

**APPLICATION OF EMERGING TECHNOLOGIES TO ENHANCE PUBLIC SERVICE
DELIVERY: THE PLACE OF NIGERIAN PUBLIC SERVICE**

NNAETO Japhet Olusadum
Gregory University Uтуру, Abia State.

Abstract

The study is a modest attempt to elicit attention of Nigeria public service on the need to leverage on the emerging technologies to serve the public better. Emerging technologies, brought by the increased study of science and technology via software and hardware experimentation have reduced the burden and the debilitating effects of trial and error in public service delivery in the world, especially towards the end of 20th century to date. The study further highlighted on strategic advantage of total switch to e-governance .Being a qualitative study; we sourced our data from the secondary environment. Data analysis was carried out via content analysis technique while the study was predicated on the framework of technological theory of social change, especially as espoused by Ogburn (1947), who posits that technology is the primary engine of progress in service delivery. Among other findings, it was revealed that negative attitude of Nigerian Government to emerging technologies in terms of timely decision for adoption, and corrupt intent of leaders are the most debilitating factors responsible for the slow pace of e-governance in Nigeria. The study therefore recommends among others, attitudinal change in the public sector to redirect the psyche of the public service on the indispensability of acquisition and effective use of emerging technologies to ensure precision in public service delivery.

Keywords: Public Service, Emerging Technologies, Nigeria, ICT, Service delivery

INTRODUCTION

Population increase, complex government service expansion and the urgency for effective public service delivery to the teeming clientele have made the application of emerging technologies for enhancement of public service delivery increasingly indispensable. This is the era of e-governance and administration, where technological innovations powered by the combination of hardware and software technologies interface to produce ease, accuracy, precision, efficiency and effectiveness in control of human and material management of the public. Public service

Nnaeto

delivery is the hallmark of government administration, thus cannot be achieved without systematic and precision guided devices. The wide range of services and complex nature of government official engagements, both domestically and beyond, demands the introduction and application of Information and Computer Technology (ICT) to ensure efficacy and limitation of human error. Emerging technologies means the digital technological breakthrough that was achieved through the aggressive revolution that is still on-going. Public Service delivery on the other hand is the way and manner the public sector (government's ministers, departments and agencies) deliver goods and services to the public. Government has the constitutional responsibility to deliver stated services to the public, and in a manner that must not hurt the interest of both the government and the tax payers. The government policy to implement Treasury Single Account (TSA), and the advent of its technological activator called Remitta software has helped to harmonize and be in central of over 17,000 bank accounts of Ministries, Departments and Agencies (MDAs) scattered in various banks, making it difficult for government to know her financial position (Obaro, 2016).

The problem crippling this development is not farfetched. The lackadaisical approach to the purchase and deployment of emerging technologies in Nigerian public service has left the system and the tax payers far short of precision guided service delivery capable of boasting good standard of living. Emerging technologies that can help the people in such areas as health, education, security, agriculture, infrastructural development, environmental sustainability, and effective management of commonwealth have been either non-existent or in shreds. The consequences include waste of too much time in service delivery, inefficiency in the system, waste of huge resources, institutional corruption, lack of precision and cumulatively poor standard of living. Often times, the issue of delay of salaries to workers owing to manual method of processing salaries have brought untold hardship to the workers and pensioners.

The study is driven by such objective as mobilizing the Nigerian public service to accept e-governance as the best approach to effective and efficient public service delivery. As a backup, the study will discuss advantages of effective adoption of e-governance to provoke a call for it by government and citizens. The study is necessary because it will link the Nigerian public service to the public service of the countries that have stabilized in e-governance. This trajectory will open a new opportunity for training of Nigerian public service in effective use of emerging technologies. Academic and applied justification exist. Academic justification is expected to contribute to the body of knowledge in the area of e-governance in Nigeria. It will also serve as a

Nnaeto

source of literature for future studies in the area. The study could equally provoke replication which could ensure an improvement on the study. On the other hand, the applied aspect could result in a terrific developmental change in Nigeria.

RESEARCH METHODOLOGY

Being a qualitative study, our method of data collection remains the secondary source. This stems from processed data, literature, documentary and other relevant materials that have direct bearing on the topic of study. The collected data shall be assembled in a logical order for proper understanding and processing. Analysis of data will be achieved through the use of content analysis technique.

