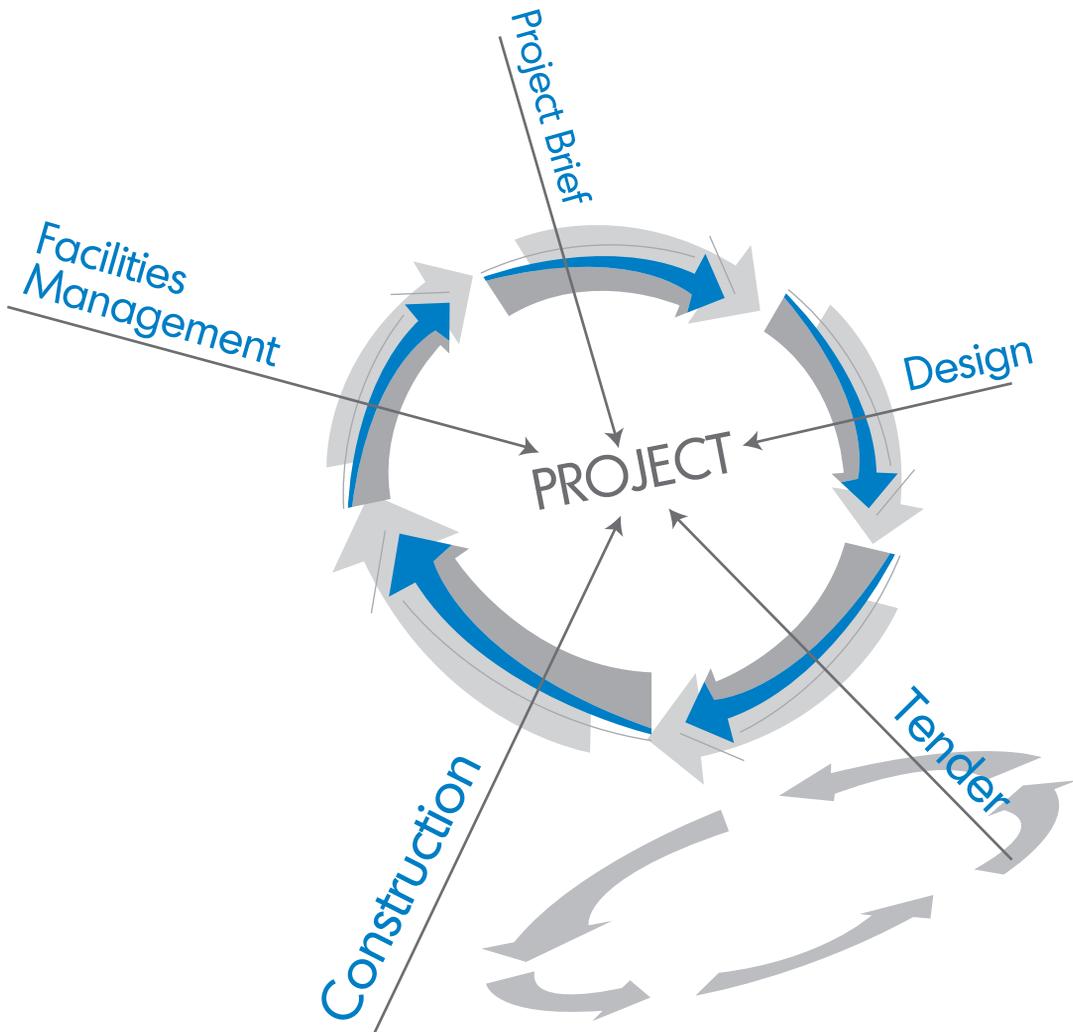


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# THE PERCEPTION OF FUTURE DECISION MAKERS ON THE BUILDING PROFESSION

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## Abstract

Out of all the professionals involved in the built environment, the most misunderstood is the Professional Builder. To avoid the dearth of the profession and ensure a sustainable profession, the study as a social judgment aims to assess the building profession in the eyes of future decision makers in Nigeria. Through a purposive sampling method, a structured questionnaire was distributed to two hundred and thirty-six (236) final year students of selected private and public universities in Lagos and Ogun state, Nigeria, termed as future decision makers. Using SPSS 17.0, descriptive and inferential statistics test such as Mean Score, Analysis of Variance and Factor analysis were used for the study. The results of this study indicated that future decision makers in the selected institutions in Nigeria had very little awareness of major and evolving roles of the professional builder. In conclusion, two (2) major areas can influence the popularity of the profession which are the Student/Professional builders' participation and the Professional Associations. The study developed a framework to ensure the sustainability of the profession by influencing the awareness level of future decision makers.

**Keywords:** *Building Profession, Future decision makers, Professional Association, Social Judgment, Sustainability*

## INTRODUCTION

The pivotal role of the building and construction industry makes it essentially a service industry that primarily aims at satisfying the clients. The major goals of quality, time and cost are centrally fulfilled with the cautious engagement of stakeholders in the built environment. Apart from these three major goals, Obiegbu (2009) explained that in addition, clients are placing greater demand on project organization, procurement and management. In order to achieve these crucial project requirements, the issues regarding each profession is called to fore. In understanding the term "profession" Vee and Skitmore (2003) defined it as an occupation that requires both advanced study and mastery of a specialized body of knowledge undertaken to promote, ensure and safeguard some matter that significantly affects others well-being. A profession is guided by continuous training and code of ethics. According to Fellows (2003), professionalism in the construction industry involves exercising the body of unique and expert knowledge into constructional activities. Harnessing professionalism brought about the tool of the National Building Code 2006. The National Building Code of the Federal Republic of Nigeria (2006) has clearly stated the professionals actively involved in the construction industry and their roles in order to forestall the challenges posed by quacks and imposter in the construction industry. But this has refused to yield maximum results. Oseghale, Ikpo and Ajayi (2015) argued that until the operational document known as the Urban and Regional Planning Law is implemented in most states in Nigeria, the National Building Code may not yield the desired results. Bamisile (2004) observed that there is still confusion and misinterpretation of the roles of some of the professionals in the management of construction projects in Nigeria. Anyanwu (2013) identified the lack of proper working knowledge on the part of majority of people on the roles of each professional in the building industry as a major factor.

