

CHALLENGES CONFRONTING CONSTRUCTION PROJECT MANAGEMENT SYSTEM FOR SUSTAINABLE CONSTRUCTION IN DEVELOPING COUNTRIES: PROFESSIONALS PERSPECTIVES (A CASE STUDY OF NIGERIA)

A.O. Ogunde*, O. Olaolu, A. Afolabi, J. Owolabi, R. Ojelabi
Department of Building Technology, Covenant University, NIGERIA.
*Corresponding author: ayodeji.ogunde@covenantuniversity.edu.ng

Abstract

The success of the Nigerian construction industry can be aligned with the use of construction project management systems, although, the industry has been maligned by issues such as building collapse, incessant delays, abandonment and cost overrun. It is therefore imperative to examine the challenges confronting construction project management system in Nigeria. In this study the descriptive survey method was adopted and data were obtained by means of inquiries using questionnaires. A sample size of fifty nine (59) construction professionals was used for the study. The study reveals that location of a project majorly influences Project Manager's decision making on project planning. It asserted the crucial importance of Management skills required in practicing construction project management. In conclusion, the result identified that passive participation from Project Manager, lack of client involvement in making decisions, provision of substandard materials, design error, lack of effective communication and poor treatment of workforce are challenges hampering the use of construction project management. The study recommends the institutionalization of construction project management practice, compulsion of adequate training and skill modification programs for construction professionals to aid the sustainability of construction project management systems in Nigeria.

Keywords: challenges, confronting, construction, project management, Nigeria.

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INTRODUCTION

Building is the product of humanity that has been in existence from creation. It evolved through centuries, from dwelling in caves to skyscrapers and recently to intelligent structures that can smartly respond to stimuli in its environment (e.g. automated doors, escalators). The building process may also be grouped into three major phases: the conception/design phase, construction phase and operation or use phase (Horsely *et al.*, 2003). Construction practice has also undergone a great deal of development in response to the dynamic nature of human needs and infra-structure (Anumba *et al.*, 2008). The introduction of information communication technology, manufacturing concepts, green economy etc. is issues that the construction practice have implemented to better its process.

According to Irefin (2013), managing projects is one of the oldest and most respected accomplishments of mankind with inputs from builders, architects, masons and craftsmen. This is evidenced by achievements in the construction of the pyramids, ancient cities, the Great Wall of China and other wonders of the World. As construction practise is in high demand, there is also a higher need for adequate successful planning and controlling of resources during the process of construction. The construction practise entails the entire system that defines procedure and standards for all phases of the building process; dictating responsibilities and interaction among the building industry professionals, who are in charge of making decisions and may also be involved in construction practice as Project Managers (PM).

According to Isa, Jimoh and Achuenu (2013), the construction industry in both developed and developing countries is the sector of the economy that transforms various resources into constructed facilities. Adeyemi *et al.* (2006); Mosaku *et al.* (2006); National Bureau of Statistics (2013) stated that the building and construction sector is an important contributor to Nigeria's GDP. Over the past few years, the real GDP of the building and construction sector was averaged over 3%. The Nigerian building and construction sector is significantly growing. The Nigerian Construction Sector Summary Report 2010 – 2012 attributed the continuous growth to the dynamisms of development. Also, the need to accommodate social and demographic changes such as migration and urbanization, a rising middle class with their demands for better living conditions (better houses, road networks) and societal needs for social infrastructure that happens over time.

The success of the Nigerian construction industry can be aligned with the use of construction project management systems. According to Nwachukwu *et al.*, (2010); Windapo and Rotimi, (2012) the industry has been maligned by issues such as building collapse, incessant delays, abandonment and cost overrun. Nwachukwu and Emoh (2011) asserted that the key to all these woes lies in efficient project management. The concept of project management is not new to the industry as a whole and it has been applied in other fields in the nation such as the public sector. Olateju *et al.*, (2011) noted the enormous effects the application of modern project management methods and techniques has on public institutions. Old and modern project management tools and techniques have helped ease activities on projects performed. Even with these, the industry's migration from the typical traditional procurement system to the project management delivery system has not yielded the required result. Moreover, Patunola-Ajayi (2005); Nwachukwu and Emoh (2011) stated that the awareness and use of the Project Management system are still very low in Nigeria. The current situation requires urgent attention and improved Construction Management Framework. Public and private building construction projects are hardly completed on time, within cost, quality and material specifications. Consequently, improved practice of the project management delivery system is a way of avoiding these ills that have pervaded the industry.

In an attempt to foster the use of the project management system in the construction industry in developing countries, the study examined the challenges confronting the project management system by proffering improvement strategies that can protect the sustainability and advancement of construction project management systems in Nigerian construction industry. The study is therefore significant to academic sector and other stakeholders in the construction industry in developing countries most especially Nigeria.