Theoretical Framework

The study predicated on technological Theory of Social Change especially as espoused by Ogburn (1947) as framework of analysis. Ogburn (1947), in his work “How technology changes the society”, maintained that “Technology changes by changing our environment to which we in turn adapt. This change is usually in the material environment, and the adjustment we make to the changes often modified customs and social institutions”. The essence of this theory for this study is to explain the social institutional changes that application of emerging technology in the public institutions can produce in terms of efficient service delivery. The theory whose main tenet is that ‘technology is the primary engine of progress in service delivery (Ogburn, 1947) can provide a wakeup call very via e-governance. Ogburn (1947) posits that technology in governance will provide the efficient service to the clientele of government at a cost-effective rate. It also causes positive social-cum-economic revolution in the practicing state. The implication of adopting technological theory of social change is that it will make a two-way impact. One is that government finds a more effective and efficient means of delivering service to the public. Two, the public gets better satisfaction from services of government. These reduce friction in the polity.

Conceptualizing emerging technologies

It is very difficult to apply a concept that one does not understand properly, especially when it is expected to create a change, or enhance the actualization of a particular objective(s). Therefore, theoretical explication of the variable-emerging technologies becomes germane. Emerging means to be move out of something and become visible, come into existence or greater prominence, become known, in the process of coming into being of prominence. The target of

Nnaeto

any emerging situation; be it emerging technology or emerging market is to improve the future through the provision of alternative modus operandi to change the status quo (Concise Oxford English Dictionary). The essence of seeking a fair understanding of the term ‘emerging’ is to highlight on its strategic importance towards further explanation of and application of emerging technology in the field of Public Administration.

Basically, the term emerging technology is a common concept in Information and Computer Technology (ICT). It covers the entire gamut of electronic inventions that enhance or provides improved decision making in the public and private service delivery system. Nowadays, the theory and practice of public administration have gone highly dynamic and with a lot of responsibilities; chiefly to effectively conduct the affairs of government by rendering the requisite services to the public. Fortunately, the breakthrough in science and technology has provided a digital alternative to resolving the dysfunctional realities implicit in analogue system. World class conceptualization of emerging technology is elusive because the world stratification put several systems differently from others. Therefore, what could be termed an emerging technology in a second or third world country may be an obsolete technology in a first world country. What could be an obsolete technology in a second world country may be seen as an emerging technology in a third world, second-tier country. For instance the theory and practice of Treasury Single Account (TSA) powered by SystemSpecs in Nigeria (2015) is not a new technology in the world. Countries like USA, Brazil, France, etc have been in the system powered by technologies for a very long time. To these countries, it is not emerging technology, like it is to Nigeria.

Emerging technologies have been defined as science-based innovations with the potential to create a new industry or transform an existing one (Day and Schoemaker, 2000, and Srinivasan, 2008). Some reference materials have approached the definition of emerging technologies from the point of the number of years over which they must evolved. The implication of this illustration is that technologies that are deep-rooted and commonly used in a particular social environment can no longer be described as emerging technology, just as democracy that is new in a political system is dubbed a nascent democracy. Besides predicating the definition of emerging technology on duration of existence, some scholars explain it from the angle of its commonality or must-use-status among the public. Miller, J., Green, I., Putland, G. (2005) opine that a technology is still emerging if it is not yet a must-have. Stahl (2011) becomes more assertive and explicit in placing the durational limitation of emerging technology, that is to say, the number of years within which the technology remains in the emerging process. While other

Nnaeto

scholars contend such technology should not exceed five to ten years in its emerging formation, Stahl (2011) posits that conceptual diversities can cause difficulty in understanding the technical meaning of the concept. It is however instructive that since whatever is emerging technology in United States of America may not be one in Nigeria, and vice-versa, a thorough understanding of the status of the country in which the emerging technology is operating should be ascertained first before the definition is determined. For instance, there was nothing like GMS in Nigeria before the year 2000 until few years after. Therefore, it can be described as emerging technology in Nigeria as against Britain and France. In what is considered an elaborate explanation of emerging technology, Boon & Moors (2008: 1915) maintain that;

Emerging technologies are technologies in an early stage of development. This implies that several aspects, such as the characteristics of the technology and its context of use or the configuration of the actor network and their related roles are still uncertain and non specific.