Various issues plaguing the building industry ranging from rework, contract malpractice, delay, time and cost overrun, abandonment, high spate of accident and building collapse can be attributed to questions of unprofessionalism. Majorly, the incidence of building collapse in Nigeria over the last decade has become alarming and does not show any sign of abating. Each collapse carries along with it tremendous effects that cannot be easily forgotten by any of its victims. In 35 percent of the reported cases of building collapse in Nigeria between 1974 – 2010, Windapo and Rotimi (2012) revealed that no fewer than six lives were lost. Apart from the human lives wasted, economic and social waste such as loss of properties, incomes, loss of public trust and dignity for the professionals, exasperation of crises among the stakeholders and environmental disaster are also experienced.

According to Usman, Inuwa and Iro (2012), these unethical practices, which affect the general well-being of a nation, is an indication of the total loss of values, norms and morals that form the foundations of a society. Even the professionals who are trained and therefore expected to exhibit a high level of professionalism are not exempted from this moral decadence (Payne, Chelson and Reavill, 1999). Construction professionals have a duty to clients and the nation. If construction professionals are perceived to be incompetent or their roles unknown with the glaring challenges of the building industry, discharging their duties would become difficult. It is therefore imperative to safeguard ones' profession. With diverse tools to safeguard each profession comes this study. The future of professional Builders in the construction industry is hinged on future decision makers' ability to know the roles of the professional builder and be able to engage them accordingly.

The future decision makers in this study can be likened to individuals categorized as the Generation Z; the new silent generation or the internet generation. These are the generation born between the years 1995 – 2007. These set of people are pioneers in witnessing the rise of the information age, the internet and the digital globalization making the world a global village. Members of Generation Z are typically thought of as being comfortable with technology, and interacting on social media websites for a significant portion of their socializing. Individuals in the Generation Z are between 18 – 24 years of age making them youths according to international practice. According to the National Bureau of Statistics (2012), these group constitutes above 20% of Nigeria's population. Ruhl (2010) argued that these set of individuals constitute not only a formidable demographic force, but also make up the next generation of parents, workers and leaders. Brotheim (2014) suggested that they will be better future employees due to the skills needed to take advantage of advanced technologies, which will be helpful to the typical company in today's high tech world. Levit (2015) and Williams (2015) opined that the Generation Z are always eager to be involved in their community and their futures. This makes these set of individuals valuable to this study. This study intends to assess the social judgment of roles of building profession by people who are potential employers and potential policy makers that may affect the Building profession in the future.

## REVIEW OF RELATED LITERATURES

### The Building Industry

According to Mbamali and Okotie (2012), buildings have evolved with man's progress and development. The development of the built environment has been hinged on the dynamic nature of human needs (Mosaku, Kehinde and Kuroshi, 2006). Building industry as defined by Akinluyi and Adeleye (2013) is the collection of different licensed professionals (architects, builders, quantity surveyors, etc.) working as one, on construction sites to produce the proposed building. Whereas, Flanagan (2006) defined it as that sector of the economy that is responsible for producing the total life cycle of buildings, excluding the infrastructure and civil engineering works. Buildings, an aspect of housing is regarded as the second most important need to man. According to Towry-Coker (2006) the building sector is adjudged to be the second biggest industry in the world. The National Bureau of Statistics (2015) reported that the Nigerian building and construction industry averages over 18 percent growth rate, contributing an average of 3 percent yearly (over \$10 Billion) to the real GDP of the nation. The Gross Capital formation shown in Table 1 shows the net increase in the output of buildings in the measured period (2010 – 2012). This huge financial outlay and added value to the environment are worthy of presentation as legacies for succeeding generations (Dada, 2006; Towry-Coker, 2006).

**Table 1.** Gross Capital Formation of the Building Industry. (In =N= millions)

<b>Buildings</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Purchase or construction of residential building	1,994.95	3,465.26	4,137.30
Purchase or construction of non –residential building	2,258.78	2,824.89	3,353.06
Purchase or construction of other building structure	1,822.73	2,308.10	2,828.17
Major repairs and renovations	1,825.15	2,579.58	2,976.34

(Source: National Bureau of Statistics, 2015)

### The Professional Builder

According to Ogunbiyi (2015), the practice of the building profession has been misunderstood to a large extent even by team members in the building and construction industry. This has culminated into situations where professional builders are referred to as contractors, foremen, brick-layers etc. on building construction sites. Olatunji, Oke and Owoeye (2014) defined a professional Builder as an academically trained specialist and statutorily registered professional responsible for Building Production Management, Construction and Maintenance of Buildings for the use and protection of mankind and his assets. Bamisile (2004) explained that the Builder is the professional at the centre of the physical construction of buildings. From the design stage to the completion of the building, the relevance of the Builder is crucial. Although, Bamisile (2004) stated that the Builder's role takes prominence at the construction stage. The building profession was born in Nigeria in 1967 an overseas centre of the Institute of Building (IOB), London. Only the Council of Registered Builders of Nigeria (CORBON) has the mandate and statutory obligation to register and name a person or persons as Builders by virtue of Decree 45 of 1989, now ACT CAP 40, 1990 law of the Federal Republic of Nigeria. The Law also recognizes the Nigerian

Institute of Building (NIOB) as the only professional body for those engaged or about to be engaged in the building profession.

### **Roles of the Professional Builder**

According to the 1996 professional scale of fees for consultants in the Nigerian construction industry, which is a government controlled document used to regulate the fees of all participating professionals in the construction industry. The builders' area of practice as highlighted in the document as stated by Ogunbiyi (2015) includes Building Production/Construction Management, Building Maintenance Management, Project Management, Feasibility and Viability Study, Arbitration and Litigation Services, Report on abandoned projects, Reactivation of abandoned projects, Resident Supervision, Management of direct labour project and Building Survey. Additional services ratified by the professional and statutory bodies of the profession of Building through a document termed the "Yellow book" identified services such as Estimating and pricing for tenderers in Building projects, Risk Management, Value Management, Facilities Management in Buildings, Technical and Project auditing, Preparation of material, labour and plant schedule, Procurement management in DandB and BOT Building projects, Site Visit or attending any site meeting other than the normal monthly meeting, Evaluation and settlement of Building contractors' claims, Development and preparation of Building Bye-laws for Estate, Builders' input in the preparation of Pre-Design technical reports and Environmental Impact Analysis report and Processing of Certificate of Practical Completion and Fitness for Habitation. In recognizing the roles of the Builder, Bamisile (2004) identified three (3) major roles that are peculiar to the profession. The roles are preparing buildability and maintainability analysis, Production management documents and manage the production process on site.

