Risk Management Practices and Performance of Construction Projects: Evidence from Selected Estate Management Companies in FCT Abuja

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ABSTRACT: *Increasing population in the city of Abuja instigate the need for more housing construction. While such may be necessary, it is also important to manage the risk involved. But the extent of impact of risk management on project performance has been obscured in literature. thus, this research will assess the impact of risk management on project cost performance with reference to selected house developer in Abuja city. A sample of 256 respondents was utilised and risk management measure in four standpoints: risk identification, risk assessment, risk response planning and risk monitoring & control. Multiple regression was vital for estimation. Results indicate that all the four variables are positive toward improving cost performance. In other words, risk identification, risk assessment, risk response planning and risk monitoring & control reduces cost by 26% to 45%, all things being equal. It was also noted that risk monitoring & control has the most influence of approximately 45% while risk response planning had the lowest influence of 26%, all things being equal. Therefore, the organisations should continue to improve in the aspect of risk management while sustaining tempo on training and retraining in this aspect.*

KEY WORDS: Cost Performance, Risk Identification, Risk Assessment, Risk Mitigation, Risk Monitoring and Control

INTRODUCTION

To safeguard their interests in accomplishing project goals, businesses across all economic sectors have made risk management a top priority in recent years. To maximize profits, real estate developers conduct building projects with the goal of minimizing risks and making the most of possibilities (Gitahi &Tumuti, 2019). Thus, according to Hubbard (2009),

construction risk management entails recognizing, evaluating, and ranking potential dangers, and then using resources efficiently and in a coordinated fashion to lessen the likelihood of, and damage from, such incidents. Negative outcomes for building projects are possible outcomes of risk (Al-Mukahal 2020).

Project managers in the construction industry heavily rely on risk analysis and management to help their clients successfully navigate both unexpected and anticipated challenges (Seku, Aigbavboa, & Thwala, 2016). According to Oke, Ogungbile, Oyewobi, and Tengan (2016), every endeavour is primarily motivated by the desire to achieve a successful outcome. Time, money, quality, client happiness, client changes, business success, health, and safety are just a few of the many variables that may be monitored and analysed to assess project performance (Cheung, Henry, Seun, & Cheung, 2004).

The real estate industry in Nigeria is a promising growth driver, accounting for almost 6% of the country's GDP (NBS, 2022). Abuja, the nation's capital, has the most real estate worth and the most businesses per capita in all of Nigeria (NBS, 2015). Officials in the real estate industry can benefit greatly from a study that assesses the results of developers' risk management strategies. For real estate developers, this means more possibilities, better resource deployment, less performance variability, and entity-wide risk identification and management.

Uncertainty in the neighbouring states of Niger, Kogi, and Kaduna have resulted to rural-urban migration, thus a growing population of Abuja, Nigeria. This creates housing shortages, adding a lot of pressure on real estate developers to fill the demand for housing caused by the growth in population. To keep up with the surging demand, real estate developers are taking massive risks due to this surge. Among these dangers are those pertaining to society, the economy, the environment, politics, business, IT, and the law. Effective risk management can help real estate developers meet their goals in terms of time, money, quality, and customer happiness (Sankar and Shashikanth, 2022).

Basically, risk management is all about anticipating issues and being prepared to handle them when they arise. Coordinated systems that use economic resources to monitor and regulate the likelihood or effect of bad things happening or to make the most of good things happening are also known as risk management (Hubbard, 2009). Adeleke, Windapo, Ali Khan, Bamgbade, Salimon, & Nawanir (2018), Pidomson (2016) and Awodele (2012) have examined risk management practices in Nigeria's construction industry. Most of these studies centred on the methods, software, and hardware used for construction risk management. They also looked at how various factors, such as strong leadership, competent teams, and clear lines of communication, affected the way construction companies in Nigeria handled risk management (Adeleke, et al., 2018).

