germane thoughts that proffer solutions to the three pertinent questions: (i) is the theory of disruptive innovation significantly applicable to the Nigerian SME sector? (ii) to what extent can disruptive innovation influence Nigerian SMEs for sustainable entrepreneurship practices? (iii) what mechanisms are necessary to facilitate disruptive innovation for sustainable entrepreneurship in the SMEs sector of Nigeria?

4. Discussion & Implications

This research had an agenda to address three pertinent issues concerning disruptive innovation among Nigerian SMEs. It argued about the possibilities and significance of disruptive innovation theory and practices by SMEs in Nigeria, as a pathway to redefining their competitiveness and scaling efforts, through sustainable entrepreneurship. Based on the critical review of literature, the study establishes the following positions. Disruption is real, whether or not it plays out exactly according to the classic pattern described by Christensen. Christensen has performed a great service by pointing out how powerful and pervasive the phenomenon of disruption can be (Sood & Tellis, 2005). Therefore, facilitating mechanism for disruptive innovation and sustainable entrepreneurship in Nigeria’s SMEs will not come by chance, or by carefully analysing how long the sector can survive, or defending the current competitive advantage. Survival will come by heeding the substance of Christensen’s warning and embracing a different kind of management, the innovation-based customer-focused management. Christensen, Suarez and Utterback (2008) posited firms possessing the capacity and capability to innovate may fail when the innovation does not address the foreseeable needs of their current customers.

5. Conclusion

This study was focused on establishing linkages between disruptive innovation and sustainable entrepreneurship among small and medium enterprises in Nigeria. Using the critical review of the literature methodology, the three pertinent issues raised, including (i) is the theory of disruptive innovation significantly applicable to the Nigerian SME sector? (ii) to what extent can disruptive innovation influence Nigerian SMEs for sustainable

entrepreneurship practices? (iii) what mechanisms are necessary to facilitate disruptive innovation for sustainable entrepreneurship in the SMEs sector of Nigeria? were affirmative within the Nigerian context. Therefore, this study concludes that as in the western and eastern economies, disruptive innovation significantly applies to achieving sustainable entrepreneurship among SMEs in Nigeria.

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CONCEPTUALIZING LINKAGES BETWEEN DISRUPTIVE INNOVATION AND SUSTAINABLE ENTREPRENEURSHIP IN NIGERIA

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Abstract

The focus of this study is to establish linkages between disruptive innovation and sustainable entrepreneurship in Nigeria. Specifically, the research question that was addressed included: what mechanisms and structures that are relevant to establishing linkages between disruptive innovation and sustainable entrepreneurship of firms in Nigeria? These research agenda was achieved through a critical review of extant literature to identify the trajectory of discuss on disruptive innovation and sustainable entrepreneurship. As the first noticeable study to establish the relationships between disruptive innovation and sustainable entrepreneurship, especially in the developing context, this study proposes a model of disruptive innovation and sustainable entrepreneurship that has implications on theory and practice.

Keywords: Disruptive innovation, Sustainable entrepreneurship, Small and medium enterprises, Nigeria

1. Introduction

Disruptive innovation offers tremendous opportunities to firms because it provides an entry strategy for penetrating volatile markets, by focusing on satisfying customers at low-end of the markets (King & Baatartogtokh, 2015). Within developed and emerging economies, evidences of the roles of disruptive innovation on sustaining competitiveness for firms have been shown (Li, Yu, Jin & Zhang, 2010; Corsi & Di Minin, 2014). However, disruptive innovation research, especially within the African context has not received any significant research attention, neither has it received any significant research attention that can help establish its linkages to sustainable entrepreneurship practices in Nigeria. This research therefore argues that the forgoing, results in failures in putting the concept of disruptive innovation to proper perspective both among entrepreneurship practitioners and theorists.

To this effect, this study seeks to establish linkages between disruptive innovation and sustainable entrepreneurship in Nigeria. These research agenda will be achieved through a critical review of extant literature to identify the trajectory of discuss on disruptive innovation and sustainable entrepreneurship; gaps will be identified and a model that suitably explains the research theme in the Nigerian context will be developed for the purpose of future research and to guide managerial decision making.