### **Buildability and Maintainability analysis.**

Aina and Wahab (2011) observed that buildability problems arise from complexity of project, faulty and defective working drawings, resistance of client to buildability programmes, budgetary limitation and non-standardization of design. Obiegbo (2009) explained that these buildability problems is as a result of the poor correlation between design and construction. Buildability, though a relatively new concept in Nigeria is increasingly becoming a major requirement in building practice. Aina and Wahab (2011) explained that clients are continuously impatient with the poor delivery of project requirements with buildability problem increasing in proportional to the period of time. Bamisile (2004) defined buildability as the ability to construct a building efficiently, economically and to an agreed or specified standard from its constituent materials, components and sub-assemblies. A widely accepted definition of buildability is that of the Construction Industry Research and Information Association (CIRIA, 1983), stated that buildability is the extent to which the design of a building facilitates ease of construction, subject to the overall requirements for the completed building. Ogunbiyi (2015) explained that buildability and maintainability entails the study of the production documents meant for a building project and produced by the other consultants on the project such as working drawings, Bill of quantities, specifications etc. The purpose which is to assess if the building on paper can stand in reality with a minimal no error in construction. Obiegbo (2009) added that it helps to identify the most cost effective methods of site execution (production), future maintenance and to draw the attention of the designers to any part of the design, working drawings, schedules and specifications that could be an

impediment in achieving the clients' objective. The buildability and maintainability analysis which is one of the roles of the Professional builder aims to achieve value for the client through cost optimization, time optimization and getting it right at first and only attempt.

### **Production Management documents.**

Section 2.32 of the National Building Code (2006) emphasized the onerous task of a registered builder in preparing construction programme, project quality management plan, project health and safety plan; a major aspect of building production management. Ogunbiyi (2015) referred to this stage of producing these documents as the construction planning stage. At this stage the builder as a consultant prepares these documents. Obiegbu (2009) noted that if the Builder is not in charge of producing these documents, he or she can be involved in vetting the production management documents submitted by the main or sub-contractor. Ogunbiyi (2015) added that at this stage the Builder can also prepare the construction project methodology, project information required schedule and the project early warning system chart.

### **Managing the production process on site.**

In managing the production process on site, Obiegbu (2009) stated that the Builder offers the client the following professional services; Highest quality of work and attention detail, Speed, efficiency and minimum disruption in project execution, Value for money, Compliance with statutory codes and best international practice, Prompt, courteous and efficient dealings with any challenges that might arise on site, Highest standard of safety on construction site and Engaging trained and competent artisans and craftsmen on site. Ogunbiyi (2015) explained that the job of the builder at this stage is multi-varied as the production of buildings differ. These roles are clearly summarized in the National Building Code (2006) in Section 13.12.4. The role of the professional builder according to Obiegbu (2009) is about the dynamics of building construction in order to achieve specified quality standards at first attempt.

### **Factors affecting Students' Perception of Professional Courses**

According to Bandura (1986), the experiences acquired during the formative period of an individual's life leaves an indelible mark on personal decisions he/she makes. Bandura, Barbaranelli, Caprara and Pastorelli (2001) added that the perceived efficacy and academic orientations of youth determine their decisions to pursue different types of careers and also determine which careers they may avoid. With the supply of engineering graduates in decline while the anticipated demand for these skills is on the rise (Archer *et. al.*, 2012), Becker and Park (2011) opined that attracting students to this profession requires using a teacher who understands the engineering design and problem-solving process. This highlights the role a teacher plays in sharpening the perception of students towards a discipline. Apart from this, negative characteristics such as traditional stereotyping and corporate accounting scandals (Allen, 2004; Hammani and Hossain, 2010), financial scandals and irregularities (Jackling, Cooper, Leung and Dellaportas, 2007; Sugahara, Hiramatsu and Boland, 2009), conflict of interest, earnings management and whistleblowing (Jackling *et. al.*, 2007) have defined and further marred the perception of the accounting profession. On the other hand, some students have somewhat positive about the accounting profession (Germanou, Hassall and Tournas,

2009; Hammani and Hossain, 2010). This means that the integrity of a profession can also promote the perception of students towards a profession. According to Karakaya, Quigley, Bingham, Hari and Nasir (2014), misperception is a very powerful tool that propels the reluctance of many college students to consider a career in sales. Negative perceptions of selling may be attributed to a lack of student knowledge about the profession (Stevenson and Bodkin, 1998). The perception can appear in the profession itself, Mackay (2004) argued that attitudes held by one profession or group can have a significant effect on their perception of and behaviour towards another profession. Ethical concerns have been indicated as reasons why some students are hesitant to select personal selling as a career (Burnett, Pettijohn and Keith, 2008) due to the perceived inherent unethical behaviours (Sparks and Johlke, 1996; Lysonski and Durvasula, 1998). Although, students who had taken a course in sales have a significantly more positive image of selling and salespeople and are more optimistic about selling than students who had not taken a sales course (Bristow, Gulati, Amyx and Slack, 2006). Barat and Spillan (2009) and Karakaya *et. al.* (2014) also suggested that nationality and cultural background can influence students' perceptions of and feelings toward a particular profession. In this age of the internet and social media, Nga and Mun (2013) opined that media visibility has a role to play.

## **METHODOLOGY**

This study designed and conducted a quantitative survey as an appropriate method for data collection. Descriptive research design was adopted and was carried out using the questionnaire as the research instrument to achieve the objectives of the study. Purposive sampling method was used to arrive at the samples engaged for this study because a comprehensive and updated list of all registered students in the three institutions could not be obtained as at the time of this research. The students in this study are final year students of selected private and public universities (target respondents) in Lagos and Ota, Ogun state. These students having undertaken four or five year studies in their respective institutions and prepared for life after school are considered as future decision and policy makers in the country in no distant future.

### **Population and Sample Size**

The study was performed in the south-western part of Nigeria, cities notably, Lagos and Ogun state. The study was carried out in University of Lagos, Akoka, Lagos; Covenant University and Bells University of Technology, both in Ota, Ogun state. University of Lagos was chosen because it represents one of the foremost Nigerian universities in the country. While, Covenant University is considered as one of the top-rated institutions in the country, Bells University of Technology is the first private university of Technology in the country. The population of this study included full time registered students of the three higher institutions from faculties/colleges ranging from social sciences, sciences, business administration, arts, law, education, engineering/technology, medical sciences and environmental sciences. The distribution of students from the institutions are shown in Table 1 below.