Corroborating the uncertainty and non-specificity of emerging technology, Cozzens, Gatchair, Kang, Kim & Lee (2010), operationalize emerging technology as a technology that shows high potential but hasn't demonstrated its value or settled down into any kind of consensus.

Emerging technology as it concerns public service delivery aspect of Public Administration is the newly invented technology whose target is to improve the existing modus of service delivery leading to good standard of living of the people. The issue of time frame within which such technology remains emerging should not arise because every environment cannot adapt to a technological development at the same pace. Some get it faster or slower than others. The duration of emerging status of a particular technology depends on the speed of absorption, adoption and integration of such technology by the state. Therefore, durations such as five to ten years, ten years, ten to fifteen years, etc, set by scholars of different leaning as period of time within which a particular emerging technology must exist before it turns to a common technology is not quite in order. This has to be considered otherwise too much may be expected from where it should not, and too less may be expected where much more should be expected.

Understanding Public Service Delivery

From the time man accepted the concept of organization of state which necessitated the need for social contract, division of labour and function emerged (Mbachu, 1998). Since then,

Nnaeto

Public Administration has been building a bridge of management between the state and the public by ensuring prompt response to tax payers' needs. Public Administration shoulders the responsibility of executing policies and programmes whose target is to deliver important welfare services that can enhance the standard of living of the public. The term 'public' simply means the citizens of a particular polity at a particular time (Jones, 1970). The concept of public service evokes the thought of government's involvement in service delivery devoid of profit maximization. Public service delivery is akin to public administration which is rightly said as;

Designed to satisfy public will through the implementation of public policies, enforcement of public laws and realization of public welfare (Ogunna, 2004: 2)

Public services are those services provided by governments (local, municipal, or larger-scale) to the public. The need for services that no individual can or will pay for, but that benefit all by their presence, is one justification for taxation (Answers, 2016).

The importance of public service delivery cannot be overemphasized because;

It forms the fundamental structure for nation-building; it makes the state visible to its citizens, often forming the principal tangible link between government and their people. Public services carry and diffuse the values of the new nations and contribute to the bonding between the state and citizens. (Walle, & Scott, 2009).

Since public service is a service which is provided by government to people living within its jurisdiction, either directly (through the public sector) or by financing provision of services (Wikipedia, 2017), it is therefore very important to figure out the most effective and efficient means of carrying out the responsibility. This is to ensure cost effective, quality and timely delivery strategy so as to meet the present and future needs of the public. This explains the reason we are in search of the appropriate technologies and how to apply such to achieve the tripod responsibility of providing the services on time, the people accessing on time and satisfaction of the citizens as well.

The channel of public service delivery must be sustained if the beneficiaries are to get the best of such services. Besides, one of the most effective ways of sustaining the channel and process of public service delivery is by making the project a government-citizens venture. The involvement of the citizens or public in a project or service delivery responsibility that favours them will likely make it more forceful and effective insofar as the government is overly committed to the actualization of such project. The delivery of service to the public involves multiple

Nnaeto

arrangements; first, the production of such service and finally, the actual transmittal of such services to the clientele, which could happen directly by government or its agents. In some public service provision and delivery, government could liaise with a private firm to provide services to the public while sitting as the regulator. For example, Nigeria is hugely enjoying the services of mobile telephone companies (MTN, GLO, Etisalat etc) not directly provided by government, but are being regulated by the government of Nigeria to ensure that quality and sustained service delivery to Nigeria is not compromised.

EMERGING TECHNOLOGIES AND PUBLIC SERVICE DELIVERY

With the huge breakthrough in information and computer Technology (ICT), certain technologies that aid both government and private sectors on electronic operation have emerged. On the side of government, e-governance has become the order of the day especially in developed would like the United States, Britain, France, etc. The deployment of technologies to perform functions hitherto done by personnel has witnessed efficiency in service deliveries. These technologies perform these tasks much faster and with terrific precision and found in virtually every front of human discipline. They are useful in Education Planning of a country, national security, national economic planning, sports administration, crime detection and prevention, industrial production and consumables, surveillance and general administration. A close observation has it that it is only the countries that plan and invest to have such technologies can have access to their service, which, presently is massive in the west. The divide is as clear as the position in the North-South dichotomy. Most countries of the world had long switched to effective use of technology for e-government. This has brought precision, predictability, and reduction of error margin in Public Administration. All types of communication between the government and citizens have been made easy via the aid of technology in the advanced countries. Comparatively, Nigeria is too close to the base. Therefore, the effort is a wakeup call for Nigeria to key into the total embrace of e-governance.