REVIEW OF RELATED STUDIES

Many researchers in defining Project Management have dissected the meanings of project and management separately (PMI, 2008; Nwachukwu and Emoh, 2011; Irefin, 2013). Project work has been defined as a temporary endeavour (PMI, 2008), sequence of events (Nwachukwu and Emoh, 2011), a continuously evolving process (Irefin, 2013), by putting to use human and non-human resources (Turner, 1993), to create a product or service. From Henri Fayol's definition of management, Nwachukwu and Emoh (2011) defined management as planning, directing, controlling and coordinating of individual, group or organizational goal and objectives with the ultimate aim of achieving maximum benefit. PMI (2008) defined project management as the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. The project activities are identified by Pinto (2007) in four distinct project life cycle phases namely Conceptualization, Planning, Execution, and Termination. Project Management Institute, PMI (2008) noted a fifth phase as Monitoring and Controlling which interfaces between execution and termination. Irefin (2013) stated that Project management integrates through these phases with the sole aim of creating stakeholders and customer satisfaction. According Enshassi *et al.*, (2009), Farrell and Gale (2003), and Muya *et al.*, (2003) there is need adequate training of project managers.

Challenges Facing Project Management System in Developing Countries

The limitations of the traditional procurement method led to the use of the project management system (Ojo *et al.*, 2000; Ling *et al.*, 2004). Limitations such as higher cost overrun, delays and organizational structure problems have been identified (Ofori 2007). Abassi, and Al-Mharmah (2000); Odusami *et al.* (2003); Idoro and Patunola-Ajayi (2009); Ahadzie and Amoah-Mensah, (2010) explained that the project management system was therefore developed to solve the numerous problems encountered in the traditional contract procurement and management system.

According to Kissi and Ansah (2013), the first concept of project management started in the United States of America (USA) in early 1950s, later Western Europe in early 1960s. It is now practiced throughout the world and Nigeria is not an exception. Most professionals have self-acquired the title of Project Manager without the adequate knowledge and skill. Presently, many uncertified construction professionals are paraded as PM and can be termed quacks. Odusami *et al.* (2003) observed that, in Nigeria, the majority of Project Managers (PMs) learn their trade experientially on the job, and there is no single professional body to regulate their practice for current and future development.

Olateju *et al.* (2011) enumerated obstacles facing the implementation of project management in public agencies in developing countries as lack of project management knowledge, change of authority, lack of leadership commitment, bribery and corruption, low level of professional training in PM, and rigid organizational structure. Nwachukwu and Emoh (2011) evaluated constraints facing

project management implementation such as inadequate communication, undefined project mission, lack of management support, lack of project scheduled plan, non-involvement of clients, poor personnel selection, low technical know-how, poor monitoring and feedback system and poor conflict management. In developing countries, such as Nigeria, the constraints are peculiar to each society in terms of its economic, political and administrative system. However, Abbasi *et al.*, (2000) and Sukhoo (2004) emphasized that project management practices in developing African countries is at infancy which is partially due to shortage of skilled staff, difficult economic and social conditions, weak political institutions, deeply rooted cultural and religious beliefs.

Abass and Al-Mharmah (2000) stated that a major constraint facing construction project management practices is difficulties in communication with other professionals. While, PMI (2008) suggested an open and effective communication system in achieving high team performance among project team stakeholders. Iman and Siew (2008) stated that when project requirements such as time and budget are met, but fails to meet the client's needs, a project is said to have failed. It identified the absence of client involvement as a major cause of project failure. Love (2002) explained that clients demand for earlier completion of designs and contract may influence the quality of documents produced, as errors and omissions may emerge that can result in rework, causing cost and schedule overruns.

It is noted that in Nigeria and Ghana there are no institutional framework or regulatory bodies to assess, review and control current and future skill requirements for construction project management systems (Odusami *et al.*, 2003; Nwachukwu and Emoh, 2011; Kissi and Ansah, 2013). Ndiokubwayo and Haupt (2009) observed that excessive occurrence of variation orders due to design errors or omission may undermine the professionalism of the designer. The morale of workers is affected when they have to demolish and reconstruct. PMI (2008) noted that buildings are constructed with the same materials or by the same team but location is unique. It states further that project management requires the application of skill. These skills are garnered from training and experience, such that when applied to project activities result in meeting project requirements.

Nwachukwu and Emoh (2011) stated that the role of the PM is to create a cordial working environment among consultants, contractors and every other site operative. Hickson and Ellis (2014) suggested that in raising workers' morale, management should be concerned about the work site, environment, welfare and supply of appropriate tools. Furthermore, Windapo and Rotimi (2012) identified the use of substandard materials as a cause of building collapse. Windapo (2006) noted that 90% of sandcrete blocks produced and supplied to construction sites do not meet the required specification. The roles of a PM are inexhaustible in a project. Therefore, the PM cannot decide to be passive in taking control of the project. The success of the project largely depends on the PM's input. The constraints affecting PM have influenced the variables used for this study and they are categorized by constraints contributed by Project Managers (PMs), Clients, Consultant, Suppliers, Construction Team and External factors.