**Table 2.** Distribution of students from the selected universities for the study

Cities	Lagos		Ota
Faculties/Institution	University of Lagos	Covenant University	Bells University of Tech
Social sciences	8	13	9
Sciences	26	15	3
Business Administration	9	5	2
Arts	10	-	-
Law	4	-	-
Education	22	-	-
Engineering/Technology	8	11	10
Medical sciences	1	1	1
Environmental sciences	15	8	6
<b>Total</b>	<b>103</b>	<b>53</b>	<b>31</b>

(Source: Field Survey, 2015)

Out of the 387 copies of research questionnaire distributed, 236 were completed and returned representing a 61% response rate. The returned copies were scrutinized for errors, omissions, completeness and inconsistencies and 187 were found to be adequately completed and therefore used to carry out the analysis.

### Questionnaire design

The questionnaire was developed from a thorough literature review. A pilot study was conducted with 3 professional builders and 2 academic lecturers who have relevant experience in their respective field. The aim of the pilot study is to ensure that the questions was phrased correctly for ease of answering, to ensure the appropriateness of the identified roles of professional builders, and provide appropriate measures for the study design. The pilot study results revealed that some roles of builders and associated factors affecting level of awareness of the builders’ roles were related or vague and were omitted.

### Reliability of the research instrument

The Cronbach alpha reliability test was carried out to determine the reliability of the responses obtained for each of the roles of professional builders and the factors influencing the level of awareness of students to the roles listed in the research instrument. Nunnally and Bernstein (1994) suggested that the Cronbach alpha value must be greater than 0.7. In this study, Cronbach Alpha values of all variables is 0.941 if items are deleted which are beyond the value of reliability needed.

## RESULT AND DISCUSSION

In this section, the study assesses the perception of students who are future decision and policy makers on their level of awareness of the roles of professional builders and the significant factors influencing their level of awareness.

### Level of awareness of students on the roles of professional builders

Sixteen (16) roles of professional builders as performed in the construction industry and related field identified from literature and corroborated by construction professionals were presented in the survey. Table 3 shows the level of awareness of students on the roles of builders. Students are fairly aware that managing building construction and employing labour for construction activities are few of the roles of professional builders. These outlined roles are more popular functions ascribed to professional builders especially when compared to other “lesser” known roles. It can be inferred that as the name builder implies, this set of professionals are associated with building edifices and managing construction activities. The roles of builders are also known to include but not limited to Building production/construction management and employing labour in direct labour projects. Considerable percentage of private clients (who are also parents to some of the students) adopt direct labour projects as its procurement route because of its lower cost (Dada, 2012; Mbamali and Okotie, 2012; Ogunsanmi, 2013), hence they reckon that builder is best saddled with the responsibility of employing labour for building projects.

**Table 3.** Level of awareness of students towards roles of professional builders

Roles of professional builders	Mean	Remark
Building production/construction management	3.52	Fairly aware
Employing labour in direct labour projects	3.50	Fairly aware
Building maintenance management	3.38	Very little awareness
Resident supervision of building projects	3.30	Very little awareness
Facilities management in buildings	3.26	Very little awareness
Feasibility and viability studies of building projects	3.24	Very little awareness
Project management services in building projects	3.24	Very little awareness
Health safety and welfare of workers on building sites	3.23	Very little awareness
Preparation of construction quality management plan	3.20	Very little awareness
Preparation of construction programme of works	3.16	Very little awareness
Risk management in buildings	3.11	Very little awareness
Estimating and pricing for tenderers in building projects	3.07	Very little awareness
Building condition survey	3.04	Very little awareness
Value engineering of building projects	2.90	Very little awareness
Expert witness in arbitration and litigation	2.71	Very little awareness
Arbitration and litigation services in disputes settlement	2.69	Very little awareness

As depicted in Table 3, it is imperative to note that students have very little awareness of the remaining other highlighted fourteen (14) roles of professional builders in the study. Supervision of building projects, health, safety and welfare of workers on site, preparation of

construction programme of works, building condition survey, value engineering of building projects are some of the roles of builders that students are rarely aware about as it relates to builders.

The study also assessed the significant difference among the colleges/faculties of students on the level of awareness of roles of professional builders. The significant difference was evaluated with the analysis of variance (ANOVA). The result was hitherto presented in Table 4.

**Table 4.** Significant difference among faculties of students on their level of awareness

		Sum of Squares	df	Mean Square	F	P value.	Sig
Feasibility studies of building projects	Between Groups	4.940	2	2.470	1.432	.242	NS
	Within Groups	310.481	180	1.725			
	<b>Total</b>	<b>315.421</b>	<b>182</b>				
Resident supervision of building projects	Between Groups	21.647	2	10.823	7.329	.001	S
	Within Groups	264.331	179	1.477			
	<b>Total</b>	<b>285.978</b>	<b>181</b>				
Arbitration and litigation services in disputes settlement	Between Groups	3.255	2	1.628	1.252	.288	NS
	Within Groups	231.419	178	1.300			
	<b>Total</b>	<b>234.674</b>	<b>180</b>				
Building production/construction management	Between Groups	12.285	2	6.142	4.203	.016	S
	Within Groups	258.665	177	1.461			
	<b>Total</b>	<b>270.950</b>	<b>179</b>				
Expert witness in arbitration and litigation	Between Groups	5.427	2	2.713	1.894	.153	NS
	Within Groups	253.551	177	1.432			
	<b>Total</b>	<b>258.978</b>	<b>179</b>				
Health safety and welfare of workers on building sites	Between Groups	5.560	2	2.780	1.723	.182	NS
	Within Groups	287.225	178	1.614			
	<b>Total</b>	<b>292.785</b>	<b>180</b>				
Preparation of construction programme of works	Between Groups	6.760	2	3.380	2.292	.104	NS
	Within Groups	259.541	176	1.475			
	<b>Total</b>	<b>266.302</b>	<b>178</b>				
Value engineering of building projects	Between Groups	5.490	2	2.745	1.974	.142	NS
	Within Groups	247.515	178	1.391			
	<b>Total</b>	<b>253.006</b>	<b>180</b>				
Preparation of construction quality management plan	Between Groups	8.401	2	4.201	2.932	.056	NS
	Within Groups	256.478	179	1.433			
	<b>Total</b>	<b>264.879</b>	<b>181</b>				