In their study on “Revolutionizing Digital Public Service Delivery: A UK Government Perspective”, Alan, Jerry & Mark (N.D) observe that the journey towards;

Digital public service delivery appears to be reaching a critical point where the confluence of citizen demand for greater speed and more transparency in service delivery is being met with increased appetite within the public sector to deliver services in more innovative ways through the use of open

Nnaeto

technologies, an increased involvement of smaller companies, and more agile delivery practices.

The revelation made in the above citation should represent the position of Nigeria vis-à-vis e-government. The confluence is that Nigerians are yearning for digital public service delivery that will be devoid of inefficiency and the government is as well devising ways through which it could through open technologies, increase and diversify service delivery to the public. The adoption of technology driven public administration will encourage open and citizen-centric public services.

There is one sector of Nigeria economy that is indispensable when thinking of hooking Nigeria on to electronic governance; that sector is the power sector. These much talked about emerging technologies do not function without steady power. Therefore, for Nigeria to ensure maximum utilization of the opportunities provided by the emerging technologies, her power sector must first be fixed. Over several years of different political dispensations (civil and military) a lot of money has been sunk into power project whose result has been serial failure. The most irritating being the several billions of dollars invested in power sector by Obasanjo administration without result to justify such investment. The sector output continued to fluctuate between 2,000 to 3,600kwa leaving Nigerians to suffer critical times of power outages. It is verifiable that many government establishments in the country owe sums of unpaid electric bills to the electricity companies across the country. The consequence of this is to cut off electricity supplies to the public establishments. On the other hand, the private citizens will always have problem paying huge electricity bill to their respective providers because such bills do not reflect power supplied. This also leads to their being cut off. With this scenario, the system will lack the requisite for operation of emerging technology. The worrisome question is; how can technology related public business be run without power? Three fundamentals such as the hardware, software and human side of technology are needed for e-governance. Identifying the system hardware that is suitable for a particular job performance and the compatible software are critical in actualizing electronic governance. Besides, more critical is the ability of government to produce skilled personnel to man the installations. It is particularly worrisome that most organizations in Nigeria see modern office technology as a luxury rather than a means of survival (Nwafor, 2007). Government offices are most culpable as useful technological gadgets would be purchase, used to decorate offices without effective manpower to put them into effective use. This is the last but most important factor in our typology of technology utilization.

Nnaeto

It is important to accept that emerging technologies help to facilitate information sharing, which in turn brings about communication, leading to action in organization. Thus, Agomuo 2012 (in Evanson et al N.D) posits that information is a body of organized facts or data which is meaningful to the end users or recipients. The computer-based information provides top and middle management with immediate and easy access to selective information about key factors that are critical to accomplishing organizations strategic objective. Therefore, application of emerging technologies in public administration or e-governance is all about using electronic gadgets and their compatible software to transact government businesses. This curbs the manual system and associated fatigue. If this is of any relevant to the Nigerian public administration, what has been done in terms of institutionalizing Office Automation System (OAS) and Office Outlook System as ways of information dissemination or sharing in government offices? What has been done in the area of checking corrupt practices with technology? How has technologies been applied effectively in Nigeria to enhance agricultural practices that will lead to food sufficiency and for export? What about environmental protection and education via the aid of technologies? Nigeria may have considered these areas important, attempted than but the efficacy and impact levels are hugely questionable. It is therefore due to the questionable impact and efficacy levels that we aim to reduce by encouraging the government to expedite action in that direction. The critical essence of embracing emerging technologies is to explore and exploit the new frontiers of human and national development. The following critical sectors constitute a weighing platform for Nigeria in terms of application of requisite technology for effective service delivery and national development

