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A Review of Project Management Process and Ethical Practices Influences on Building Performance

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ABSTRACT: *One of the factors affecting construction industry adversely is poor construction management; poor project management in construction industry involves poor project initiation, lack of planning, poor execution, inadequate and efficient monitoring and control and poor evaluation of project progress and closure. Poor construction project management results in poor construction project quality. Another negative factor confronting building performance is unethical practices; unethical practices in construction industry include lack of standard services, lawlessness, lack of transparency, lack of honesty, irresponsibility and lack of accountability. Examined in this paper are works related to project management and project management process, buidling performance and the professional ethic practices. Implications of low research interest of many authors in the area of professional ethical practices in ensuring building quality and the techniques for achieving professional ethical practices were analysed and discussed for the overall project management process and building performance.*

KEYWORDS: *Construction industry, building construction, project management, building performance, accountability.*

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I. INTRODUCTION

Building construction in Nigeria is characterized by poor quality and incessant collapse caused by poor management processes and unethical practices. According to Olagunju, Aremu & Ogundele (2013) building poor quality and collapse in Nigeria is alarming and a major concern to users, government, professionals, private developers and clients. Also, Oloke, Ogunde and Joshua (2017) posit that danger of building poor quality and collapse is on the increase and involve all types of buildings in Nigeria which has led to continuous search for solution. Thus, poor building quality and collapse in Nigeria involve residential, commercial, corporate, hospitality, educational, religious, administrative, low rising and high rising. In the same vein, Oyedele *et al.*(2015) posit that Nigerian building industry adopted techniques, systems and values in respect of quality from United Kingdom (UK) which are poorly implemented without adaptation to suit Nigeria environment and ethics.

Several studies have discussed the rate and number of poor and collapse buildings in Nigeria. For example, Ebehikhalu and Dawam (2014) assert that over one hundred and thirty nine (139) buildings collapsed between the year 1974 and 2012. In Lagos State alone, over one hundred and twelve (112) buildings collapse between the year 1978 and 2008 (Windapo & Rotimi, 2012). Poor building quality and collapse in Nigeria is a continuous incidence as a school building collapsed on 12th March, 2019 and killed over twenty pupils, many injured and properties destroyed in Lagos State (Vanguard, 2019; The Guardian, 2019). Table 1.1 presents building collapse in Nigeria from 2012 to 2016.

Table 1.1: Cases of Building Collapse in Nigeria between 2012 and 2016

S/N	Building Description	Location	Date of Collapse	Casualty
1	Three-Storey block of flats.	No. 16, Nnobi street Enugu, Enugu state	2012	-
2	One-Storey residential building.	Awka, Anambara state	2012	-
3	Three-storey block of flats	Owerre, Imo state	2012	-
4	Four-Storey block of flats	Agbama estate Umuahia, Abia state	2012	Undisclosed number of death.
5	Four-Storey commercial building	Obanye street Onitsha, Anambara state	2013	-
6	Two-Storey school building	Bukuru Jos, plateu state	2013	10
7	Three-Storey building,	Oloto street Ebute Meta Lagos state	2013	7
8	Three-Storey building	No. 12 Hadeja road, Kaduna state	2013	3
9	Six-Storey guest house building	Ikotu Egbe, Lagos state	2014	116 dead and 100 injured
10	Three-Storey building	Ebute Meta, Lagos state	2015	
11	Residential building	Dolphin estate Ikoyi, Lagos state	2015	3 injured
12	Five-Storey building	Lekki garding, Lagos state	2016	34 dead
13	Four-Storey shopping plaza	Itoku market Abeokuta, Ogun state	2016	

Source: Oloke, Ogunde and Joshua (2017)

Poor project management cause by poor project initiation, lack of planning, poor execution, inadequate and efficient monitoring and control and poor evaluation of project progress and closure is one of the major factors influencing poor quality and collapse of building in Nigeria (Adeyemi, 2013; Ayodeji et al., 2017). Also, unethical practices has been recognized as a factor affecting poor quality and collapse of building in Nigeria (Oyewobi, Ganiyu & Oke, 2011; Ede, 2013). Thus, building poor quality and collapse in Nigeria is caused by poor project management and unethical practices.

However, project management and ethical practices can improve building construction quality (Ayodeji et al., 2017; Rahman et al., 2007; Adeyemi, 2013; International Ethics Standards Coalition, 2016; Vee & Skitmore, 2003; Adul-rahman, Wang & Yap, 2010; Besterfeild et al., 2003). Ayodeji et al. (2017) states that PM can improve construction quality through the role of project manager. In the same vein, Adeyemi (2013) posits that project management engender construction technical and business success. Also, Oyewobi, Ganiyu and Oke (2011), Adul-rahman, Wang and Yap (2010), Vee and Skitmore (2003) and Besterfeild *et al.* (2003), postit that ethical practices improve construction quality which enhance competitiveness, customer satisfaction and reduce cost of construction. Adul-rahman, Wang and Yap (2010) study the effect of professional ethics on construction quality in Malaysia and concluded that professional ethics influence construction quality. Vee and Skitmore (2003), also, study professional ethics in Australian construction industry and posit that good ethical practice is an important goal in an organisation.

Oloke, Ogunde and Joshua (2017) study how post-development management of property can improve collapse of building in Nigeria. Oyedele *et al.* (2015) identified the factors affecting building construction processes for the purpose of improving construction quality in Nigeria. Chendo and Obi (2015) examine factors that cause building collapse and its effects on the stakeholders and general public in Nigeria. Olagunju, Aremu & Ogundele (2013) examine the critical causes of building collapse and its types. Oyewobi, Ganiyu and Oke (2011) identified the causes of unethical practices in the construction industry in Nigeria. Ayodeji et al. (2017) study how PM can improve construction performance in Nigeria through the role of project manager. Their study centres on the role of project managers in improving construction performance. Adeyemi (2013) studied the influence of project management on construction company's performance in terms of technical and business success.

The review intends to extend the project management process framework by integrating ethical practices to examine the correlation between building project management process and building construction quality. Thus, ethical principles by international ethics standards (2016) would serve as mediating variables to strengthen the relationship between project management process and building construction quality in Nigeria. Based on literatures, no study has employed the international ethical standards to mediate the relationship between building project management process and building quality.

II. PROJECT MANAGEMENT

The project management concept was coined from US defense aerospace in 1953 (Hornstein, 2015). PM is critical and well recognized in construction industry (Sanjuan & Froese, 2013). Essence of PM is to start

plan, execute, monitor, control and close project to achieve the desire objective efficiently and effectively. This is known as standard project management process (Truman & King, 2018). Furthermore, project management objective is achieved through applying and integrating project management process. Project manager is saddled with the responsibility of achieving project objectives. Project management is defined by different authors in different ways (Hornstein, 2015; Najmi, 2011; Yimam, 2011). The different definition emphasizes on different aspects of project management. Table 2.1 below presents definitions of project management by various scholars.