However, no literature has assessed the impact of risk management practices on performance of construction projects by real estate developers in Federal Capital Territory (FCT), Abuja. Urban Shelter Limited and Brains and Hammer Real Estate Companies have played

significant roles in providing housing in FCT, Abuja Nigeria. This research will revolve around the activities of these two companies. Therefore, the main objective of this research is to evaluate the impact of risk management practices on cost performance of construction projects by real estate developers with a view to add value to existing literature and to serve as reference for future research. Other specific objectives are to:

(i)   examine the impact of risk identification on cost performance of construction projects by real estate developers in FCT, Abuja.

(ii)   evaluate the impact of risk assessment on cost performance of construction projects by real estate developers in FCT, Abuja.

(iii)   assess the impact of risk mitigation on cost performance of construction projects by real estate developers in FCT, Abuja.

(iv)   investigate the impact of risk monitoring on cost performance of construction projects by real estate developers in FCT, Abuja.

Based on the objectives of the study, the following null hypotheses were raised:

H_{O1}: Risk identification has no significant impact on cost performance of construction projects by real estate developers.

H_{O2}: Risk assessment has no significant impact on cost performance of construction projects by real estate developers.

H_{O3}: Risk mitigation has no significant impact on cost performance of construction projects by real estate developers.

H_{O4}: Risk monitoring has no significant impact on cost performance of construction projects by real estate developers.

The remining part of the paper includes the literature review which captures conceptual issues, theoretical frameworks, and empirical review. Section three highlighted the methodological notes while section four present data analysis and discussion of findings. Finally, section five presents the conclusions.

LITERATURE REVIEW

Conceptual Issues

One can define risk management as the practise of systematically evaluating, detecting, and reacting to potential risks in a project. It consists of maximizing the chances and the impact of positive events while minimizing the probability and the impact of negative events, in other to meet the project objectives (Tipili & Ibrahim, 2015). Risk management can be thought of as a decision-making process, and it entails having a full understanding of a known risk and/or necessary actions to reduce the effect and chances of the event of such risks, in other to reduce its complications and increase the chances of success (Goh & Abdul-Rahman, 2013). There are four stages in the methods to managing risk in construction industry a) risk identification; b) risk assessment c) risk mitigation and d) risk monitoring (Pejman, 2012).

Risk identification: Risk identification can be defined as the process of analytically and constantly identifying, assessing and categorizing the initial importance of the risks related to construction projects (Al-Bahar & Crandall, 1990) and the interrelationships that exists among these risks (Liu, Zhao, & Yan, 2016). The idea of risk identification seems to be very popular and practiced (Hassanein & Afify, 2007). It is of substantial value as the process of response management and risk analysis may only be implemented on recognized potential risks (Wang, Dulaimi, & Aguria, 2004). It could have effects on project development and its success (Crnković & Vukomanović, 2016). With the aid of diverse tools and methods, risk identification process can be achieved (Rostami, 2016).

Risk analysis: Risk analysis is the most tasking procedure in managing risk. This is due to the fact that it involves assessing the chances of the event of a risk and their outcomes on a project's objectives (Thomas 2006). Its main aim is to evaluate risk by separating the unnecessary events, the chances of the unwanted event happening, and the size of such events (Karimi, Mousavi, Mousavi, & Hosseini, 2011). Risk identification and management are two sides of the same coin. It takes both qualitative and quantitative uncertainty into account when assessing risk.

Risk Mitigating/ Response- Once the project risks have been identified and assessed, it is necessary to implement appropriate risk mitigation strategies. Most of these preventative measures are dependent on the kind of risk and the possible outcomes of that risk. The primary goal is to raise the degree of risk management, decrease the negative effect of the risk, and eliminate as much of the potential damage as feasible. When greater control is exerted on a single risk mitigation measure, the effectiveness of the measure increases (Wang, Dulaimi, & Aguria, 2004). There are six unique ways to deal with risk: retaining, reducing, controlling, sharing, transferring, and avoiding. The choice of response must correspond to the importance of the risk; it should be financially cost effective and realistic with regard to the project timing; it also must be accepted by other parties involved (Goh & Abdul-Rahman, 2013).