1) Education and Learning

Application of emerging technologies is of immense advantage to the students. The importance of education to national development shows that no investment in the education sector can be deemed too much. With the manner ICT is piloting education, no country can afford to lag behind. The real craze for ICT awareness in Nigeria started in 1999 when civilian administration returned to Nigeria. Shortly before then, almost every student in the tertiary institution was to take a compulsory course in ICT. However, this was not with a determined and sustained effort especially on the side of government. The reason being that most of the hardware's and software's accessories needed for effective learning in ICT were in sustained short supply. The needed laboratories, Skillman power/trainers, regular power supply and other needful were not available. This scenario created a theoretical study without practical experience. Internet enabled network capable of sustaining information sharing and communication between teachers/lecturers and students is in poor supply. The use of power points technology in

Nnaeto

classroom for teaching and learning and presentation of seminars, and other paper is still very much alien to many tertiary institutions in Nigeria. Judging from the observation of classrooms in many tertiary institutions in Nigeria, it was observed that nearly 85% of classrooms across Nigeria's public education system are still using traditional black board where the teacher/lecturer is required to write with white chalk. The use of PowerPoint, white board (with use of marker) is a bit common among the private educational institutions. A few public owned educational institutions do have white board installed in their classrooms. Emerging technologies in education simply means those technologies which are likely to have a large positive impact on teaching, learning, or creative inquiry on learners or those technologies which are on the rise (Wilson 2014). Important e-learning tool like learning management system (LMS) is desperately needed in Nigerian educational system to enhance teaching and learning. LMS is learning software that allows the teacher and trainees or students to have academic interactions where accounts to log in to do their assignments, course outline/manuals and notification of assignment submission deadlines. The major cause of National University Commission (NUC) mandatory accreditation failures among Nigerian universities is the sub-standing ICT system. Schools in Nigeria and most departments (in the case of tertiary institutions) are expected to operate internet enabled/connected libraries (e-libraries). This connectivity will encourage globalization of education or Global Information Sharing System (GISS). E-libraries will enable trainees to learn better and helps the trainer to train better. E-libraries will afford the users the opportunity to have access to current research and research reports conducted by many institutions within and beyond Nigeria (Wilson, 2014).

There is one useful and commendable feat achieved by most tertiary institutions in Nigeria- the development and designing of portals (websites) that help students make their transactions with their respective schools. In Nigeria, especially among the public schools, most of the websites that host the school portals are not purely for academic management. However, they are mostly for easy access to information concerning the schools and payment guides. Learning Management System (LMS) is not well considered in the process. Though a lot is yet to be accomplished by the Federal Government on National Virtual (Digital) Library Project, the body is interfacing with international funding agencies to realize the National Virtual Library Project (NVLP) which will facilitate communication and sharing locally –available resources with libraries all over the world using digital technology (Ogunsola, 2005: 204).

Nnaeto

2) National Security and Surveillance

The importance of national security to national development and social stability cannot be overstressed. The world threatened by insecurity arising from insurgency, terrorism and uncontrolled spread of arms and ammunition has necessitated the adoption and application of sophisticated security and surveillance systems to tract the activities of both rogue states and non-state actors. Emerging technologies have given a lot in terms of security of states. North America and countries of Western Europe have maintained high security confidence via the deployment of intelligence robots that source and report security information to the state authorities. The deployment of CCTV cameras and the use of Biometric identification system (BIS) to monitor and have records of the bio data of the population of a state respectively remain effective strategies of improving the security of life and property of the citizens.

A system like Radio Frequency Identification (RFID) is indispensable for security operations. This system can effectively track any source of security risk within a geographical area automatically.

RFID technology is an automated system of wireless data capture, consisting of two parts; the tag (or transponder) and the reader. The tag is a silicon chip that contains information, usually a unique numerical identifier, transmitted by an attached antenna to the RFID reader through radio waves. Depending on the radio frequency and power source, readers can pick up the radio waves at a range between three and thirty feet and read the stored digital information on the chip (Akintola & Boyinbode, 2011).

Radio Frequency Identification (RFID) can be used to track hijacked vehicles or stolen goods as the tag communicates to the interrogator known as the reader using the air interface. The deployed RFID readers are capable of sending information to the computer system for and users or analyst to know the location of the vehicle. Public Administration in Nigeria has been fraught with threat of manipulation of the system. Thus, it is only technology based government that can eliminate the manual activities of individuals which threaten public service delivery. Fixing such security-threatened areas of the state like National ID card, international passport, vehicle tracking etc through the provision of RFID system by the government can present Nigeria a safer place for citizens to inhabit.