Table 2.1: Definitions of Project Management

Source	Definition
Truman and King, 2018; Hornstein, 2015; Project Management Institute (PMI), 2013	The utilization of knowledge, tools, techniques and skills to project activities to meet project prerequisites.
Yimam, 2011; Fewings, 2005; Carmichael, 2004; Chartered Institute of Building, 2002	The utilization and integration of knowledge, techniques, tools and skills for tota planning, coordinating, control and directing a project from beginning to the end and motivation of stakeholders to achieve performance in terms of time , quality and cost.
Najmi, 2011	The use of resources in an organisation for project activities to achieve targeted time, cost and quality.
Kerzner, 2006	The planning, directing, controlling and organising the company's resources for a generally short term objectives which has been established to fulfil specific objectives and goals.
Ali, 2010	It involves planning, monitoring, controlling and organising of various aspect of projects and motivations of stakeholders involved to attain the safety objective of a project and within the stipulated time, performance and cost criteria.

Source: Truman and King (2018); Hornstein (2015); Project Management Institute (2004, 2013); Yimam (2011); Najmi (2011); Kerzner (2006); Ali (2010)

As stated earlier and in the Table 2.1, several definitions of project management exist. The definitions are based on individual and institutional concept. However, the definitions emphasized on project management as a process for achieving the objectives of the project with respect to time, quality and cost. PMI describes Project Management as "the application of knowledge, skills, tools and techniques to project activities to meet project requirements". The description recognizes that PM involved processes and emphasized on project quality as an objective.

Project management process and the body of knowledge of project management are developed and published by the institute of project management (Ali, 2010; Project Management Institute, 2004). The standards of project management process and project management body of knowledge developed by the institute of project management are arguably the most effective (Project Management Institute, 2004; Ali, 2010). Project management process is used to achieve each of the knowledge area in the project management body of knowledge (Project Management Institute, 2004, 2013; Ali, 2010; Truman & King, 2018). As earlier stated, project management process includes; to initiate, plan, execute, to monitor and control, and lastly to close.

Truman and King (2018) posit that project management body of knowledge and construction project extension consist of thirteen knowledge areas. Thus, there are nine basic project management bodies of knowledge areas which are applicable to all projects while the construction extention project management body of knowledge are four which are peculiar and applicable to construct project alone. The project management bodies of knowledge are 1) project integration management 2) project time management 3) project quality management 4) project scope management 5) project cost management 6) project communication management 7) project procurement management 8) project human resource management 9) project communication management 10) project risk management 11) project safety management 12) project claim management 13) project financial management. The project management guide provides matrix which maps out the five project management processes, process group and associated project management body of knowledge (Truman & King, 2018; Ali, 2010; Ngoc, 2010). Table 2.3 presents project management processes, associated process group and body of knowledge mapping.

Table 2.3: Mapping of the PM Processes to the PM Process Group and the Knowledge Areas

Processes Knowledge Area	**Initiating Process Group**	**Planning Process Group**	**Executing Process Group**	**Monitoring Process Group**	**Closing Process Group**
Project Integration Management	Develop project charter. Develop preliminary project scope statement.	Develop project management plan.	Direct and manage project execution	Monitor and control project work. Integration change control.	Close project.

Project Scope Management		Scope planning, Scope definition. Create WBS.		Scope verification. Scope control.	
Project Time Management		Activity definition, Activity sequencing. Activity resource estimating, Activity duration estimating, Schedule development.		Schedule control.	
Project Cost Management		Cost estimating. Cost budgeting.		Cost control.	
Project Quality Management		Quality planning.	Perform quality assurance.	Perform quality control.	
Project Human Resource Management		Human resource planning.	Acquire project team. Develop project team.	Manage project team.	
Project Communication Management		Communications planning.	Information distribution.	Performance reporting. Manage stakeholders.	
Project Risk Management		Risk management planning, Risk identification, Qualitative risk analysis, Quantitative risk analysis, Risk response planning.		Risk monitoring and control.	
Project Procurement Management		Plan purchase and acquisition. Plan contracting.	Request seller response. Select sellers.	Contract administration.	Contract closure.
Project Safety Management		Safety planning	Safety plan execution	Administration and reporting.	
Project Environmental Management		Environmental planning.	Environmental assurance.	Environmental control.	
Project Financial Management		Financial planning.	Financial control.	Administration and records.	
Project Claim Management	Claim identification.	Claim quantification.	Claim prevention.	Claim resolution.	

Source: Project Management Institute (2018); Truman & King (2018)

Each project knowledge area is achieved by employing project management process (Truman & King, 2018; Ali, 2010; Ngoc, 2010; Project Management Institute, 2004). Hence, building construction quality can be improved by employing project management process. Thus, this work intends to employ project management process to improve building construction quality.

II.I Ethical Practices in Nigerian Industry of Construction

Professional ethical practices in industry of construction form the foundation upon which the construction industry can improve its quality (Abdul-rahman, Yang & Yap, 2010; and Dindi, 2016). Culture of professional ethic practices anchored on the principles of standard service, lawfulness, transparency, honesty, responsibility and accountability (International Ethics Standard, 2016). Thus, to improve building performance quality, it is important to implement and observe professional ethical standards.

II.I.I Standard Service

Standard service is required from construction professionals for qualitative building performance. Standard service required qualified workforce, willingness to execute standard construction work and standard materials. Adebayo (2000) opined that building projects gain trust when the building designer or the foreman demonstrates competence as reflected on their work which is commensurate with the amount of payment for their services. Contractors must utilize quality building materials according to specifications, while the site manager should strictly implement quality requirements required of workers. Windapo (2006) and Dada (2006) attributed the collapse of various structures in Nigeria to the ignorance of building managers and the lack of awareness among construction professionals in the proper management of construction tasks.

Shola et al. (2015) argued that in Nigeria, collapse of building is brought about employing unqualified professionals and workforce. Some potential owners of building tends to evade the qualified professionals because of unwillingness to pay consultancy charges. All things considered, the potential builders will seek the services of con artist that are eager to concede to lesser/reduced fees. The local planning authorities who are believed to be in collusion with the con artist normally endorse the designs of these con artists. Whenever an

accident happens on sites, the customers blame consultants and contractors. Apparently, customers' common attitude to compromise is one major problem that impact the process of building.

Adebayo (2000) suggested that the knowledge, competency, skills, experience and personal ability of construction professionals are necessary to ensure building integrity. It should be noted that many contractors, during construction, either on directive of their clients/builders or in a bid to compromise to make the most profit, modify the endorsed building plans without a conforming alteration to structural drawings to the disadvantage of the structure.

II.I.II Lawfulness

Compliance with environmental and professional laws is critical to improve construction project. Thus, contractors should adhere to environmental and professional law for qualitative construction project. In the study of Fagbenle and Oluwunmi (2010), Building Regulation Acts implies all rules associated precisely with the control of construction structures. Also, the study posited that dominant regulation should be supported with system to ensure compliance as normal civilian only heed to laws which are obligatory.