Monitoring and Reviewing Risks: Finally, monitoring and reviewing risks is to implement a risk response plan, to keep tracking of the risks identified, to monitor residual risks, to identify new risks, and to evaluates the effectiveness of the project risk management process. (Pejman, 2012). Walke, Topka, & Matekar, (2011) recognized that risk monitoring and control is a process where effectiveness of the responses is monitored and controlled at the same time, identification and analysis of newly arising risks is done at this stage.
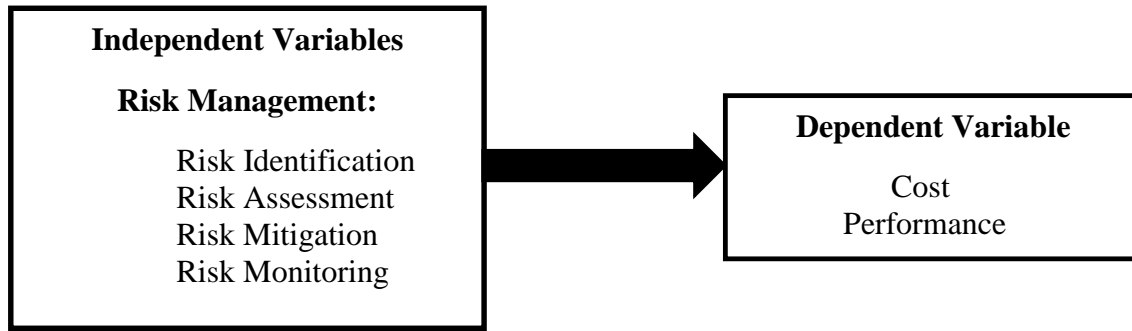
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┌──────────────────────────────┐
│   Independent Variables      │
│                              │                    ┌──────────────────────┐
│   Risk Management:           │───────────►        │  Dependent Variable  │
│                              │                    │                      │
│      Risk Identification     │                    │       Cost           │
│      Risk Assessment         │                    │    Performance       │
│      Risk Mitigation         │                    └──────────────────────┘
│      Risk Monitoring         │
└──────────────────────────────┘
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Figure: Conceptual Framework
Source: Authors' Compilation

Cost Performance-Cost is among the major consideration throughout the project management life cycle and can be regarded as one of the most important parameters of a project and the driving force of project success (Azhar, Rizwan, Farooqui & Ahmed, 2008). Gido and Clements (2003) mentioned that cost performance is an effective technique in project management effort expended and it is widely accepted in the literature and industry. One way to measure how well various initiatives have done financially is via Earned Value Analysis (EVA). There are a number of interconnected procedures that pertain to costs in building projects, including cost management, cost estimates, and budgeting. Besides that, (Gido J & Clements 2003) stated that there are four cost-related measures in cost performance analysis which are used to analyse cost performance of a project.

Theoretical Framework

This research is anchored on the Theory of Constraints as proposed by Goldratt & Cox (1984). The theory states that every project has both internal and external limitations that make it harder or easier to complete the work. The theory therefore emphasizes that for the performance of a project to be optimized within the distinct constraints identified and their effect (Omeno & Sang, 2018). Theoretically, there are five ways to get the performance you want while staying inside the limits. These are: identifying the constraints, developing measures to exploit the constraints identified, prioritizing the measures developed to exploit the constraints, implementing the measures to obtain maximum productivity from the constraint, and monitoring and evaluating the management of the constraint for continuous improvements (Gitahi & Tumuti, 2019).

This research primarily used this theory to evaluate the internal and external management of resource and budget control risks in building projects. In order to evaluate the effect on project performance, the theory was useful for questioning the project risk governance procedure.

Empirical Review

Rwingo & James (2021) investigated Makueni County, Kenya, construction project risk governance and performance. This research examined risk governance and building project performance in Makueni County, Kenya. The research examined how resource, budget control, and lawsuit risk management affect building project performance in Makueni County, Kenya. Makueni County building projects have strong resource risk management. Financial constraints for project activities are a big challenge. Litigation and budget control risk management were strong. Resource, budget control, and lawsuit risk management improved Makueni County building project performance. The research found that budget control risk management greatly affects Makueni County building project performance, whereas resource and lawsuit risk management do not.