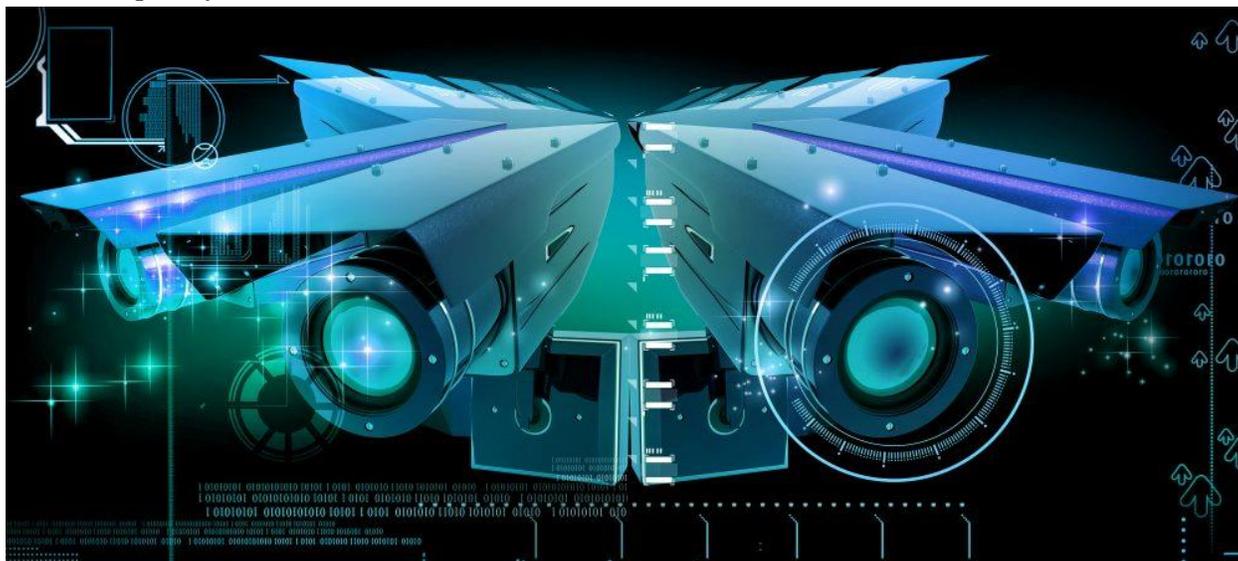
Nnaeto

National security via emerging technology is a complex venture. A lot of sensitive tools and chips, hardware and software must be coupled to form a system that can proffer solution to security problems. Such technologies like Emergency Communication System (ECS), GPS-enabled devices, social networking tools, Emergency Operation Centers (EOCs), intelligent monitoring systems, data mining and database tracking system and information sharing will greatly improve the ability of the security agencies to combat security challenges in Nigeria (Ogedebe & Jacob, 2012). There have been growing security concerns as to how effectively Nigeria can invest on technology to secure the land borders, sea routes and airways against infiltration by radical elements. The porosity of these borders stemmed from the fact that there are no installed electronic devices capable of detecting rogue elements from a very far distance. Identification of potential threat remains a key start to national security. Nigeria is far from it and should speed up actions (both as policy and implementation) to acquire airplanes equipped with capabilities to locate safe havens for criminal elements like insurgents, militants, kidnappers, armed robbers. Acquisition of a few of them that are not deployment-ready cannot tackle the growing insecurity issues in the present day Nigeria. The Emergency Communication Systems has the capability to vendor many emergency messages to citizens' cell phones, as text messages, e-mail accounts etc to alert the people on the prevailing challenge and possible escape route.

Furthermore, GPS-enabled devices can also help citizens signal for help when emergency situations arise. For example cell phones with Rave Guardian software, can activate a timer on their device when they would like surveillance from the police (Ogedebe, & Jacob, 2012). The implication is that anybody with cell phone with such activation could easily be located with the aid of GPS by the police for safety. Government of Nigeria is expected to increase the deployment of Emerging Video Surveillance across the state capitals in Nigeria and the Federal Capital Territory. It is also expected to be installed to provide surveillance to oil and gas installations along the coast of Delta region given the ever rising oil theft and acts of vandalism. The technology below is the video surveillance apparatus call Radio Frequency Identification (RFID)

Nnaeto

Radio Frequency Identification (RFID)