Femi (2014) asserts that few imperfections in the structures happen because of noncompliance with specifications given by the civil engineer. Furthermore, noncompliance with suitable building construction codes and standards are likewise made by builders that are obvious from defects of the construction. Moreover, He expressed that generally execellent construction project set out all the cycles that ought to be clung to dodge mistakes screw up during the building of a project. Nevertheless, a few contractors choose to utilize their specific experiences as an option in contrast to specification offered. Chendo and Obi (2015) corroborated the issue of noncompliance, in Nigeria, with the current laws stating that a four storey building which is under construction at Agbama Estate, Umuahia also collapsed.

II.I.III Transparency

One of the viable measure used in curtailing corruption in the industry of construction is transparency (Park & Blekinsopp, 2011). Transparency initiatives are crucial components of fundamental approaches by government to encourage transparency and mitigate corruption and corrupt practices (Bertot *et al*, 2010). Also, it is about unselfishly willing to share with others information of government decision and activity, good record management and access to informations that are significant to all sections of society (Armstrong, 2005). Conferring to Kolstad and Wiig (2008), there is connection between high levels of corruption and not being transparent. A more significant level of openness in making decision raises the likelihood that wrong doing or corruption is uncovered (Bac, 2001).

II.I.IV Honesty

The industry of construction main thrust is to provide value for the client through good delivery of service that is grounded on ethical standards exhibited by the professionals of industry of construction. Industry of construction has the key obligation of shaping national growth through the supply of manpower growth, infrastructure, resource employment, formation of fixed capital and betterment of the gross domestic product (Omole, 2000; Hillebrandt, 2000). Considering this, hence, it is anticipated that construction professionals ought to carry out their duties with greatest abidance to professional ethical standards, or to be honest in their dealings with clients and other stakeholders.

Honesty is a rare virtue especially in the construction industry where knavery and lack of fair conduct mostly occur at the very important phases (Alutu, 2007). Bowen et al. (2007) analyzed primary opinions on knavery and lack of fair conduct from key stakeholders in construction projects such as: 1) architects have the notion that contractors are knavery on matters relating to contractual specifications; 2) contractors have the notion that the proffering arbitration procedure is unjust and whenever clients step in, in the process of construction, there is present of prejudice in professionals' acts; 3) quantity surveyors on their part have the notion that contractors constantly repetitively lay claim in the project construction stage.

II.I.V Responsibility

Ethical responsibilities are the duties owe all stakeholders in the industry of construction by the companies in Nigeria, and not just financial supporters or investors. Building professionals can encourage the value of ethical responsibility by demoing how they should be responsible to any consequences to the building and its integrity. Ethical responsibility can be incorporated into sustainability initiatives in the accomplishment of better building quality as well as ameliorated productivity, good corporate governance, and ameliorated stakeholders' relations and reduced accident/incident rate.

II.I.VI Accountability

Accountability simply refers to the accountability and openness of government, organisations and its employees to the public. Unless the security of the country is involved, records of government activities should be accessible to the people (Bovens, 2007). The state of public accountability in Nigeria is a form of grandiosity, in such a manner that the more attention is given to it, the more worrisome it becomes (Thovoethin, 2003). In recent years, however, the country has implemented stricter rules for government and organisational projects to ensure accountability. For example, open tendering methods are used where government projects are announced on government portals, giving room for accountability and removing the burden of biases as might be brought where selected list is drawn up. After collection from all the respondents to a pre-qualification advertisement, a committee called Tender Evaluation (TEC) shall analyze the return based on the following criteria: (1) evidence of incorporation, (2) company's audited accounts for 3 years, (3) tax clearance evidence for 3 years, (4) financial capabilities evidence and/ or banking support, (5) records of previous projects and (6) experience and technical qualification of key personnel.

II.II Ethical Practices and Building Performance

According to Valtonen (2005), ethic is very important in construction however, there is limited literature. Studies have affirmed that ethical practice influences building construction quality (Dindi, 2016; Abdul-rahman, Wang & Yap, 2010; Rahman et al., 2007). Ethical practices in building construction form the basis for improved quality of building performance. Thus, a culture of good ethical practices is critical for qualitative building performance.

Abdul-rahman, Wang & Yap (2010) stated that issues related to quality are mainly influenced by factor that has to do with human. Abdul-rahman, Wang & Yap (2010) who studied the effect of professional ethic on construction quality in Malaysia posit that ethical practices positively influence building quality in Malaysia. Furthermore, ethical practices are precondition for acceptable and sustainable building performance quality. Their study employed questionnaire survey. Thus, questionnaire was administered on professionals/managers and found that professional ethics has positive relationship with building performance. Thus, good ethical practices improve building construction quality. Quality depends on ethical behaviour (Besterfield *et al*., 2003). According to them good ethic means good moral principle and when there is good moral principle, customers are satisfied through improved quality. Also, Valtonen (2005) studied ethical principles in Finland construction and estate business and posit that ethical principles influence construction quality.

Vee and Skitmore (2003) studied professional ethic in Australian industry of construction and affirmed that ethical practices has correlation with construction quality. Their study employed questionnaire survey for data collection. Dindi (2016) affirmed that human factor plays an important role on building construction quality. The study focuses on personal ethic in Kenyan construction industry and affirmed that personal ethic has direct relationship with building construction quality. Adnan *et al.* (2012) posit that unethical practices result to building construction poor outcome while ethical practices engender qualitative building construction outcome. Their study focuses on ethic in construction industry from contractor's perspective. Although studies have shown that ethical practices improve construction quality, the studies do not state the types of ethical practices that improve construction quality.

Several ethical principles exist to promote construction performace in general, as a result of the importance of ethical practices in construction,. These ethical principles are established by both government authorities and professional bodies locally and internationally. The ethical principle published by international ethics standards includes: standard service, lawfulness, transparency, honesty, responsibility and accountability. Employing ethical practices as mediating variable will strengthen the relationship between project management process and building construction quality because project management processes are carried out by human being and their ethical behaviour influences the process and building construction quality.

III HYPOTHETICAL MEDIATION MODEL OF THE STUDY

In this study, Figure 1 represents the theoretical mediation model, which is an adoption of Model 4 for process macro that is advanced by Hayes (2013[b]). This model has one mediating variable (Enfrcmnt) which is situated between the independent variable (Inflcng) and the outcome variable (CsttPerf). Figure 1(a) displays the complete effect model (c-path) among IV and DV, while Figure 1(b) portrays an indirect influence model along the indirect path (a-path and b-path) and the direct influence between IV and DV while controlling MV (c'-path).