RESEARCH METHODS

For the purpose of this study, the descriptive survey method was adopted and data were obtained by means of inquiries using questionnaires because of its towering degree of reliability. The questionnaires for respondents were administered by direct contact. This study obtained Primary data from professionals with adequate knowledge of project management in construction firms based in Lagos that have executed projects in other parts of the country using PM. Secondary data from textbooks, journals, articles, reports from within and outside the Nigerian construction industry and internet. The data collected from the administered questionnaire were analysed using the Statistical Package for the Social Sciences (SPSS) for analysis. Convenience sampling technique was used. A total of seventy five questionnaires were distributed while fifty nine (59) questionnaires were returned at 84% response rate. The charts and tables were used for the results. Relative Importance Index (RII) was used for the ranking the 3-likert scale questionnaires. Relative Importance Index (RII) was used mainly for comparing the contribution of each variable relative to others.

The RII is based on the formula below:

$$R.I.I = \frac{3(1) + 2(2) + 1(3)}{3(1+2+3)}$$

Where: **1** = No of respondents that agree

2 = No of respondents that are neutral

3 = No of respondents that disagree.

The factors were ranked from the highest to the lowest based on the frequency index

DATA ANALYSIS AND RESULT

Profession of Respondents

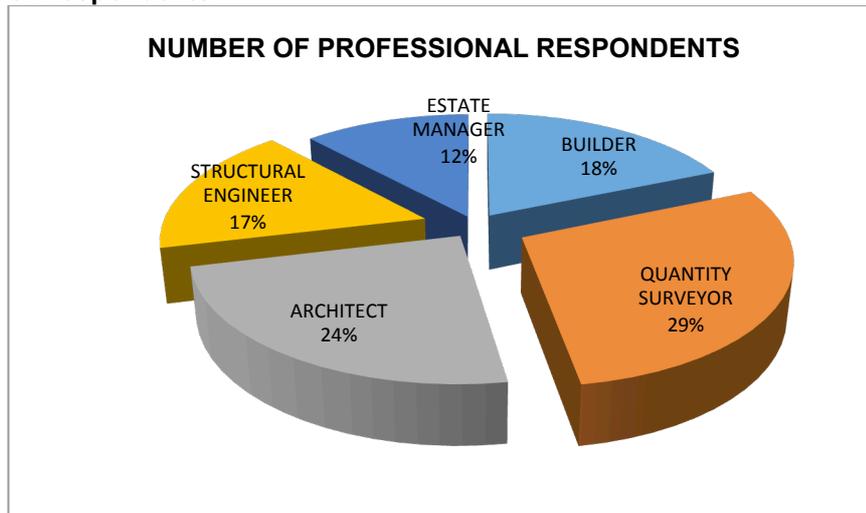


Figure1: Breakdown of Profession of Respondents

Figure1 shows 18% (11) were Builders, 29% (17) were Quantity surveyors, 24% (14) were Architects, 17% (10) were Structural engineers and 12% (7) were Estate managers. The Quantity surveyors were prominent in the study.

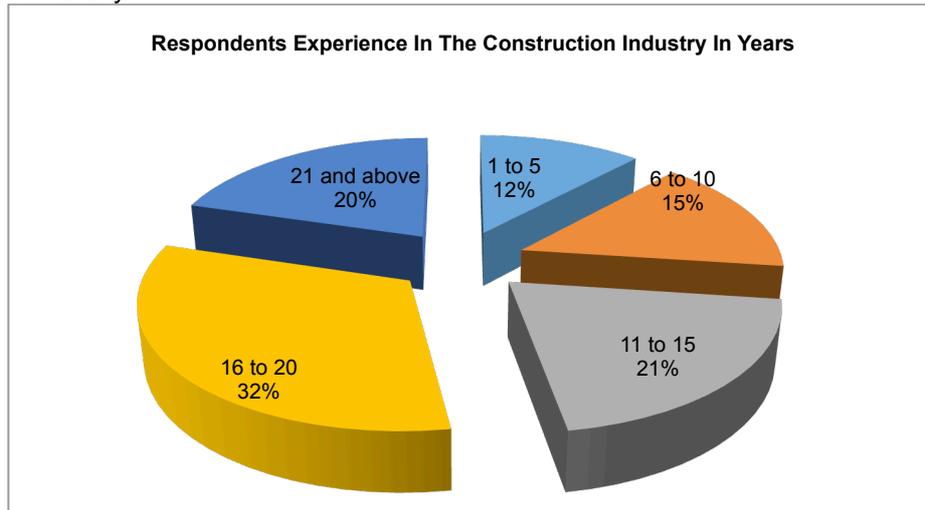


Figure 2: Respondents Experience in the Construction Industry

Figure 2 shows that 12% of the respondents have 1-5 years of experience, 15% of respondents have 6-10 years of experience, 21% of the respondents have 11-15 years of experience, 15% of respondents have 16-20 years of experience and 20% of respondents have 21 and above years' experience. It can be concluded that the respondents have vast experience in construction industry.

Number of Construction Projects Supervised by Respondents as Project Manager

This research was conducted to examine the number of projects supervised by the respondents as PM.

Figure 3 shows that 6 of the respondents have supervised 1 to 5 projects, 13 of the respondents have supervised from 6 to 10 projects, 15 of the respondents have supervised 11 to 15 projects, 16 of the respondents have supervised 16 to 20 projects and 7 of the respondents have supervised 21 and above projects.