Source: <file://localhost/E:emerg%206.html>

Emerging Technologies and Sustainable Agriculture

Agriculture is one sector of every economy that is mostly dependent on by countries and citizens for survival. Virtually everything-food materials and non-food materials that man needs are products of agriculture. Agricultural products have been very useful for both industrial and non-industrial needs. The earliest activities of man towards survival were agricultural in nature, as God told Adam and Eve to dress the garden and keep it (Genesis, 2:15, Genesis, 3:23). Agricultural practices have evolved over many years and still evolving, thanks to the emerging technologies that inject ease and efficacy to the sector. Agricultural practices in Nigeria, especially in the rural areas where virtually everybody depends on it for survival could best be described as primitive and subsistent. Knowing that the starting point of citizens' empowerment is ensuring food sufficiency and dietary balance, the government of Nigeria needs to intervene to ensure the availability and subsidization of hi-tech agro inputs that will ensure mechanize and productive agriculture.

The farmers face quite a number of discouraging challenges; the population increases more geometrically than otherwise, the challenge of environmental sustainability and lack of access to

Nnaeto

proven emerging technologies that improve agricultural yield, new bio-approaches and technologies such as effective irrigation methods, proteomics technology, bio-control approaches and solar energy with storage techniques will offer hope to crop producers in northern Nigeria and at same time resuscitating sustainable agriculture. Equally of great importance are the challenges of crop improvement through genetic engineering (genomics), biotic constraints and diseases coupled with local expertise and participations (Gumi & Aliero, 2010). There are numerous ways of involving technologies to ensure sustainable agriculture. Seeing that such natural resources like soil and water play indispensable roles in agricultural breakthrough, government is expected to give adequate attention to them by way of legislative and policy arrangements, and effective execution and appraisal of the project. Soil and water management techniques such as annotated crop genome sequencing, that knowing the genetic sequence and the gene of respective local crops and functions which will help for effective breeding, biochemical engineering, technologies to control biotic constraints, plant mediated gene silencing approach etc are effective technologies expected to be introduced at affordable prices to the farmers by the government.

RESEARCH FINDINGS AND RECOMMENDATION

- Attitudinal constraint by public service slows down the full takeoff of emerging technologies in Nigeria.
- Inadequate trained workforce to handle emerging technologies.
- Inadequate funding and official corruption.
- Lack of synergy with the makers and established users of emerging technologies.

In view of the findings, we recommend the following;

- Government needs to fix the non-challant attitude of the public service over the use of emerging technologies.
- Ministries in Nigeria should partner with their counterparts in countries where these technologies are made and effectively used to enable them access timely information on the availability and usage of the technologies.
- Any development that does not have strong local support is not sustainable (Lele, 1975). Therefore, Nigerian government needs to ensure the training of her workforce to enable them maximize utility of the technologies.
- Creation of Emerging Technologies Activation Funds (ETAF) is needed for easy handling of procurement and activation of emerging technologies in Nigeria. This will save it from delay of corrupt legislation and policy process

Nnaeto

CONCLUSION

The paper is a modest attempt to emphasize on the importance of e-governance to public service delivery with particular focus on Nigerian public service. Globalization which is believed to have helped many countries access the better ways of handling issues of governance is made possible via ICT wherein emerging technologies reside. A lot of ease has been brought to the door posts of many countries and their citizens by emerging technologies. The reported technologies do not have boundary. Their services cut across every department of life-National Security, Health sector, Economy, Education, Administration and Management, Agriculture etc.. Finally, for public sector organizations across the world, the pressure for improved efficiency during the past decades are now accompanied by an equally strong need to service delivery to create solutions that better meet citizens' needs; to develop channels that offer efficiency and increase inclusion to all citizens being served; and to re-invent supply chains to deliver services faster, cheaper and more effectively (Brown, Fishenden & Thompson, N.D).