		Sum of Squares	df	Mean Square	F	P value.	Sig
Building maintenance management	Between Groups	13.065	2	6.532	4.378	.014	S
	Within Groups	270.060	181	1.492			
	<b>Total</b>	<b>283.125</b>	<b>183</b>				
Project management services in building projects	Between Groups	1.712	2	.856	.552	.577	NS
	Within Groups	272.959	176	1.551			
	<b>Total</b>	<b>274.670</b>	<b>178</b>				
Building condition survey	Between Groups	6.462	2	3.231	1.781	.172	NS
	Within Groups	321.182	177	1.815			
	<b>Total</b>	<b>327.644</b>	<b>179</b>				
Estimating and pricing for tenderers in building projects	Between Groups	2.837	2	1.418	.847	.430	NS
	Within Groups	301.240	180	1.674			
	<b>Total</b>	<b>304.077</b>	<b>182</b>				
Risk management in buildings	Between Groups	3.944	2	1.972	1.163	.315	NS
	Within Groups	301.846	178	1.696			
	<b>Total</b>	<b>305.790</b>	<b>180</b>				
Employing labour in direct labour projects	Between Groups	8.321	2	4.160	2.405	.093	NS
	Within Groups	311.395	180	1.730			
	<b>Total</b>	<b>319.716</b>	<b>182</b>				
Facilities management in buildings	Between Groups	2.481	2	1.241	.789	.456	NS
	Within Groups	284.513	181	1.572			
	<b>Total</b>	<b>286.995</b>	<b>183</b>				

Table 4 indicated that among the sixteen (16) roles of professional builders, only resident supervision of building projects, building production/construction management and building maintenance management are the roles of professional builders with significant difference among the different faculties within the selected universities in the study. This is inferred from their p-value which is less than 0.05 (5% level of significance); signifying they are significant. This means that the colleges and/or faculties student are, have an effect on level of awareness of three (3) major roles of the professional builder. This could be as a result of the fact that few individuals are conversant with the three roles highlighted. In a similar scenario, it can be concluded that faculties or colleges do not have significant effect on the other thirteen roles of professional builders. The p value is greater than 0.05 ( $p > 0.05$ ). This result is borne out of the fact that majority of the thirteen (13) roles are evolving roles of professional builders and hence will only be known when concerted efforts are made by students or related stakeholders to increase the awareness of the profession in tertiary education and in the industry at large. Ogunbiyi (2015) argued that the professional builder is one of the most misunderstood professional in the built environment. Essentially, the professional builder who is responsible for the translation of the design at the construction stage is most times not engaged. The Council for the Regulation of Engineering in Nigeria (COREN) in a press

release asserted that most of the collapsed buildings belong to private developers who deliberately refuse to engage qualified professionals to supervise the construction after receiving approvals from development control authorities (Alum, 2012). A coalition of professionals from the seven built environment professions in Nigeria, Building Collapse Prevention Guild (BCPG), in a recent press release blamed quacks or use of wrong professionals for virtually all the buildings that have collapsed in the country. They argued that the best design in the world is worthless if it is not faithfully implemented at the construction site, of which the professional Builder must play a crucial part.

**Factors influencing the level of awareness of the roles of professional builders.**

The study identified eleven (11) factors influencing the level of awareness of the roles of professional builders on building projects from literature. These factors are considered separately with significantly different mean score assigned to each of them.

**Table 5.** Factors influencing the awareness level of the roles of professional builder

Factors influencing awareness level	Mean	Remark
Social interaction with building/building technology students	3.41	Very little influence
Clarity of the profession's name (the name fully describes what it does)	3.35	Very little influence
Information about the profession in books periodical etc.	3.18	Very little influence
Students activities such as students' week	3.16	Very little influence
Orientation programmes student seminar	3.13	Very little influence
Personal contact with a professional builder	3.08	Very little influence
Media adverts and publications about Builders' activities in the public media	3.04	Very little influence
Web presence and mention in relevant construction websites blogs social media	3.03	Very little influence
Government engagement of professional builders on its projects	3.03	Very little influence
Publicity efforts by building firms	3.00	Very little influence
Advocacy and branding efforts by Nigerian institute of building or its regulatory body	2.74	Very little influence

From Table 5, it showed that social interactions with building technology students, clarity of the profession’s name and information about the profession in books, periodicals had very little influence on the level of awareness of the professional builders among students. The relative importance of students studying building technology in publicizing the functions of building professionals in institutions cannot be overemphasized as they are the first contact other students have about the course. As Icbay (2008) noted that education is essentially a social action, and thus depends on social interaction. Bremme and Erickson (1977) stated that this social interaction produces an infinite number of actions. It is through these different talks-in-interaction at different contexts that social institutions and actions are produced and composed (Watson, 1992). Bremme and Erickson (1977) argued that sharing personal experiences through a conversational style of interaction, individuals give little thought to the complexity of the interactional work they perform. So, evidently what the student builders know about their course is what they will pass across to other students in other profession.

Similarly, the study revealed that the clarity of the profession's name has not played a significant role in increasing the level of awareness of the profession with students. The courses according to the Nigerian University Commission (NUC) are either called Building, Building Technology or Building Engineering in rare cases. The salient point associated with this factor is whether the profession's name fully describes what it does or not. The word 'professional builder' have little or no effect on raising the level of awareness of the profession among the students. This is premised on the fact that quacks lay claim to be called builders or engineers.

The study also examined the most significant factors influencing the level of awareness of professional builders among students of tertiary institutions. Factor analysis was used to achieve this purpose. Principle factor extraction analysis with Varimax rotation was performed using SPSS 17. To assess the suitability of the data for factor analysis, the KMO measure of sampling adequacy and Bartlett's test of Sphericity were conducted. Cronbach's Alpha was calculated for reliability. Table 6 showed that the KMO measure for sampling adequacy was 0.892, which is larger than 0.7, suggesting that the sample was acceptable for factor analysis. The Bartlett's test was 968.415 and the associated significance level was  $p$ -value  $< 0.001$ , indicating that the population correlation matrix was not an identity matrix. Both of the tests showed that the obtained data supported the use of factor analysis. Cronbach's Alpha of 0.658 suggested that the reliability of the research instrument used was also acceptable.

**Table 6.** KMO and Bartlett's Test of factors influencing awareness level of students

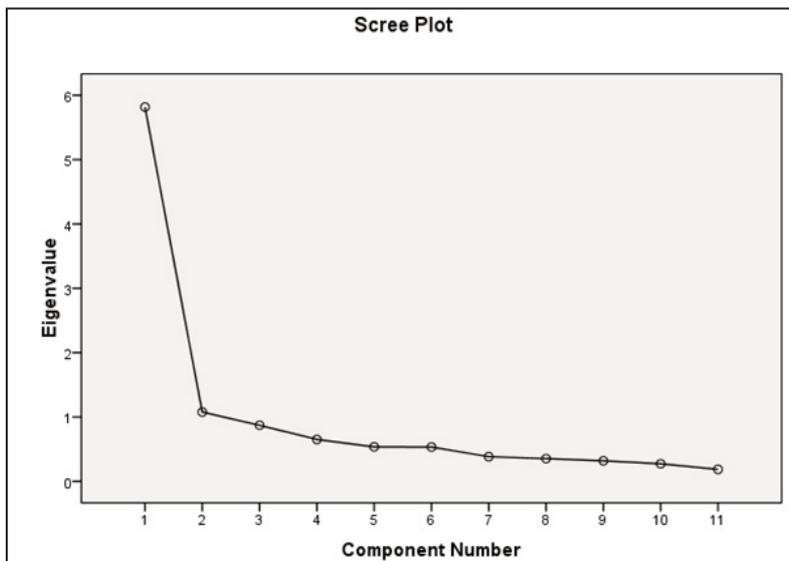
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.892
Bartlett's Test of Sphericity:	Approx. Chi-square	968.415
	Degree of freedom	55
	Significant level	0.000

Table 7 lists the eigenvalues associated with each linear component before extraction, after extraction and after rotation.