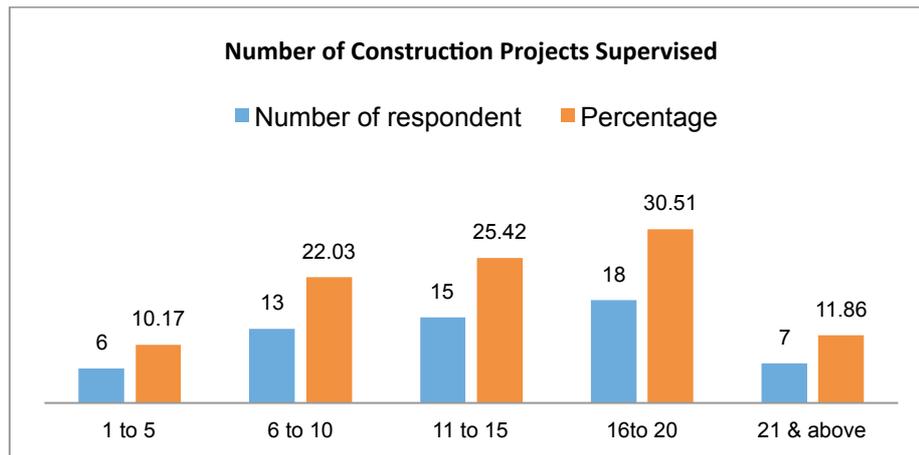


Figure 3: Number of Construction Projects Supervised

Factors Influencing PM Construction Planning Decisions

These are factors that may influence planning of a project, namely cost of the project, location of the project, availability of resources, contractor's profit and time of completion of the project. Determining the major factors affecting the planning of a project will help in adjusting the Work Breakdown Structure of a project.

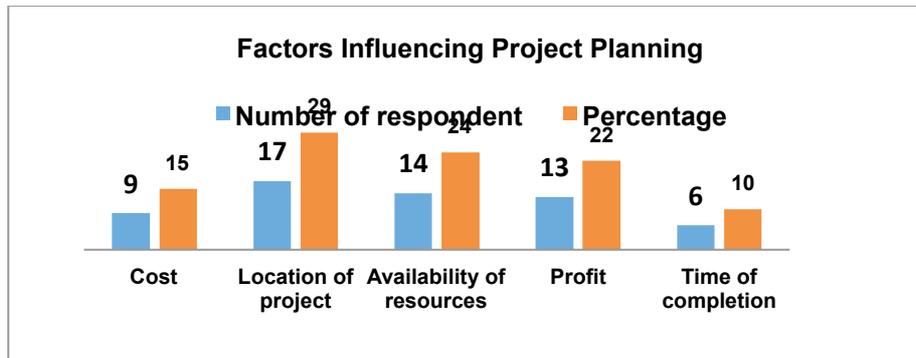


Figure 4: Factors Influencing Project Planning

Figure 4 shows that location of the project is the major factor with 29% (17) of the respondents indicating that it affects their decision making in construction planning, 24% (14) of the respondents selected availability of resources, 22% (13) of the respondents chose profit, 15% (9) identified with the cost factor and 10% (6) of the respondents were concerned about the time of completion as a factor influencing their decisions in construction project planning. The location of a project is important. PMI (2008) noted that buildings are constructed with the same materials or by the same team but location is unique. Considering issues about location ensures that availability of materials and human resources is planned.

Essential Qualification for Project Management

The literature review highlighted essential qualifications needed to be qualified as a PM. This section tested the perception of construction professionals to these qualifications and highlighted the importance of qualifications in the project management field in the construction industry.

Table 1 shows the project management qualifications requirement. Management skills is ranked 1st (RII = 0.85) in terms of qualification needed in project management in the construction industry, Educational degree is ranked 2nd (RII = 0.82), Experience is ranked 3rd (0.78), Leadership personality and Knowledge in other fields are both ranked 4th (0.76), Ability to work under pressure is ranked 6th (RII = 0.72) and Ability to accept change is ranked least on the table (RII = 0.71). Nwachukwu and Emoh (2011) suggested that a professional who takes over the role of PM is a person who understands the intricacies inherent in the functions of management, directing the efforts and activities of the professional team.

Table 1: Project Management Qualifications Required

Qualifications	Relative Importance Index (RII)	Rank
Management skills	0.85	1
Educational qualification	0.82	2
Experience	0.78	3
Leadership personality	0.76	4
Knowledge in other fields	0.76	4
Ability to work under pressure	0.72	6
Ability to accept change	0.71	7

Also, Project Management Institute (2008), states that project management requires the application of skill. These skills are garnered from training and experience, such that when applied to project activities result in meeting project requirements.

Challenges Confronting Construction Project Management Systems

This study examined the various challenges faced in project management present in the construction practice. The challenges were divided into six sections based on the contributions namely PM, client, consultant, supplier, construction team and external factors. The challenges were derived from different literature review in relation to this study. Each section was linked to the major challenges, which was done by the use of the Relatively Importance Index. The factor ranked 1st from each section is considered to be the major challenge confronting construction project management system.