2. Literature Review

2.1. An Emerging Economy Perspective of DI

In emerging economies, disruptive innovation is perceived to be a strategic entrepreneurial opportunity for breeding high competitive small and medium enterprises (Hang, Garnsey & Ruan, 2015). By simply thinking of the tenets of the disruptive innovation concept, it can be deduced that firms that have intentions to be disruptive in their industry must be of an entrepreneurial mind-set. This implies a departure from the conventional and heightening efforts in discovering and creating new opportunities and modalities for getting work done and sustaining value in the firm's operational procedures. It involves emphasising technology as a major strategy for the organisation; yet also not overlooking the importance of satisfying customer needs (Nogami & Veloso, 2017). With respect to the applicability of disruptive innovation theory to emerging and developing economies, authors have argued that the ability of DI theory to relate 'bottom line technology' to low end customers satisfies a major characteristic of these economies (Christensen, Raynor & McDonald, 2015). This view of the DI theory modestly presents it as a major player in sustaining entrepreneurship practices among developing economies.

2.2. Disruptive Innovation and Sustainable Entrepreneurship

It is important to establish that disruptive innovation is itself a pattern of complimenting the efforts that emanate from strategic reasoning and entrepreneurial mind-set of managers to chart market place competitive and sustainable positions for the firm and its inventions. Interestingly, sustainable entrepreneurship research has not only focused on large firms, but has largely related itself with small firms, even to the level of individual entrepreneurs (Hockerts & Wüstenhagen, 2010). Disruptive innovation for sustainable entrepreneurship therefore, involves the engagements of disruptive innovators in the discovery and exploitation of opportunities for creating socially and economically desirable transformations for industry competitiveness (Eckhard and Shane, 2003; Dean and McMullen, 2007). A critical value which disruptive innovation offers to sustainable entrepreneurship is that, it does not only allow entrepreneurial managers to foresee the future and adapt to it, but rather inspires them to innovative in ways that changes the entire industry game plan to their advantage (Alphan & Gemici, 2016).

Innovating for sustainable entrepreneurship, therefore, means the capacity of enterprises to congruent activities that guide the firm's disruptive innovations with its foreseeable market-life cycle, from the point of initiation until the innovation is able to satisfy the demands of high-end customer segments.

2.3. Required Mechanisms and Structures for Disruptive Innovation and Sustainable Entrepreneurship.

Evidences from existing studies point to the fact that disruptive innovations facilitate sustainable entrepreneurship activities given the interventions of specific institutions (Carlsson, Jacobsson, Holmen & Rickne, 2002; Reficco, Gutierrez, Jaen & Auletta, 2018). These institutions cut across areas of social, political/legal and economic actors, performing responsibilities in various capacities, such as strategic alliances, technological collaborations, industry support and government financing, in a synergized manner to ensure the success of innovation efforts (Liu, 2018; Ibidunni et al., 2018). These mechanisms that drive disruptive innovations and sustainable entrepreneurship exist within the framework of an innovation ecosystem. Innovation ecosystems are complex, interrelated, yet dynamic mechanisms that shape innovations in the industry (Schuelke-Leech, 2018). A critical review of the literature reflects the importance of the following mechanisms, to the sustainability of disruptive innovations.

Networks. Networks build synergy between engineers, innovators, scientists and start-up champions for shared opportunities in the areas of mentoring, skills exploitation and professional relationships (Schuelke-Leech, 2018). The role of network of firms in an industry where disruptive innovations are highly popularized, is absolutely inevitable (Ibidunni et al. 2018; Osibanjo et al., 2019). Very often, the importance of such firm network propels an innovation ecosystem in which firms co-create and promote significant value to customers. Öberg (2018) suggested that business networks, consisting of large and small firms that are directly and indirectly connected in a social and economic circle, are a critical mechanism for the functionality of efficient and effective disruptive innovation projects.

Industry Governance. Industry governance involves coordinations among firms to ensure that behaviour from each firm aligns with the intended goals of inter-relationships among the firms, conflicts are speedily detected and resolved when they arise and resource sharing is fair and effectively utilized (Proven & Kenis, 2008).