Figure 1 presents the scree plot, which resulted in two factors, because the regression line was divided into two components and then became a nearly straight line. After extraction, Factor 1 explains 31.862% of the total variance, while the second factor explains 30.817% of the total variance.

**Table 7.** Component transformation matrix of the factor influencing awareness level

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.818	52.888	52.888	5.818	52.888	52.888	3.505	31.862	31.862
2	1.077	9.790	62.679	1.077	9.790	62.679	3.390	30.817	62.679
3	.871	7.920	70.599						
4	.651	5.916	76.515						
5	.536	4.870	81.385						
6	.534	4.851	86.236						
7	.383	3.481	89.717						
8	.354	3.214	92.931						
9	.319	2.903	95.834						
10	.273	2.479	98.314						
11	.185	1.686	100.000						



**Figure 1.** Scree plot for factors influencing the awareness level of students.

Using exploratory factor analysis, the factor analysis extracted two factors with eigenvalues greater than 1.0, which explained 62.679% of the total variance. The two-factor solution with the respective loading scores is shown in Table 8. The factor loading of 0.50 was considered to be the cut-off point.

### Factor 1: Student/professional builders' effort

The first factor titled student/professional builders' effort which has the largest total variance of 31.86%, can explain the efforts made by potential and professional builders; students and practitioners, to ensure that the profession and its importance is known in the country. This factor contains four factors related to direct efforts made by registered builders, current building students in tertiary institutions and building firms. The majority of the factors influencing awareness level of students have relatively high factor loadings ( $\geq 0.50$ ). As illustrated in Table 8, the highest factor loading attribute of the first factor was "Personal contact with a professional builder". This means that any individual (students, families, colleagues, etc.) or organization that comes in contact with a professional builder will come to terms with the need and significance of employing a registered builder on any building projects. This contact can be in the form of conversation about related construction matters and service delivery in the construction process. This is imperative because prospective clients may not be aware of the importance of engaging professionals when they believe they can pay less money for quacks. The second highest factor loading attribute is "social interacting with building students". This was an extension of the first factor, students in building department are expected to communicate effectively the functions of professional builders when causally asked by friends from other departments/faculties either from the same or different institutions. Gold, Rodgers and Smith (2002) suggested that the future of professions and professionals is mainly the responsibility of professionals themselves. Meintjes and Niemann-Struweg (2009) argued that the public will judge professionals by the quality of the values that they ascribe to, by their commitment to solid ethical values and integrity in relationships, the extent to which they are prepared to take responsibility for what they do, and the passion, courage and creativity with which they deal with problematic and challenging situation.

**Table 8.** Factor loading for factors influencing awareness level (Rotated Component Matrix)

Rotated Component Matrix	1	2
Personal contact with a professional builder	0.995	
Social interacting with building students	0.873	
Government engagement of professional builders on its projects	0.756	
Media adverts and publications about builder's activities in the public media	0.609	
Web presence and mention in relevant construction website		0.912
Advocacy and branding efforts by Nigerian institute of building or its regulatory body		0.893
Information about the profession in books, periodical etc.		0.756
Orientation programmes student seminar		0.578
Students activities such as hall week		0.505

### Factor 2: Professional and regulatory bodies' effort

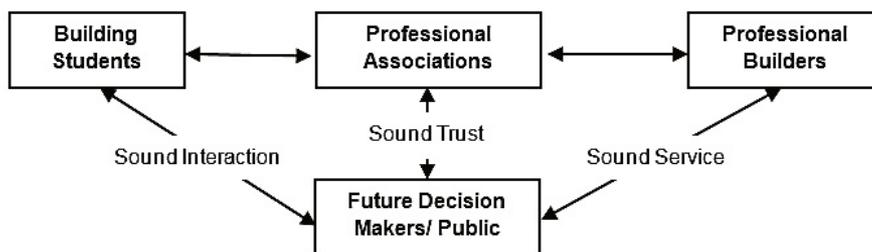
The second factor is labelled professional and regulatory bodies' effort, which is the second largest variance of 30.88% and comprises four attributes. The first attribute with the highest factor loading is "Web presence and mention in relevant construction website". This indicated that web presence and mention in construction related website run by professional bodies, regulatory bodies and construction organizations would go a long way to ensure

prospective clients are fully aware of what gains are inherent in employing the services of professional builders. Also, advocacy and branding efforts by its professional body (Nigerian Institute of Building) and regulatory body (Council of Registered Builders of Nigeria) is expected to drive up the knowledge of the profession in the country. A profession is only as strong as its professional association. According to the Green (2015) central to the purpose of professional bodies is to provide trust. For the layperson, even for experts, gauging the potential quality of the service offered by a professional can be extremely hard. Therefore, Palea (2012) noted that professional associations play a key role in developing, promoting and strengthening a profession before various and dynamic audiences (clients, practitioners, educators, legislators, journalists, researchers etc.) thereby inhibiting access to the unqualified. For example, clearly stated on the Association of Trainers in Journalism and Communication – AFCOM website in the 15th article of the Association’s Statute which states that “the association operates with the purpose to protect the members’ professional rights and interests, their social and cultural needs, as well as to promote and protect their professional status, in accordance with national and international standards of the domain”. By this Palea (2012) argued that the association has not assumed solely a role of regulation, restriction or sanction by imposing professional conduct standards, but they actively support and encourage the training and development of specialists within their profession. The activities undertaken by the professional associations contribute to defining and developing the profession, specifically by raising awareness about the domain and supporting the professionalization of practitioners.