Project Manager Factor

The PM as defined in this study is the person in charge of managing of a project by using the available skills and tools in his disposal to help reach a certain goal. A professional is appointed before the project is to be started, by the owner of the project. The success or failure of the projects is in the hands of the PM who is in charge of planning, estimation of cost, and assurance of quality and time completion of the project.

Table 2: Ranked Challenges Faced In Project Management by Project Manager

Challenges	Agree (3)	Neutral (2)	Disagree (1)	RII	Rank
Passive participation	49	4	6	0.91	1
Bad Management	44	5	10	0.85	2
Poor planning	37	13	9	0.83	3
Misuse of time	35	10	14	0.79	4
Lack of experience	32	15	12	0.78	5
Misuse of resources	27	17	15	0.74	6

Table 2 shows that passive participation from the PM is ranked 1st (RII = 0.91) It means that without proper involvement by the PM important decision would not be made and client ideas cannot be related to the other parties involved in the project. Bad management is ranked 2nd (RII = 0.85), when improper management procedure and techniques are practiced this may lead to poor standard of project outcome. Bad management from the PM affects other factors like poor decision making, improper control of resources, quality and time of the project. Poor planning is ranked 3rd (RII = 0.83). It is obvious that in all types of projects without the proper planning the project is bound to fail. Project management requires planning of cost of the project through which cost budget of the project is considered. Risk assessment of the project is equally important for proper procedure objectives outline with clear goals. Other factors ranked include Misuse of time (RII = 0.79), Lack of experience (RII = 0.78) and Misuse of resources (RII = 0.74) which were ranked 4th, 5th and 6th respectively. The roles of a PM are inexhaustible in a project (Nwachukwu and Emoh, 2011). Therefore, the PM cannot decide to be passive in taking control of the project. The success of the project largely depends on the PM's input.

Client Factor

The importance of the client in the construction process cannot be over emphasized. The client is basically the owner of the project either by an individual, stakeholders or government. Table3 shows the challenges confronting construction project management contributed by the client factor.

Table 3: Ranked Challenges Faced In Project Management by Client

Challenges	Agree (3)	Neutral (2)	Disagree(1)	RII	Rank
Lack of client involvement in making key decision	49	4	6	0.91	1
Lack of financial backing	44	6	9	0.88	2
Lack of knowledge in the construction industry	43	11	5	0.85	3
Late delivery of site	35	14	10	0.79	4
Alteration of original idea	30	18	11	0.74	5

Table 3 shows that Lack of Client involvement in making decisions is ranked 1st (RII = 0.910), Lack of financial backing from clients ranks 2nd (RII = 0.88), Poor judgment ranks 3rd (RII = 0.85), Late handover of site and Variation order rank 4th (RII = 0.79) and 5th (RII = 0.74) respectively. When a client is not involved in key activities as a project progresses the PM shoulders the whole burden of the project. Most clients tend to shy away from decision making responsibilities having the mind that the PM or other parties assigned to different responsibilities would sort out any issue as indicated in the table. This can lead to a halt in the progress of the project or the progression of the project unto completion with the client not satisfied with the outcome result. Lack of financial backing is another challenge that affects project management in the construction industry. When there is a stable financial contribution to the project the objectives are met with ease. Through proper finance of a project by the client, different resources can be made available towards a successful project outcome in terms of materials, human resources, plant and equipment. Iman and Siew (2008) stated that when project requirements such as time and budget are met, but fails to meet the client's needs, a project is said to have failed. It identified the absence of client involvement as a major cause of project failure. Nwachukwu and Emoh (2011) highlighted the success recipe of client consultation in the building implementation process.

Suppliers' Factor

The supplier in terms in the construction industry is either a contractor or a sub-contractor awarded the contract of supplying materials in the execution of the project. In the provision of materials, plant and equipment, the supplier must always be stocked up in making these resources available to ensure project success.

Table 4: Ranked Challenges Faced in Project Management by Suppliers

Challenges	Agree (3)	Neutral (2)	Disagree (1)	RII	Rank
Provision of improper materials	32	17	10	0.79	1
Behind schedule delivery of materials	36	8	15	0.76	2
Change in cost rate of materials	31	13	15	0.76	2
High hiring rate value of plant and equipment	20	22	17	0.68	4
Lack of materials availability	17	19	23	0.63	5

Table 4 shows that Provision of substandard materials is ranked 1st (RII = 0.79) as the major challenge on project management by suppliers. When substandard materials are provided to site, it affects the quality of executed standard of workmanship by laborer, leading to wastage of materials used, rework and additional cost replacing such materials. Change in cost rate of materials and behind schedule delivery of materials are ranked 2nd (RII = 0.76), High hiring rate of plant and equipment are ranked 4th (RII = 0.68) and Unavailability of materials is ranked 5th (RII = 0.63). Windapo and Rotimi (2012) identified the use of substandard materials as a cause of building collapse. Windapo (2006) noted that 90% of sandcrete blocks produced and supplied to construction sites do not meet the required specification.