Figure 1(a). Direct Effects Model

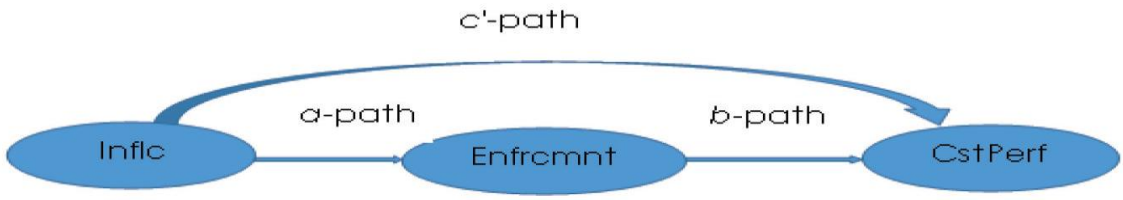

Figure 1(b). Indirect Effects Model

In view of the hypothetical model of this study (Figure 1), IV = Infllc, MV = Enfrcmnt and DV = CstPerf:

Numerically total influence = Direct effect + Indirect effect

$c = c' + ab$

The total influence of IV on DV is the regression coefficient anticipating DV from IV in the model exploded as (c-path) introduced in Figure 1(a). While Figure 1(b) displays the indirect influence of IV on DV which is the product of the a-path and b-path (ab). Though, the a-path is the regression coefficient approximating the Mediating variable (MV) from IV and in the model the b-path is the partial regression weight for the mediating variable (MV) approximating DV from both IV and MV. Likewise, the c'- path is revealed in Figure 1b, in which the IV directly influence DV while controlling MV.

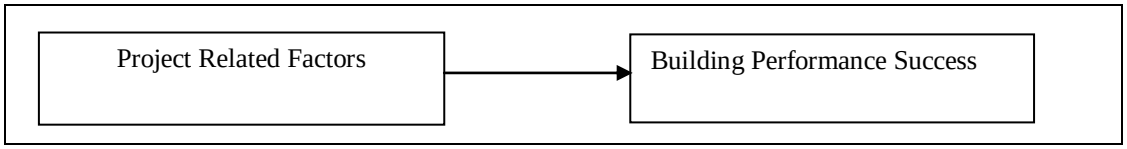

Fig. 2. The Relationship between Project Related Factors and Building Performance Success

IV MEDIATION MODEL OF THE STUDY

The principal aim of this study is to examine the mediating effects of Ethical Practices in the enforcement and efficient consistence of building execution of development ventures. SPSS Version 24 (Statistical Package for Social Science) is a versatile statistical mediation tool utilized in accomplishing the objectives of this study.

Ethical Practices influences of standard service, lawfulness, transparency, honesty, responsibility and accountability were acknowledged via reviews of extensive literature as a significant barriers that influences total compliance of building performance in projects. Existing literature shows that the influencing factor of Ethical Practices commences both within the procurement bodies which is identified as internal project awards of contracts and, also, from external bodies, commonly ministries and other governmental organisations (Zadawa, Hussin and Osmadi, 2015; Fayomi, 2013). However, these upheld the earlier predictions dependent on the hypothetical model of this study which means that the Ethical Practices in Nigeria, influences or affects building performances of construction projects.

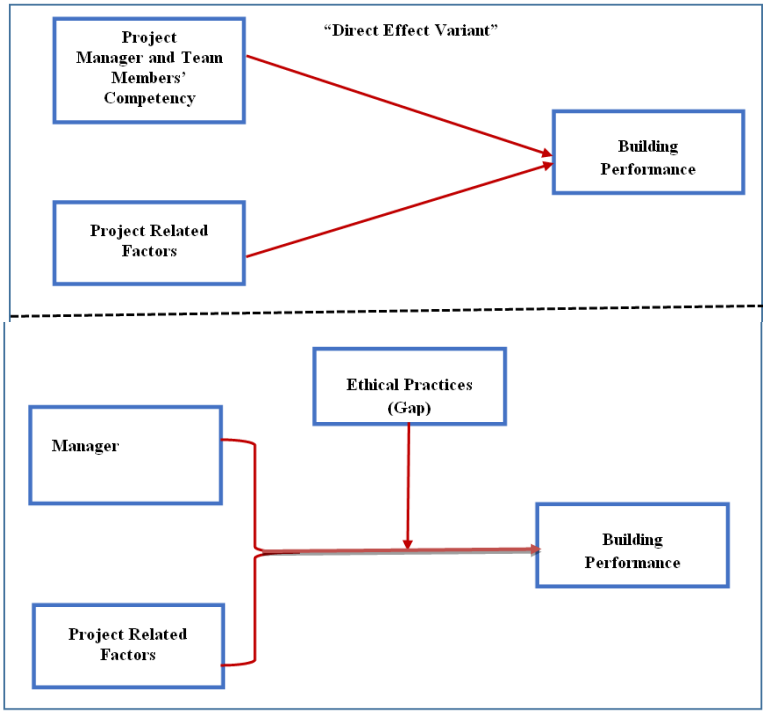

Fig. 3. Proposed Research Theoretical Framework on the Effects of Project Management Factors and Ethical Practices towards Building Performance in Lagos State of Nigeria State of Nigeria
Source: Adapted from Belassi & Tukel (1996); Ali (2010); Nifa et al. (2013)

V THEORETICAL CONCEPT OF THE STUDY

There are two major theories that guides this study, which are; the institutional theory and the principal theory. These two theories are utilized in outlining the hypothesized model which is line with the research questions, objectives and methodology of this study. These theories is embraced from past related studies on the subjects of compliance with the regulation of public procurement like that of Tukamuhabwa (2012) and Sang and Mugambi (2014).

Conferring to the principal agent theory concept, Reimarova (2012) posited that once there are inconsistencies between regulatory policies, for instance, the PPGs and the formal process or public system, there is probability of noncompliance to the procedures or regulatory policy directing the system. Similarly, Bolton and Dewatripont (2005) upheld that the principal agent theory is commonly deliberated as contract theory which includes various sets of family models utilized in surveying and assessing public procurements and related contract procedures.

While institutional theory, generally used in evaluating public procurements elements, portrays the degree of compliance with the regulatory rules, procedures, routine, norms and, procedural manual within an organization or system (Scott, 2005). Institutions comprises of three essential pillars, namely; regulatory, normative and cognitive (Scott, 2005). The regulatory pillar focuses on some essential compliance system like procedural manual, guidelines and enforcement (practicality as the premise of compliance). The normative pillar for compliance depends on norms, values and social responsibilities. While cultural cognitive pillar includes understanding, beliefs, symbol and identities (Tukamuhabwa, 2012; Scott, 2005).

In light of the Principal Agent and Institutional theory concept which guides and supports this model study, tends to be perceived that the activities of construction procurement in procurement bodies of Nigerian government universities and other public higher institutions in the nation are steered by the public procurement guiding principle as given by PPA 2007. Therefore, the idea of principal agent theory and the three pillars of institutional theory, that is; the regulatory, normative and cognitive, emphasized enforcement as a compliance system as significant by Reimarova (2012), Scott (2005).

VI. RESEARCH METHODOLOGY

This study is a quantitative research. A structured survey questionnaire is used to administered questionnaire to 540 construction procurement shareholders and project parties in the procurement bodies of public universities in Nigeria. This study concentrated on the northern district in Nigeria with 22 government universities out of 40 government universities in the nation. This district covers about 80% of the nation's land

mass, with three geographical regions, 19 states and as Abuja being the Federal Capital Territory (FCT) (Gambo, Said and Ismail, 2014).