### **Conclusion, Recommendation and areas of further studies**

The aim of this paper is to assess the building profession in the eyes of future decision and policy makers in Nigeria. The study evaluated the level of awareness of future policy makers on the roles of professional builders and the factors influencing the level of awareness of students. The results of this study indicated that future decision makers in Nigeria were fairly aware about two (2) major roles of the professional builder which are building production/construction management and employing labour in direct labour projects. The study revealed that the background courses of the future decision makers were significant in identifying three (3) major roles of the professional builders such as resident supervision of building projects, building production/construction management and building maintenance management. Majority of students (prospective client) are however not aware of some of the evolving roles of professional builders such as building condition survey, facility management functions, project management and value engineering.

The current study revealed that several significant factors had little influence on increasing the level of awareness about professional builders in the construction industry. Upon factor analysis, the study showed that two major areas can influence the popularity of the profession which are the student/professional builders’ participation and the professional associations. Figure 2 showed a framework for influencing awareness level of future decision makers. As shown in Figure 2, every contact with good service delivery of professional builders during the building process will lead to client satisfaction and value creation in such projects. Students, registered builders and professional bodies have a significant role to play in ensuring the profession is embraced in the country at large.



**Figure 2.** Framework for influencing awareness level of future decision makers

Source: Author's design

The study recommended that building students should increase their social interaction with their peers about the profession while professional builders should ensure good service delivery when given opportunities on building projects so they can get referrals for other projects thereby increasing the knowledge of the professions among clients/prospective clients. The Nigerian Institute of Building (NIOB) and the Council of Registered Builders (CORBON) should improve on their advocacy and branding efforts of the profession by ensuring adequate web presence and mention on construction related sites. Lecturers in tertiary institutions should ensure that frequent site visits, group works on construction related activities and the use instructional aids should be encouraged to increase participation and knowledge base of building students in the course work, thereby increasing the knowledge to friends and prospective clients within their academic community.

The research presented in this paper is considered an initial step to measuring the awareness of building profession in the eyes of future decision makers using a quantitative research method. Hence, qualitative approaches, such as interviews and focus groups, are required to validate the findings obtained in this study. Since this research is limited to selected universities, future research needs to assess the perceptions of final year students in universities in all geographical regions of the country. It would also be interesting to carry out a comparative evaluation between the perception of building professionals in Nigeria and other countries.

The significant contribution of the study to knowledge is that it adds to the growing number of literature and reference materials on work theory value, particularly on the subject of perception of building professions to tender which had received little attention from researchers and where there has been comparatively little objective research. The study explored the areas of having a sustainable profession by increasing knowledge. Finally, the study provides a platform on which future research can be undertaken.

## REFERENCES

- Aina, O. O. and Wahab, A. B. (2011) An Assessment of Build-ability Problems in the Nigerian Construction Industry. *Global Journal of Research Engineering*, 11 (2): 42-52.
- Akinluyi, M. L. and Adeleye, O. O. (2013) The Building Industry in the Housing Programme: Technology, Materials and Labour towards addressing Housing Shortage in Nigeria. *Global Journal of Arts Humanities and Social Sciences*, 1 (3): 58-70.

- Allen, C. L. (2004) Business students' perception of the image of accounting. *Managerial Auditing Journal*, 19 (2): 235-258.
- Anyanwu, C. I. (2013) The Role of Building Construction Project Team Members in Building Projects Delivery. *Journal of Business and Management*, 14 (1): 30 – 34.
- Archer, L., DeWitt, J., Osborne, J., Dillon, J., Willis, B. and Wong, B. (2012) Science Aspirations and family habitus: How families shape children's engagement and identification with science. *American Educational Research Journal*, 49 (5): 881–908.
- Bamisile, A. (2004) *Building Production Management*. Lagos, Nigeria: Foresight Publishers.
- Bandura. A. (1986) *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A., Barbaranelli, C., Caprara, V. G. and Pastorelli, C. (2001) Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development*, 72 (1): 187-206.
- Barat, S. and Spillan, J. (2009) A cross country comparative analysis of students' perceptions of the sales profession: A look at U.S., Peru, and Guatemala. *Marketing Management Journal*, 19: 52–63.
- Becker, K. and Park, K. (2011) Effects of integrative approaches among science, technology, engineering, and mathematics (STEM) subjects on students' learning: A preliminary meta-analysis. *Journal of STEM Education*, 12 (5): 23-37.
- Bremme, D. W. and Erickson, F. (1977) Relationships among verbal and nonverbal classroom behaviors. *Theory into Practice*, 5 (3): 153-161.
- Bristow, D., Gulati, R., Amyx, D. and Slack, J. (2006) An empirical look at professional selling from a student perspective. *Journal of Education for Business*, 81: 242–250.
- Brothel, Hal (2014) Introducing Generation Z. *American Jail Association*. p. 15 Assessed online from <http://www.readperiodicals.com/201411/3554415761.html>
- Burnett, M., Pettijohn, C. and Keith, N. (2008) A comparison of the ethical perceptions of prospective personal selling and advertising employees. *Marketing Management Journal*, 18, 77–83.
- Construction Industry Research and Information Association, CIRIA (1983) *Buildability: an assessment*. London, UK: Construction Industry Research and Information Association (CIRIA).
- Dada, M. O. (2006) The threat of building collapse to sustainable built environment. *Proceedings of the 36th Annual Conference of the Nigerian Institute of Building on Sustainable Development and the Built Environment*, Jos, Nigeria, 69-75.
- Dada, M. O. (2012) A second look: Stakeholders' Perceptions of some issues in Design - Bid-Build Procurement Practice in Nigeria. *Journal of Sustainable Development* 5 (1): 55-63.
- Fellows, R. (2003) Professionalism in construction: Culture and Ethics. *CIB TG 23 International Conference, Hong Kong*, 1 – 11.
- Flanagan, R. (2000) The impact of global business issues on design and construction. In P. Knox and P. Ozolins (eds), *Design Professionals and the built environment: An introduction*, Chichester: John Wiley, 341-349.
- Germanou, E., Hassall, T. and Tournas, Y. (2009) Students' perceptions of accounting profession: work value approach. *Asian Review of Accounting*, 17 (2): 136-148.
- Gold, J., Rodgers, H. and Smith, V. (2002) The future of the professions: are they up to it? *Foresight*, 4 (2): 46-52.