REFERENCE

- Agomuo, (2012) Modern Office Technology: Issues, Procedures and practices, Nsukka: University of Nigeria Press Ltd.
- Akintola, K.G. & Boyindode, O.K. (2011) The Place of Emerging RFID Technology in National Security and Development. *International Journal of Smart Home*, vol. 5, No. 2, April, 2011).
- Alan, W.B., Jerry, F & Mark, T. (N.D). *Revolutionalising Digital Public Service Delivery: A UK Government Perspective*.
- Boon, W. & Moors, E. (2008) Exploring Emerging Technologies Using Metaphors. *A study of Orphan drugs and Pharmacogenomics. Social Science and Medicine*, 66(9): 1915-1927.
- Brown A.W; Fishenden f., Thompson M (N.D) *Revolutionsing Digital Public Service Delivery: A UK Govnment Perspective*. Retrieved on <http://publications.cabinetoffice.gov.uk/digital>.
- Concise Oxford English Dictionary
- Cozzens, S.E., Gatchair, S., Kana, J., Kim, Le, H.J. Ordonez, G., & Porter, A. (2010). Emerging Technologies: Quantitative identification and measurement. *Technology Analysis & Strategic Management*, 22(3): 261 0 377
- Day, G.S. & Schocmaker, P.J.H (2000) Avoiding the pitfalls of emerging technologies. *California Management Review*, 42(2): 8-33.
- Educause white Paper (2008) the role of IT in campus security and emergency management. Receive from <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Nnaeto

- Evanson E.A; Hogan H., & Umoudo (N.D) Office Administration in an Era of Emerging Technologies: The Nigerian situation
- Gumi, A, M & Aliero, A.A (2012) Bio-approaches and Technologies for improved Crop Production in Northern Nigeria: A review. *Asian Journal of Crop Science*, 4:122-126.
- Miller J., Green, I., Putland, G. (2005) *Emerging Technologies: A framework of Thinking*. Australian Capital Territory Department of Education and Training. http://www.det.act.gov.au/_dataassets/pat_file0010/74485/ACT_EMTEch_Report_v/_2.pdf.
- Mohanad, H. (2013) Emerging Technology: What is it? *J. Technol. Manag. Innova.*2013, volume 8, issue 3.
- Nwafor,J.C., (2007).Global Climate Change: The driver to multiple causes of flood intensity in sub-Saharan Africa.Paper at the international conference on climate change and economic sustainability, Nnamdi Azikiwe University,Enugu, Nigeria.12-14 June,2007
- Office of the Head of Service (2008) *Nigerian Public Service Rules, 2008 diction*.
- Ogburn W. F. (1947) *How Technology changes the Society*, Retrieved on <https://www.boundless.com/.../ogbuns-s>
- Ogedebe P.M & Jacob B.P (2012) The Role of Information Technology in Combating Security Challenges in Nigeria. *Academic Research International*. Vol 2, No. 1, (2012).
- Ogunna, A.E.C (2004) *Fundamental Principles of Public Administration*. Versatile publishers, Owerri.
- Ogunsola L.A (2005) Nigerian University Libraries and the Challenges of Globalization: The Way Forward *J. Soc. Sci.*, 10 (3): 199-205 (2005).
- Oluwapelumi (2016) The Key Emerging Video Surveillance Market in African Region-Tech Africa Retrieved on <File://local/host/E:/emerg%206.html>
- Srinivasan.R. (2008). Sources,Charateristics and Effects of Emerging Technologies:Research Opportunities in Innovation.*Industrial Marketing Management*,37,633-640.
- Stahl,B.C. (2011). What does the future hold? A critical review of Emerging Information and Communication Technologies and their social consequences. In M. Chiasson, O.Henfridsson,H. Karsten, & J.I. DeGross (Eds).*Researching the future in Information Systems: IFIPWP 8.2 Working Conference,Future IS 2011,Turku, Finland,June 6-8,2011*.
- Van de Walle, S.G.J & Scott, Z. (2009) The role of public services in state and nation building: Exploring lesson from European history for fragile states. Retrieved from <htt://hdl.handle.net/1765/17084>
- Wilson K.B (2004) Impact of Emerging Technologies on Teacher Education: Experience of Teacher-Trainees. *Journal of Education and Practice- Vol.5, No. 28, 2014* <www.answers.com/oQ/hqhat is the definition of public service delivery>. Retrieved on <February 21, 2017>.

Nnaeto

www.gsdr.org/document_lirbayr/teh role of public services in state and nation. GSDRC
Research Paper, Government and Social Development Resource centre, Birmingham
Mbachu, O, (1998), History of Political Thought: From City-State to Nation-State. Achugo
Publishers Ltd.Owerri.
Jones, C.O (1970) An Introduction to the study of Public Policy. Duxbury Press. California