The population of this study includes an aggregate of 1,870 construction project parties and procurement shareholders who are mainly project clients, registered project managers, registered contractors and registered professional consultants. The sampling technique employed in this study for selecting samples is stratified proportionate random technique as it guarantees a specific degree of accuracy (Delenius and Hodges, 1959). Every class of stakeholders, as itemized, is deliberated as a strata. The stratified proportionate sample from each strata is calculated to make up the research sample of this study utilizing the formula as stated below;

Stratified proportionate sample for each strata N1 = (Xn × Yn) ÷ N

Where;

Xn = Strata population

Yn = Strata sample

N = Total population

The sum of individual sample from every strata (N1 + N2 + N3 + N4 …) gives the complete sample required.

Table 1 depicts the particular population of every strata and the assessed stratified proportionate random sample of every starter.

VI.I Building Performance Instrument

Evaluated under this section are project management process assessment instrument, professional ethics practices assessment instrument, and building construction quality assessment instrument among others.

VI.II Project Management Process Assessment Instrument (PMPAI)

Project management process instrument evaluated project management process practice on five dimensions which includes initiating, planning, executing, monitoring and control and close. Each question (questionnaire) is graded using a 5-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. A higher score showed a greater affinity for associated dimension of project management process practice (Table 3.1). The project management process practice variables are assessed by total average score of the thirty two (32) items on PMPAI. A higher total project management process practice score indicates a greater affinity for project management practice.

Table 3.1: Project Management Practice Assessment Instrument (PMPAI)

1. Project Manager and Team Members' Competency
1. Project management in building construction in Nigeria involves Project Manager and Team Members' competency 2. Building construction in Nigeria involves preliminary project scope statement during project initiation by Project Manager and Team Members'. 3. Project management in building construction in Nigeria involves Project Manager and Team Members' experience. 4. Project management in building construction in Nigeria involves Project Manager and Team Members' technical capability. 5. Project management in building construction in Nigeria involves Project Manager and Team Members' leadership skills. 6. Project management in building construction in Nigeria involves Project Manager and Team Members' commitment. 7. Project management in building construction in Nigeria involves usage of Project Manager and Team Members' adaptability to changes at all required times. 8. Above processes improve building construction quality in Nigeria.
3. Project Related Factors
1. Initiating process as the beginning phase is vital to building construction project in Nigeria. 2. Planning effort is vital to building construction project in Nigeria. 3. Monitoring and Control mechanism effort is vital to building construction project in Nigeria. 4. Communication system effectiveness is vital to building construction project in Nigeria. 5. Coordination effectiveness is critical to building construction project in Nigeria. 6. Directing and managing project during execution is vital to building construction project in Nigeria. 7. Performing quality assurance is vital to building construction project in Nigeria. 8. Information distribution is critical during building construction project execution in Nigeria. 9. Requesting for sellers and suppliers' responses is critical for building construction project. 10. Selection of seller and suppliers is integral part of building construction project in Nigeria. 11. Formal dispute resolution process can improve building construction quality in Nigeria. 12. Incentives on every successful construction project can improve building construction quality in Nigeria. 13. Project close and delivery handover system is critical to building construction project in Nigeria. 14. Project execution processes above can improve building construction project in Nigeria.

Source: Adapted from Belassi & Tukel (1996); Ali (2010); Osman, W. N. (2013)

VI.III Ethical Practices Assessment Instrument (EPAI)

Ethical Practices Assessment Instrument (EPAI) is theoretically based on the International Ethics Standards to improve ethical practices in construction, land, infrastructure, property and other related professions (International Ethics Standards, 2016). The ethical standards have been employed by previous

researches before its establishment by international ethics standards (2016). For example, Vee and Skitmore (2003) employed professional ethic to study construction industry in Australia.

Ethical practices include standard service, lawfulness, transparency, honesty, responsibility and accountability. Ethic practices served as the mediator. The various questions in EPAI determine whether construction industry professional ethic practices is in line with the international standard. Each question in EPAI is graded with a Likert-type scale ranging from 1 = strongly disagree to 5 = strongly agree (see Table 3.2). The highest average score of ethical practice is considered the dominant ethical practices.

Table 3.2: Ethical Practices Assessment Instrument (EPAI)

1. Standard Service
1. Professionals in building construction provide services based on their competency in Nigeria. 2. Building construction professionals provide only services which they are qualified to do in Nigeria. 3. Building construction professionals provide reliable leadership and skills for colleagues or teams in Nigeria. 4. Building construction professionals ensure that employees or associates employed are competent for the services/roles given to them in Nigeria. 5. Government provides enabling environment for standard practice in construction industry in Nigeria. 6. The above ethical standard services can improve building construction quality in Nigeria.
2. Lawfulness
1. There are established laws by government guiding professional practice in construction industry in Nigeria. 2. Building construction professionals applies applicable laws to discipline their errant members in Nigeria. 3. Building construction professionals observe international laws applicable in discharging their professional duties in Nigeria. 4. Building construction professionals observe environmental laws applicable in discharging their professional duties. 5. The above ethical lawful practices can improve building construction quality in Nigeria.
3. Transparency
1. Building construction professionals are to be open and accessible in the discharge of their professional duties in Nigeria. 2. Building construction professionals are act without misleading or attempt to mislead in the act of proving services in Nigeria. 3. Professional ethics demand that building construction professionals are not to withhold information or misinformed in respect of their services in Nigeria. 4. Professional ethics demand that building construction professionals are to presents relevant documents or materials in a plain and intelligible language in Nigeria. 5. Above ethical transparent practices can improve building construction quality in Nigeria.
4. Honesty
1. In building construction, professionals act with integrity in Nigeria. 2. Building construction professionals act in fairness in Nigeria. 3. Building construction professionals advice based on its relevant, valid and objective evidence in Nigeria. 4. Above ethical honest practices can improve building construction quality in Nigeria.
5. Responsibility
1. Building construction ethics demand that professionals be transparent, truthful and trustworthy in all financial dealings in discharging their duties in Nigeria. 2. It is ethical for building construction professionals to take full responsibility for services provided in Nigeria. 3. Above ethical practices can improve building construction quality in Nigeria.
6. Accountability
1. Building construction professionals are to be accountable financially in Nigeria. 2. Building construction professionals are to be accountable materially in Nigeria. 3. Building construction professionals are to be accountable for all services rendered in Nigeria. 4. Above professional ethics about accountability can improve building construction quality in Nigeria.