- Green, B. (2015) *Understanding the value of professionals and professional bodies*. Chartered Institute of Building (CIOB), 1 – 40.
- Hammani, H. and Hossain, M. (2010) Perception of the accountant held by business students and business professionals in an emerging country: the case of Qatar. *Education, Business and Society*, 3 (1): 48-62.
- Icbay, M. A. (2008) The role of classroom interaction in the construction of classroom order: A conversation analytic study. *Unpublished doctoral dissertation, Middle East Technical University, Ankara, Turkey*.
- Jackling, B., Cooper, B.J., Leung, P. and Dellaportas, S. (2007) Professional accounting bodies' perception of ethical issues, causes of ethical failure and ethics education. *Managerial Accounting Journal*, 22 (9): 928-944.
- Karakaya, F., Quigley, C., Bingham, F., Hari, J. and Nasir, A. (2014) Business Students' Perception of Sales Careers: Differences between Students in Switzerland, Turkey, and the United States. *Journal of Education for Business*, 89 (1): 13-19.
- Levit, Alexandra (Mar. 28, 2015) Make Way for Generation Z. *The New York Times*. Retrieved online from [http://www.nytimes.com/2015/03/29/jobs/make-way-for-generation-z.html?\\_r=0](http://www.nytimes.com/2015/03/29/jobs/make-way-for-generation-z.html?_r=0) on September 15, 2015.
- Lysonski, S. and Durvasula, S. (1998) A cross-national investigation of student attitudes toward personal selling: Implications for marketing education. *Journal of Marketing Education*, 20, 161–173.
- Mackay, S. (2004) The role perception questionnaire (RPQ): a tool for assessing undergraduate students' perceptions of the role of other professions. *Journal of Inter-Professional Care*, 18 (3): 289-302.
- Mbamali, I. and Okotie, A. J. (2012) An Assessment of the Threats and Opportunities of Globalization on Building Practice in Nigeria. *American International Journal of Contemporary Research*, 2 (4): 143 – 150.
- Meintjes, C. and Niemann-Struweg, I. (2009) The role of a professional body in professionalization: The South African public relations case. *Prism*, 6 (2). Assessed online on December 25, 2015 from [http://praxis.massey.ac.nz/prism\\_online\\_journ.html](http://praxis.massey.ac.nz/prism_online_journ.html).
- Mosaku, T. O., Kehinde, J. O. and Kuroshi, P. A. (2006) Control of Building Practice for Sustainable Development in Nigeria: Matters Arising. *Proceeding of the International Conference on the Built Environment; Innovation, Policy and Sustainable Development. Department of Architecture, Covenant University, Ota, Nigeria*, 26 – 33.
- National Building Code, NBC (2006) *The National Building Code of Federal Republic of Nigeria*. NBC, 1st Edition, South Africa: Lexis, Nexis, Butterwoths.
- National Bureau of Statistics, (NBS) (2012) The Nigeria Poverty Profile 2010. *Report of the National Bureau of Statistics Harmonized Nigeria Living Standard Survey (HNLSS)*.
- National Bureau of Statistics, (NBS) (2015) *Nigerian Construction summary report 2010 – 2012*. Central Business District, Abuja.
- Nga, J. K. H. and Mun, S. W. (2013) The perception of undergraduate students towards accountants and the role of accountants in driving organizational change. *Education + Training*, 55 (6): 500 – 519.
- Nunnally, J. C. and Bernstein, I. H. (1994) *Psychometric theory* (3rd ed.). New York, NY: McGraw-Hill, Inc.
- Obiegbu, M. E. (2009) Unique Roles of Professional Builders in the Society. *Being a paper presented at the One Day Seminar organized by the Rivers and Bayelsa States Chapter of the Nigerian Institute of Building held at Porthacourt, Nigeria on the 18th November*.

- Ogunbiyi, M. A. (2015) *Elements of Professional Practice and Procedure for Builders*. Lagos, Nigeria: Tony Terry Prints.
- Ogunsanmi, O. E. (2013) Effects of procurement related factors on construction project performance in Nigeria. *Ethiopian Journal of Environmental Studies and Management*, 6 (2), 215 – 222.
- Olatunji, S. O., Oke, A. E. and Owoeye, L. C. (2014) Factors Affecting Performance of Construction Professionals in Nigeria. *International Journal of Engineering and Advanced Technology (IJEAT)*, 3 (6): 76-78.
- Oseghale, G. E., Ikpo, I. J. and Ajayi, O. D. (2015) Causes and Effects of Building Collapse in Lagos State, Nigeria. *Civil and Environmental Research*, 7 (4): 34 – 43.
- Palea, A. (2012) The role of professional associations in defining the public relations profession. The Romanian case. *Professional communication and translation studies*, 5 (1-2): 17 – 24.
- Payne A. C., Chelsom J. V. and Reavill L. R. P. (1999) *Management for Engineers*. London: John Wiley and Sons.
- Ruhl, O. (2010) Nigeria's Youth: Turning Challenge into Opportunity. *Nigerian Youth Paper presented at Federal University of Technology, Owerri*. Available online- <http://siteresources.worldbank.org/NIGERIAEXTN/Resources/Nigerian-Youth-Paper-Onno-Ruhl.pdf>.
- Sparks, J. and Johlke, M. (1996) Factors influencing student perceptions of unethical behavior by personal salespeople: An experimental investigation. *Journal of Business Ethics*, 15: 871–887.
- Stevenson, T. and Bodkin, C. (1998) A cross-national comparison of university students' perceptions regarding the ethics and acceptability of sales practices. *Journal of Business Ethics*, 17: 45–55.
- Sugahara, S., Hiramatsu, K. and Boland, G. (2009) The factors influencing accounting school students' career intention to become certified public accountant in Japan. *Asian Review of Accounting*, 17 (1): 5-22.
- Towry-Coker, L (Nov. 20, 2006) Economy can't grow without improving housing. *The Punch*, 44.
- Usman, N. D., Inuwa, I. I. and Iro, A. I. (2012) The influence of unethical Professional practices on the Management of construction projects in North-Eastern States of Nigeria. *International Journal of Economic Development Research and Investment*, 3 (2): 124-129.
- Vee, C. and Skitmore, M. (2003) Professional Ethics in the Construction Industry. *Engineering, Construction and Architectural Management*, 19 (21), 117-127.
- Watson, D. R. (1992). Ethnomethodology, conversation analysis and education: An overview. *International Review of Education*, 38 (3): 257-274.
- Williams, A. (Sept. 19, 2015) Meet Alpha: The Next 'Next Generation. *New York Times*. Retrieved online from <http://www.nytimes.com/2015/09/19/fashion/meet-alpha-the-next-next-generation.html> on December 15, 2015
- Windapo, A. O. and Rotimi, J. O. (2012) Contemporary Issues in Building Collapse and Its Implications for Sustainable Development. *Buildings*, 2: 283-299.