Construction Team Factor

The construction team is a group of professional working together to complete a construction project. The construction team members include the Town Planners, Architects, Builders, Engineers, Quantity Surveyors and Estate Managers. They have different responsibilities to ensuring that the construction project is successfully completed in the estimated time and cost, and the required quality in respect to the resources provided.

Table 5: Ranked Challenges Faced In Project Management by Construction Team

Challenges	Agree (3)	Disagree (2)	Neutral (1)	RII	Rank
Design error	49	4	6	0.91	1
Wastage of materials	36	17	6	0.84	2
Poor standard workmanship	37	9	13	0.80	3
Lack of adequate profession	32	17	10	0.79	4
Lack of effective communication	23	22	14	0.73	5
Behind estimated time	12	26	21	0.62	6

Table 5 shows that Design error is ranked 1st (RII = 0.91). For example, if the Architect's plan design is without dimensions, the Builder in charge of erecting the project would either be forced to assume dimensions or project is halted so that corrections of the design are made leading to delay of the project. Wastage of materials is ranked 2nd (RII = 0.84), Poor standard workmanship is ranked 3rd (RII = 0.80), Unethical behaviors is ranked 4th (RII = 0.79), Poor communication and delay in decision making are ranked 5th (RII = 0.73) and 6th (RII = 0.62) respectively. Love (2002) explained that clients demand for earlier completion of designs and contract may influence the quality of documents produced, as errors and omissions may emerge that can result in rework, causing cost and schedule overruns. Ndiokubwayo and Haupt (2009) observed that excessive occurrence of variation orders due to design errors or omission may undermine the professionalism of the designer. The morale of workers is affected when they have to demolish and reconstruct.

Consultant Factor

A consultant is a professional who provides professional or expertise in a specific area of his knowledge. The consultant helps in relating the client's wish to the members of the parties involved in the project.

Table 6: Ranked Challenges Faced In Project Management by Consultant

Challenges	Agree (3)	Neutral (2)	Disagree(1)	RII	Rank
Lack of effective communication	32	17	10	0.79	1
Poor project supervision/control.	27	17	15	0.74	2
Inability to clarify the client's wish	16	24	19	0.65	3
Passive involvement on the project	12	26	21	0.62	4

Table 6 shows that Lack of effective communication is ranked 1st (RII = 0.79), poor project supervision/control is ranked 2nd (RII = 0.74), Inability to clarify the clients' ideas 3rd (RII = 0.65) and Passive involvement on the project is ranked 4th (RII = 0.62). Abass and Al-Mharmah (2000) stated that a major constraint facing construction project management practices is difficulties in communication with other professionals. PMI (2008) suggested an open and effective communication system in achieving high team performance among project team stakeholders.

External Factor

These types of challenges faced in project management by external factors are unseen or seen. They are inevitable factors that the success or failure of projects depends on how they are handled. They can be classified as natural factor, political factor and workforce.

Table 7: Ranked Challenges Faced In Project Management by External Factor

Challenges	Agree (3)	Neutral(2)	Disagree (1)	RII	Rank
Treatment on work force	36	17	6	0.84	1
Weather condition	27	13	9	0.83	2
Motivation of work force	35	14	10	0.79	3
Job security	36	8	15	0.79	3
Late payment to work force	31	13	15	0.76	5
Site accident	27	17	15	0.74	6
Site condition	23	22	14	0.72	7
Economy condition	24	15	20	0.70	8

Table 7 shows that the Poor treatment of workforce is ranked 1st (RII = 0.84). This can be in terms of working hours, wages and other welfare packages which in turn affect the commitment and morale of the work force. Weather condition is another external factor which is ranked 2nd (RII = 0.83). Job security is ranked 3rd (RII = 0.79), Late payment to work force is ranked 4th (RII = 0.76), Site accident is ranked 5th (RII = 0.74), Site condition and Economic condition are ranked 6th (RII = 0.72) and 7th (RII = 0.70) respectively.

Nwachukwu and Emoh (2011) stated that the role of the PM is to create a cordial working environment among consultants, contractors and every other worker on site. Hickson and Ellis (2014) suggested that in raising workers' morale, management should be concerned about the work site,

environment, welfare and supply of appropriate tools. A way to go is provision of workers' incentives, amenities such as personal protective equipment (PPE), modern tools, rest-room and canteen facilities.

Improvement strategies for Project Management Systems

After conducting the section of prospect on the questionnaire on how improvement can be made on project management.