Source: Vee and Skitmore (2003); International Ethics Standards (2016)

VI.IV Building Performance Assessment Instrument (BPAI)

Quality is a significant indicators of performance. In project management, quality is an essential knowledge area in project management body of knowledge (Truman & King, 2018). Project management body of knowledge (PMBOK) separate PM function into nine knowledge areas and addition of four more areas by construction extensions which are particular to construction industry (Truman & King, 2018). Each of the knowledge area is achieved by the five PM processes. Several researches have employed questionnaire to assess construction quality for the purpose of construction performance. For example, Abdul-rahman et al. (2010) study the impact of professional ethic on construction quality in Malaysia. Also, Oyedele et al. (2015) study the factors that influence construction quality from Nigerian perspective. Construction quality is measured by using construction quality instrument developed by Abdul-rahman et al. (2010) and Oyedele (2015). Each question in construction quality assessment instrument is graded with a Likert-type scale ranging from 1 = strongly disagree to 5 = strongly agree (Table 3.3).

Table 3.3: Building Performance Assessment Instrument (BPAI)

Building Performance
1. Project Management processes can improve Building performance.
2. Project Manager Competency can improve Building performance.
3. Project Team Members Competency can improve Building performance.
4. Project Related Factors are critical to improve Building performance.
5. Construction ethical practices can improve Building performance.
6. All the above factors relates to quality planning and assurance that can improve Building performance.
7. Quality assurance routine can improve Building performance.
8. Quality control can improve Building performance.

Source: Adapted frrom Abdul-rahman *et al*. (2010); Oyedele et al. (2015)

VII. RESULTS AND ANALYSIS

Ethic is fundamental for every performing business and industry (Valtonen & Nousiainen, 2005; Kang, Price, Thorpe & Edum-Fotwe, 2004). Thus, ethical practices can improve PM process of Project Manager and Team Members' Competency and Project Related Factors and building performance. Abdul-rahman, Wang and Yap (2010) and Dindi (2016) posit that ethic is critical for construction industry performance. In literature, there is no generally accepted definition of ethical behavior (Valtonen & Nousiainen, (2005) and Ho, 2011). According to Valtonen (2005) ethical behaviour is morally right or good behaviour. Ethical behaviour is behaviour that conforms to personal, professional, organizational and society value (Navran, 1992; Jones, 1991). Also, Ho (2011) defined ethical behaviour as morally and legally accepted behaviour in the society.

Ethical practices in construction industry are viewed from different perspectives by different scholars (Dindi, 2016). There are three main perspectives of ethical practices in construction industry. The three main perspectives are: (1) management/business ethics, (2) professional ethics and (3) personal ethics. Management/business ethic is expected behaviour of an individual guided by management or business principles in an industry or group in an industry (Ho, 2011). For example, Ho (2011) reviewed management ethic theories in construction industry. Professional ethic is expected behaviour of an individual guided by set of principles of professional practice in an industry or group in an industry (Dindi, 2016; Vee & Skitmore, 2003). For instance, Vee and Skitmore (2003) study professional ethic in Australian construction industry. Also, Abdul-rahman, Wang and Yap (2010) study the impact of professional ethic on construction quality in developing country. Personal ethic is moral principles or behaviour of individual that is guided by personal decision (Dindi, 2016). For example, Dindi (2016) study personal ethic in Kenyan construction industry. In addition, several definitions of ethical practice exist however, all the definitions emphasised on right and good behaviour in an organisation or society. This analysis follows the definition of ethical behaviour by Navran (1992) and Jones (1991). Thus, this analysis defines ethical behaviour in construction as behaviour that conforms to professional and construction values in construction industry that can improve construction quality.

Researches from several countries in the world unearth the degree of unethical behaviour showing at various levels for instance, in Malaysia (Abdul-rahman, Wang and Yap (2010), the United Kingdom (Mason, 2009), Australia (Vee and Skitmore, 2003), Pakistan (Nawaz and Ikram, 2013), the United States (Jackson, 2005), China (Zou, 2006), in Kenya (Mathenge, 2012), and in Nigeria (Ameh and Odusami, 2010). In the study of Rahman, Karim, Danuri, Berawi and Yap (2007), to a great extent, ethical issues influences the integrity of the construction instruction as well as its products. The said construction industry is categorised with poor ethical culture Tow and Loosemore, 2009). Thus, there is need for an adjustment in construction ethical practice to handle ethical issues within the industry.

As indicated by Vee and Skitmore (2003), ethic commonly comprises of a system of moral principle in which human activities and proposals might be made a decision about good and bad (that is; been right or wrong). It also refers to rule of conduct perceived in regard of a class of human activities and moral principles of a person. Fellows (2003) and Abdul-Rahman et al. (2010) affirmed that the ethics of professionalism is a system of behavioural standards. This means that a professional ensures that clients' interests are put before his own interest and the interest of the public is perceived and regarded and respected (Howard, 2000). Treating others with similar level of honesty that they might want to be treated is professional ethics (Vee and Skitmore, 2003)

Furthermore, professional ethic includes evaluating every choice in practice seeing individual moral concern as well as in terms of professional standards (Vee & Skitmore, 2003). Professional ethics issue impact a wide range of society within the construction industry. There are numerous motives why professionals are engaged in unethical practices, this might be because of legislative enforcement inadequacy, economic downturn, lack of ethical education from schools and professional institution, fierce competition, high complexity of construction work and cultural changes (Adnan et al., 2012).

Ethic has an indisputable effect on the believability and economic sustainability of an organization just as it affects the integrity of professionals working for the organization. There is a growing sentiment in the construction industry in which corruption and other unethical practices are endemic in the industry (Ameh and

Odusami, 2010). Nevertheless, ethic in construction highlights the principles of of significant value based leadership, underscoring the requirement for shared values, respectability in the bidding and contracting processes, partnering, balancing of risks with financial rewards, common understanding of professional practice and the building of long term trusting relationship (Moylan, 2008). In order to achieve growth, the highly competitive business world have established extensive pressure upon project managers. Conferring to the study of Mishra and Mittal (2011), the pressure is directed towards the survival and benefit building that constrains the project managers to resort to unethical practices.

Mason (2009) buttressed that within the construction industry, professional ethic is viewed as a prominent topic. In the construction industry, ethical behaviour is a subject seldomly examined openly possibly in the light of the fact that it resembles the proverbial "throwing stones in a glass house" (Miller, 2011). Although, Ho (2011) stressed that the construction industry is a primary driver of economic growth in several countries, it contends with a long list of ethical issues that are identified with behaviour such as lying, bid shopping, unreliable contractors, payment games, claims games (like false claims, inflated claims), collusion, fraud, threats, conflict of interest, and professional negligence.

VIII. CONCLUSION

There are number of studies aimed at improving building construction in Nigeria, however, based on literatures, none of the studies has ever investigated the relationship between project management process of Project Manager and Team Members' Competency and Project Related Factors and building performance using ethical practices as mediating variable. Most of the reviews towards improving building performance in Nigeria had been (focus) on technical aspect of construction but this paper focused more on managerial perspective. Hence, this paper is different from other papers that hitherto examined project management and ethical practices in building construction in Nigeria. This paper is necessary and timely because of the consistent poor building quality that frequently results to building collapse in Nigeria.