Government Support. Government support include regulatory controls and financial aids that serve as external rules and shockers that are intended to enhance the innovative performance of firms (Curtis & Schulman, 2006; Peter et al., 2018). Mixed reactions have trailed existing literature that investigate the role of government support mechanisms on the innovativeness of firms; while some opine that increased government spending can facilitate innovation, other suggest that such effort will impede innovativeness of firms (Lerner, 2000; Zhang & Wu, 2014; Carboni, 2017). However, these variations in research findings may call attention to the peculiarity of contextual factors across various countries (Huerger et al., 2016).

Managerial Structure. The internal structure of the firm must be such that supports innovation and dynamism through flexible operations and social network of firm members (Drucker, 1985; Ibidunni et al. 2018).

3. Analysing and Contextualizing Disruptive Innovation in Nigeria's Entrepreneurship Ecosystem.

The entrepreneurship ecosystem in Nigeria is designed to cover all significant actors that contribute to the innovation value chain and ensure its sustainability. Specifically, it consists of policy and regulatory frameworks, R&D drivers, institutions for building capacity and providing financial supports and mechanisms for facilitating logistics, such as market and customer accessibility (Fate Foundation, 2016). Although, conceptualisations around the disruptive theory is still in its very infant stage in Nigeria, and the practices of disruptions among firms is yet emerging, but there are strands of evidences that strategy and entrepreneurship researchers have an awareness about the concept and entrepreneurial thinking firms are striving towards disruptions. Consequently, disruptive innovation is not only branded around firms (for example; Globacom Nigeria, Taxify, Jumia, Konga, Access Bank Nigeria and Covenant University), but specific products (form foreign companies) are noticed to be disruptive in themselves (for example, dual-SIM mobile phones, as opposed to single-SIM mobile phones).

The dual-SIM episode, especially, is very significant to disruptive innovation efforts in Nigeria. This is because, the brand successfully found its way into the hearts of the low-end market of the mobile telephone industry which was largely ignored by incumbents, like Nokia and Samsung. The success story of the Chinese dual-SIM brand of phones was even more pronounced by the associated lack of consistent network coverage across different locations of Nigeria and high tariff rates that characterised making calls across different networks (Odikayor et al, 2012). Certainly, the innovation (entrepreneurship) ecosystem influenced the success of this disruption. Whereas the innovator was about the process of

planning, designing and executing the intended disruptive innovation, government, through its relevant agencies, supplied the facilitating environments and infrastructure that aided the disruption value chain. Not also leaving out the expectations of customers and some element of trust which they had in the workability of the new idea.

Generally, researchers have raised alarms over the slow growth in innovations by firms in Nigeria's entrepreneurship sector, which largely was traceable to few number of participants in the entrepreneurship ecosystem (Agri et al, 2018). Not with standing, more recent indications indicate that there is a growing volume of interest from practitioners in motivating support for the entrepreneurship ecosystem (Ajani & Adedeji, 2018). Largely, the increasing number of technology-based and market-based innovators in Nigeria and their continuous drive to scale operations in competitive patterns points directions towards disruptive goals across the entrepreneurship landscape of Nigeria.

4. Implications of the Study

Disruptive innovators can reposition their firms' for sustainable entrepreneurship by understanding the cultural uniqueness of the people of Nigeria, the economy in which they find themselves and the ways of doing business in that economy. This will enable them to innovate tailor made products and services that can satisfy the native needs and wants of their customers. More so, to sustain entrepreneurship performance, practitioners must set matrices along the spheres of economic and non-economic indicators. Consequently, disruptive efforts should align not only with financial expectations but also with social value returns for the customers. Lastly, disruptive innovators must consciously keep up scaling efforts over the innovation value chain. This means, they must avoid the mental state of belief that the success of the innovation depend on acceptability by customers. This is because the market is dynamic and volatile, and as shown in Figure 1, disruptive products/services sometimes can grow to become a traditional product when it characterises itself, at that growth stage, with the same characteristics of incumbent products or services. Therefore, once disruptive does not always imply, forever disruptive. Innovation must be continuous to sustain value generation.

5. Conclusion

This study has critically discoursed the linkages between disruptive innovation and sustainable entrepreneurship. It has filled an existing research gap, by being the first study, especially in the developing context, which conceptualises such relationships. Among the viable arguments of this research is that disruptive efforts should align not only with financial expectations but also with social value returns for the customers. More so, to sustain entrepreneurial performance, this study argues that firms' must focus on as critical environmental influences that can facilitate, or otherwise, on disruptive innovations.

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