Table 8: Ranked Prospects on Project Management Available to Construction Practise

Prospect	Agree (3)	Neutral (2)	Disagree (1)	RII	Rank
Monthly regulatory body inspection to ensure standard practice	49	4	6	0.91	1 st
Government supervision on setting standard	44	9	6	0.88	2 nd
Enforcing of standard setting to be practiced	37	9	13	0.80	3 rd
Ensuring of documented procedure to be used as reference	32	17	10	0.79	4 th
Transfer of project management technique from other field profession	36	8	15	0.79	4 th
Early Detailed course on project management for early awareness	27	17	15	0.74	6 th

Table 8 shows that monthly regulatory body inspection, monitor and control standards is ranked 1st (RII = 0.91), Government policies on Project management is ranked 2nd (RII = 0.88), Enforcing of standard setting to be practiced is ranked 3rd (RII = 0.80), Ensuring of documented procedure to be used as reference and Transfer of project management techniques from other fields both are ranked 4th (RII = 0.79) while Frequent re-training PM programmes is ranked least (RII = 0.74). Odusami *et al.* (2003) and Kissi and Ansah (2013) noted that in Nigeria and Ghana there are no institutional framework or regulatory bodies to assess, review and control current and future skill requirements for construction project management systems. Nwachukwu and Emoh (2011) suggested that institutionalization of project management should be a national policy.

DISCUSSIONS OF FINDINGS

The study examined the challenges confronting construction project management systems in Nigeria. The study identified the crucial importance in acquiring Management skills as a required qualification needed in project management in the construction industry. The study posits that if an individual is to succeed in the implementation of construction project management then there must be an understanding and acquisition of management skills in planning, organizing, commanding, coordinating and controlling. Using the management skills, the construction professional is able to meet client's requirement in order to produce a functionally and financially viable project. In addition, a number of challenges faced in project management in the construction practice were divided into six sections based on the contributions namely PM, client, consultant, supplier, construction team and external factors. The main challenges identified in the study include passive participation from the PM, Lack of Client involvement in making decisions, provision of substandard materials, Design error, Lack of effective communication and Poor treatment of workforce. On construction projects, one or all of these challenges are mainly witnessed which would cause different issues of cost overrun, delay, time overrun, abandonment, disputes etc. The study revealed that the construction project manager needs to give active and full participation of construction projects in order to efficiently and effectively tackle the daily challenges that may occur on such construction site. Several researchers have pointed to the need to involve the most important person in the construction industry; the client. Decision making on construction project influences the failure or success of the construction project. Therefore, the client should be painstakingly carried along. This calls for efficient communication among the client, consultant and the contractor on the construction project. Other issues such as the provision of substandard materials, Design error, Lack of effective communication and Poor treatment of workforce, the onus falls on the construction project manager to interface on behalf of the consultant and the contractor to ensure that during the construction process these things are carefully handled. Consequently, when these challenges are minimized or eliminated a successful construction project management system would emerge. The era of using substandard materials, building failure and building collapse would quickly be forgotten if the construction project management is truly engaged. It is also worth to note that the profession of project management is threatened. The threats from quacks and uncertified professionals have mitigated the positive impact that the system has to offer to the construction industry. Therefore, there is need to curb such excesses. The study showed that any construction professional can assume the position of construction PM after having the

perquisite of good management knowledge and skill. This is supported from studies by Farrell and Gale (2003); Muya *et al.* (2003) and Enshassi *et al.* (2009).

CONCLUSIONS AND RECOMMENDATION

The study identified improvement strategies to protect the profession from imposters. The study suggested that a regulatory body be put in place to inspect, monitor and control standards for the project management profession and delivery system in order to safeguard its existence in line with Odusami *et al.* (2003) and Kissi and Ansah (2013). In conclusion, it is established that the main factor that influences planning decisions of projects by PM is the location of the project.

The study therefore recommended that training and skill modification programs should be compulsory for the construction professionals to enhance the management abilities, skills and knowledge. Such courses should be held yearly, to keep the profession and individual abreast of global developments and help improve their methods. In addition, National associations and the Regulatory bodies involved in construction practice should have regular workshops to educate members and monthly inspection of on-going projects to ensure high standards are met by the practitioners. Finally, government supervision on setting standard and enforcing of standard setting to be practiced is paramount based on the findings. Therefore, government should enact project management policies which promote standards, implementation and ensures that erring professionals are penalized.