To the knowledge of these researchers, no study has been done on testing the international ethics standards empirically in building construction in Nigeria context. Therefore, the weakness of this paper was inability to review the international ethic standards empirically in building construction in Nigerian context. This paper however filled the gap as it investigated the relationship between project management process of Project Manager and Team Members' Competency and Project Related Factors and building performance using professional means.

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REFERENCES

[1] Abdul-Rahman, H., Wang, C. and Yap, X.W., 2010. How professional ethics impact construction quality: Perception and evidence in a fast developing economy. Scientific research and essays, 5(23), pp.3742-3749.
[2] Abdul-Rahman, H., Wang, C. and Yap, X.W., 2010. How professional ethics impact construction quality: Perception and evidence in a fast developing economy. Scientific research and essays, 5(23), pp.3742-3749.
[3] Adebayo, S.O., 2000, April. Improving building techniques. In Proceedings of a Workshop on Building Collapse.
[4] Adeyemi, O., Adejuyigbe, S., Akanbi, O., Ismaila, S. and Adekoya, A.F., 2013. Manual lifting task methods and low back pain among construction workers in the Southwestern Nigeria. Global Journal of Research In Engineering.
[5] Adnan, H., Hashim, N., Mohd, N. and Ahmad, N., 2012. Ethical issues in the construction industry: Contractor's perspective. Procedia-social and behavioral sciences, 35, pp.719-727.
[6] Ali, A.S. and Kamaruzzaman, S.N., 2010. Cost performance for building construction projects in Klang Valley. Journal of Building Performance, 1(1).
[7] Alutu, O.E., 2007. Unethical practices in Nigerian construction industry: Prospective engineers' viewpoint. Journal of Professional Issues in Engineering Education and Practice, 133(2), pp.84-88.
[8] Ameh, O.J. and Odusami, K.T., 2009. Professionals' ambivalence toward ethics in the Nigerian construction industry. Journal of professional issues in engineering education and practice, 136(1), pp.9-16.
[9] Armstrong, E., 2005. Integrity, transparency and accountability in public administration: Recent trends, regional and international developments and emerging issues. United Nations, Department of Economic and Social Affairs, pp.1-10.
[10] Ayodeji, O., Eseohe, A., Opeyemi, J., Ebenezer, B., Amusan, L., & Abisola, O. (2017). Project Management a Panacea to Improving the Performance of Construction Projects in Ogun State, Nigeria. International Journal of Civil Engineering and Technology, 8(9), 1234–1242.
[11] Bac, M., 2001. Corruption, connections and transparency: Does a better screen imply a better scene?. Public Choice, 107(1-2), pp.87-96.
[12] Belassi, W. and Tukel, O.I., 1996. A new framework for determining critical success/failure factors in projects. International journal of project management, 14(3), pp.141-151.

[13] Bertot, J.C., Jaeger, P.T., Munson, S. and Glaisyer, T., 2010. Social media technology and government transparency. Computer, (11), pp.53-59.
[14] Besterfield, D., Besterfield-M., C., Besterfield, GH, Besterfield-S., M.(2003). Total Quality Management, pp.377-405.
[15] Bolton, P. and Dewatripont, M., 2005. Contract theory. MIT press.
[16] Bovens, M., 2007. Analysing and assessing accountability: A conceptual framework 1. European law journal, 13(4), pp.447-468.
[17] Bowen, P., Akintoye, A., Pearl, R. and Edwards, P.J., 2007. Ethical behaviour in the South African construction industry. Construction Management and Economics, 25(6), pp.631-648.
[18] Chartered Institute of Building. (2002). Code of practice for project management for construction and development (3 rd). Blackwell Publishing.
[19] Chendo, I.G. and Obi, N.I., 2015. Building Collapse in Nigeria: the causes, effects, consequences and remedies. International Journal of Civil Engineering, Construction and Estate Management, 3(4), pp.41-49.
[20] Dada, M.O. and Ekpe, J., 2006. The Place of Multi-Skilling in the Nigerian construction industry: a pilot study. Proceedings of the 3rd International Built and Human Environment Research Week, 1.
[21] Dalenius, T. and Hodges Jr, J.L., 1959. Minimum variance stratification. Journal of the American Statistical Association, 54(285), pp.88-101.
[22] Dindi, A. (2016). Ethics in Construction. IQSK Magazine, The Quantity Surveyor, 20(1), 2–6.
[23] Ebehikhalu, N. and Dawam, P., 2014. Spatial analysis of building collapse in Nigeria: a study of the causes and problems. Journal of Economics and Sustainable Development, 5(25), pp.95-107.
[24] Ede, A.N., 2013. Building collapse in Nigeria: The trend of casualties the last decade (2000-2010). International Journal of Civil & Environmental Engineering, 10(6).
[25] Fagbenle, O.I. and Oluwunmi, A.O., 2010. Building failure and collapse in Nigeria: The influence of the informal sector. Journal of sustainable development, 3(4), pp.268-276.
[26] Fayomi, I.O., 2013. Public procurement and due process policy in Nigeria: Thrust, prospects and challenges. Peak Journal
[27] Fellows, R., 2003, October. Professionalism in construction: Culture and ethics. In CIB TG23 International Conference.
[28] Femi, O.T., 2014. Causes and effects of conflict in the Nigerian construction industry. International journal of technology enhancements and emerging engineering research, 2(6), pp.7-16.
[29] Gambo, N., Said, I. and Ismail, R., 2016. Influences of Cost Factors Affecting Technical Performance of Local Government Projects in Nigeria: A Partial Least Square-Structural Equation Modeling (PLS-SEM) Approach. Journal of Construction in Developing Countries, 21(1).
[30] Hayes, A.F., 2013. Methodology in the Social Sciences.
[31] Hillebrandt, P.M., 2000. Economic theory and the construction industry. London: Macmillan.
[32] Ho, C. M. F. (2011). Ethics management for the construction industry: A review of ethical decision-making literature. Engineering, Construction and Architectural Management, 18(5), 516–537.
[33] Hornstein, H.A., 2015. The integration of project management and organizational change management is now a necessity. International Journal of Project Management, 33(2), pp.291-298.
[34] Howard, N., 2000. Sustainable construction-The data. London: Building Research Establishment.
[35] International Ethics Standards Coalition. (2016). An Ethical Framework for the Global Property Market.
[36] Jackson, K.T., 2005. Towards authenticity: A Sartrean perspective on business ethics. Journal of Business Ethics, 58(4), pp.307-325.
[37] Jones, T. M. (1991). Ethical decision making by individuals in organisations: an issue-contingent mode. Academy of Management Review, 16(2), 366–395.
[38] Kang, B.G., Price, A.D., Thorpe, T. and Edum-Fotwe, F.T., 2004. Developing a systems approach for managing ethics in construction project environments.
[39] Kerzner, H.R., 2006. Project Management: With Project Management Case Studies, 2r. e. John Wiley & Sons.
[40] Kolstad, I. and Wiig, A., 2008. Political economy models of the resource curse: Implications for policy and research. CMI Working Paper.
[41] Mason, J., 2009. Ethics in the construction industry: the prospects for a single professional code. International journal of law in the built environment, 1(3), pp.194-204.
[42] Mason, J., 2009. Ethics in the construction industry: the prospects for a single professional code. International journal of law in the built environment, 1(3), pp.194-204.
[43] Miller, G. A. (1956). The magical number seven, plus or minus two: some limits on our capacity for processing information. Psychological Review, 63(2), 81.
[44] Mishra, P., Dangayach, G.S. and Mittal, M.L., 2011. An empirical study on identification of critical success factors in project based organizations. Global Business and Management Research, 3(3/4), pp.356-368.
[45] Moylan, W., 2008. Ethics in construction bidding: considering the 'Friedman'Vs the "Freeman" View. Project Management World Today, 10.
[46] Najimi, M., Sobhani, J. and Pourkhorshidi, A.R., 2011. Durability of copper slag contained concrete exposed to sulfate attack. Construction and Building materials, 25(4), pp.1895-1905.
[47] Navran, F. J. (1992). Developing an Ethics Policy Now. Transportation and Distribution, 33(2), 27–31.
[48] Nawaz, T. and Ikram, A.A., 2013. Unethical practices in Pakistani construction industry. European Journal of Business and Management, 5(4), pp.188-204.
[49] Ngoc, S. (2010). Project management. Bachelor of Science Thesis, Mikkelin University of Applied Science.
[50] Nifa, F.A.A. and Ahmed, V., 2014, September. Process innovation in partnering: A framework for aligning organizational cultures in the Malaysian construction industry. In 2014 IEEE International Conference on Management of Innovation and Technology (pp. 442-447). IEEE.
[51] Olagunju, R.E., Aremu, S.C. and Ogundele, J., 2013. Incessant collapse of buildings in Nigeria: An Architect's View. Civil and Environmental Research, 3(4), pp.49-54.
[52] Oloke, O.C., Oni, A.S., Ogunde, A., Opeyemi, J. and Babalola, D.O., 2017. Incessant Building Collapse in Nigeria: A Framework for Post-Development Management Control. Developing Country Studies, 7(3), pp.114-127.
[53] Omole, F.K. and Owoeye, J.O., 2011. Slum Characteristics of a Deplorable Residential District of Akure, Nigeria. FUTY Journal of the Environment, 6(2), pp.94-103.
[54] Oyedele, O. L., Jaiyeoba, E. B., Kadiri, O. K., Folagbade, O. S., Tijani, K. I., and Salami, O. R. (2015). Critical Factors Affecting Construction Quality in Nigeria: Evidence from Industry Professionals. *International Journal of Sustainable Building Technology and Urban Development*, *6*(2), 103–113.