References

- Abassi, Y.G., Al-Mharmah, H. (2000). Project Management Practice by the Public Sector in a Developing Country, *International Journal of Project Management*, 18(2):105 – 109.
- Adeyemi, A. Y., Ojo, S. O., Aina, O. O., Olanipekun, E. A. (2006). Empirical Evidence of Women Under-Representation in the Construction Industry in Nigeria, *Women in Management Review*, 21(7), 567 – 577.
- Anumba, C. J., Issa, R. R. A., Pan, J., Mutis, I. (2008). Ontology-Based Information and Knowledge Management in Construction, *Construction Innovation*, 8 (3), 218 – 239.
- Enshassi, A., Mohamed, S. Ekarririet, A. (2009). Essential Skills and Training Provisions for Building Project Stakeholders in Palestine, *Journal of Construction in Developing Countries*, 14 (1), 31 – 50.
- Farrell, P., Gale, A. (2003). Career Progression Path as a Determinant of Site Manager Skills. In Greenwood, D.J. (Ed.). *19th Annual ARCOM Conference, 3–5 September 2003, University of Brighton, Association of Researchers in Construction Management*, 1,183 – 192.
- Hickson, B. G., Ellis, L. A. (2014). Factors Affecting Construction Labour Productivity in Trinidad and Tobago, *The Journal of the Association of Professional Engineers of Trinidad and Tobago*, 42 (1), 4-11.
- Idoro, G. I., Patunola-Ajayi J. B. (2009). Evaluating the Strategies for Marketing Project Management System in the Nigerian Construction Industry, *Nordic Journal of Surveying and Real Estate Research*, 6 (2), 25 - 36.
- Iman, A., Siew, H. O. (2008). Project Management Practices: The Criteria for Success or Failure, *International Business Information Management Association*, 1, 234 – 241.
- Irefin, I. A. (2013). Effects of Project Management on the Performance of A Construction Firm in Nigeria, *American International Journal of Contemporary Research*, 3 (6), 54 – 58.
- Isa, R. B. Jimoh, R. A., Achuen, E. (2013). An Overview of the Contribution of Construction Sector to Sustainable Development in Nigeria, *Net Journal of Business Management*, 1 (1), 1 – 6.
- Kissi, E., Ansah, S. K. (2013). Professional Project Management Practices and Its Constraints in Developing African Countries: A Literature Review, *Covenant Journal of Research in the Built Environment (CJRBE)*, 1 (2), 28 – 40.
- Ling, F. Y. Y., Chan, S. L., Chong, E., El, P. (2004). Predicting Performance of Design-Build and Design-Bid-Build Projects, *Journal of Construction, Engineering and Management (ASCE)*, 130 (1), 10 – 20.
- Liu, G., Shen, Q., Li, H., Shen, L. (2004). Factors Constraining the Development of Professional Project Management in China Construction Industry, *International Journal of Project Management*, 17, 203 - 211.
- Love, P. E. D. (2002). Influence of Project Type and Procurement Method on Rework Costs in Building Construction Projects, *Journal of Construction Engineering and Management*, 128 (1), 1 – 29.
- Mosaku, T. O., Kehinde, J. O., Kuroshi, P. A. (2006). Control of Building Practice For Sustainable Development In Nigeria: Matters Arising, *Proceeding of The International Conference in the Built Environment: Innovation, Policy and Sustainable Development. Department of Architecture, Covenant University, Ota, Nigeria*, 26 – 33.
- Muya, M., Mulenga, M.N., Bwalya, D.C., Edum-Fotwe, F.T., Price, A. D. F. (2003). Construction Skills Requirement Issues In Zambia. In. Greenwood, D.J. (Ed.). *19th Annual ARCOM Conference, 3–5 September 2003, University of Brighton, Association of Researchers in Construction Management*, 1, 279 – 286.
- National Bureau of Statistics, (NBS) (2013). *Nigerian Construction Summary Report 2010 – 2012*, Central Business District, Abuja.
- Ndihokubwayo, R. And Haupt, T.C. (2009). *Uncovering the Origins of Variation Orders*, Southern Africa Built Environment Research Center, Cape Peninsula University of Technology, South Africa.
- Nwachukwu, C. C. And Emoh, F. I. (2011). Building Construction Project Management Success as A Critical Issue in Real Estate Development and Investment, *American Journal of Social and Management Sciences*, 2 (1), 56 – 75.
- Nwachukwu C.C, Emoh F.I and Egolom C. C. (2010). Equating Cost Constraint Factors to Construction Project Management Success in Nigeria (An Analytical Approach), *UNIZIK Journal of Environmental Sciences*, 1 (1), 18.
- Odusami, K. T., Iyagba, R. R. O., Omirin, M. M. (2003). The Relationship between Projects Leadership, Team Composition and Construction Project Performance in Nigeria, *International Journal of Project Management*, 21 (7), 519-527.
- Ojo, S. O., Adeyemi, A. Y., Ikpo, I. J. (2000). Effects of Procurement Methods on Clients Objectives of Time and Cost in the Nigerian Construction Industry, *Journal of Financial Management in Construction and Property*, 5 (1&2), 105–108.

- Olateju, O. I., Abdul-Azeez, I. A., Alamutu, S. A. (2011). Project Management Practice in Nigerian Public Sector – An Empirical Study, *Australian Journal of Business and Management*, 1 (8), 1 – 7.
- Patunola-Ajayi, B. J. (2005). Marketing of Project Management Services in the Construction Industry in Nigeria, A Master of Project Management (MPM) Thesis Submitted to the Department of Building, University of Lagos, Akoka, Yaba, Lagos, Nigeria.
- Pinto, J. K. (2007). *Project Management: Achieving Competitive Advantage*, Upper Saddle River, NJ: Pearson Education.
- Project Management Institute, PMI (2008). *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*—Fourth Edition. U.S.A
- Turner, J. R. (1993). *Handbook of Project-Based Work*. London: Mcgraw-Hill.
- Windapo, A.O. (2006). A Study of the Quality of Materials Used in the Nigerian Construction Industry, *Professional Builder*, 32, 34–38.
- Windapo, A. O., Rotimi, J. O. (2012). Contemporary Issues in Building Collapse and Its Implications for Sustainable Development, *Buildings*, 2, 283-299.