[55] Oyewobi, L.O., Ganiyu, B.O., Oke, A.A., Ola-Awo, A.W. and Shittu, A.A., 2011. Determinants of unethical performance in Nigerian construction industry. Journal of sustainable development, 4(4), p.175.
[56] Park, H. and Blenkinsopp, J., 2011. The roles of transparency and trust in the relationship between corruption and citizen satisfaction. International Review of Administrative Sciences, 77(2), pp.254-274.
[57] Project Management Institute, 2018. A Guide to the Project Management Body of Knowledge (PMBOK® Guide)-(JAPANESE). Project Management Institute.
[58] Project Management Institute. (2004). A Guide to the Project Management Body of Knowledge (PMBOK Guide) (4th ed.). Pennsylvania: Project Management Institute.
[59] Project Management Institute. (2013). A Guide to the Project Management Body of Knowledge (PMBOK Guide) (5th ed.). Newtown Square, PA.: PMI Publications.
[60] Rahman, H. A., Bari, S., Karim, A., Suhaimi, M., Danuri, M., Berawi, M. A., & Wen, Y. X. (2007). Does Professional Ethic Affects Construction Quality? In Quantity Surveying International Conference (pp. 1–10). Kuala Lumpur, Malaysia.
[61] Rahman, H.A., Karim, S.B.A., Danuri, M.S.M., Berawi, M.A. and Yap, X.W., 2007, January. Does professional ethic affects construction quality. In Quantity Surveying International Conference (pp. 4-5).
[62] Reimarová, H., 2012. Transaction costs in public procurement.
[63] Sang, W.K. and Mugambi, F., 2014. Factors affecting compliance with public procurement laws and regulations in public institutions in Kenya: A case study on public entities in Mombasa County. International Journal of Social Sciences and Entrepreneurship, 1(11), pp.650-671.
[64] Sanjuan, A.G. and Froese, T., 2013. The application of project management standards and success factors to the development of a project management assessment tool. Procedia-Social and Behavioral Sciences, 74, pp.91-100.
[65] Scott, W.R., 2005. Institutional theory: Contributing to a theoretical research program. Great minds in management: The process of theory development, 37(2005), pp.460-484.
[66] Shola, I.O., Okunlola, O.S. and Olatunde, O.L.A.O.L.U.W.A., 2015. Profiling the Environmental Management Practices on Construction Sites in Lagos State, Nigeria.
[67] Thovoethin, P., 2003. Corruption and the Erosion of Public Accountability in Nigeria. Public Accountability in Nigeria: Perspectives and Issues Enugu: Academic Publishing Company.
[68] Tow, D. and Loosemore, M., 2009. Corporate ethics in the construction and engineering industry. Journal of legal affairs and dispute resolution in engineering and construction, 1(3), pp.122-129.
[69] Truman, D., King, P. E. (2018). Assessment of Problems Associated With Poor Project Management Performance. Littleton, Colorado: Long International, Inc.
[70] Tukamuhabwa, B.R., 2012. Antecedents and consequences of public procurement non-compliance behavior. Journal of Economics and Behavioral studies, 4(1), pp.34-46.
[71] Valtonen, H., 2003. Promoting ethical principles in construction and real estate business.
[72] Vee, C. and Skitmore, C., 2003. Professional ethics in the construction industry. Engineering, Construction and Architectural Management, 10(2), pp.117-127.
[73] Windapo, A.O. and Rotimi, J.O., 2012. Contemporary issues in building collapse and its implications for sustainable development. Buildings, 2(3), pp.283-299.
[74] Windapo, B., 2006. The threat of building collapse on sustainable development in the built environment in Nigeria. In Proceedings of the 36th Annual General Meeting/Conference. Nigerian Institute of Building, Jos.
[75] Yimam, H. A. (2011). Project Management Maturity in the Construction Industry of Developing Countries (The Case of Ethiopian Contractors). M. Sc. Thesis, University of Maryland, College Park.
[76] Zadawa, A.N., Hussin, A.A. and Osmadi, A., 2015. Determinants of compliance with public procurement guidelines in the Nigerian construction industry. Jurnal Teknologi, 75(9), pp.107-110.
[77] Zou, P.X., 2006. Strategies for minimizing corruption in the construction industry in China. Journal of construction in Developing Countries, 11(2), pp.15-29.

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