In their study, Abroon Qazi, Daghfous, and Sajid (2012) investigated the relationship between risk attitude and the performance, opportunity, and risk of building projects. In this article, we looked at the relationship between risk attitude and the many types of project uncertainties. The results show that risk attitude affects project uncertainty and performance differently across several dimensions. The authors believe that risk mindset, project uncertainty, and predicted performance evaluations have never been examined while encompassing several project uncertainty and performance aspects.

Aladdin (2020) explored how risk management affects organizational performance. A Jordanian insurance company field study was highlighted. The study found that risk mitigation had the greatest impact on organizational performance, followed by risk identification, assessment, and control, and risk management implementation had the least. All risk management practises improve organisational performance. The findings suggested insurance firms use cost-effective methods to detect and manage risks quickly.

Also, Amer (2020) explored building project risk management. The research examined construction projects, risk, and risk management. He suggests that a certified committee investigate building enterprises' basis and requirements to determine their efficiency. Use of qualitative analysis methods (personal interview, checklist analysis, questionnaire, brainstorming, Delphi) to diagnose, analyse, and categorize hazards in risk management. Quantitative description analysis [monetary, other value] from risks using interviews, sensitivity analysis, Monte Carlo simulation, events tree, and fault tree events. Provide risk management training, integrate it into higher education, and enrol construction project teams in risk management courses by major. Examine contracts and contract expressions to determine which parties carry construction project risks and shift them to the party best competent to manage them.

Vukosi (2019) examined risk management in South African building projects. The study examined risk management in construction projects. Furthermore, it studied how risk management impacts project success and performance. This study found that risk events

affect construction project time/schedule, quality, and budget/cost. Additionally, building project teams ignored danger occurrences. Thus, inadequate risk management will lead to building project failures. Key construction project performance metrics and risk management are linked. She believed that inadequate risk management in building projects leads to poor performance and failure. Her study shows that risk identification, assessment, and monitoring throughout the building project life cycle are crucial to success. We found that building project teams don't grasp risk event opportunities and unpredictability. This study found that risk management plans improved project performance and success. This study found that construction risk management is ineffective. Poor risk management hurts project performance.

Gharaibeh (2019) investigated Jordanian construction project risk management problems and rewards. This research sought to determine how much risk management is used in Jordanian building projects and identify potential obstacles. The report also emphasized the advantages of risk management and how construction organizations may enhance their process by following best practices. Risk management in Jordanian construction projects has various advantages, the most notable of which is improving stakeholder communication, which boosts project success. Early project development delays and cost overruns may be avoided via risk management. Proper risk management allows us to create a mitigation strategy to prevent or reduce project impacts. Due to project complexity and technical obstacles that might cause schedule delays, cost overruns, and quality and performance concerns, risk management is essential in construction. Risk management helps identify these issues early in the project and create a mitigation strategy to save cost and time.

Mwangi and Ngugi (2018) analysed Nairobi city county government construction project risk management and performance. The research examined how design, legal, construction, and contract risk management methods affect project performance. The Nairobi City County government's most common risk management strategies on building projects were costing, designing, and land and construction disputes, according to the report. Legal, construction, and contract risk management inversely affected construction project performance, but design risk management positively affected it.

Adeleke et al. (2018) examined how effective communication, team competency, and active leadership affect Nigerian construction risk management. They noted that focusing risk management among construction organizations reduces project risk and makes construction more lucrative, on schedule, and within budget. The research studied how internal organization elements affect Nigerian construction businesses' risk management. The research found valid and acceptable metrics for the four internal organization factors— effective communication, active leadership, team competence, and construction risk management abilities. Based on these results, efficient and effective risk management requires correct systematic methodology and, significantly, project manager experience,

expertise, and communication skills. This information will allow risk management in the Nigerian construction sector, improving project performance.

Ogunade, Akuete, Joshua, Bamidele and Amusan (2017) said project management could fix building projects in Ogun state, Nigeria. Their results reveal that good project management participation ensures project requirements are met throughout preliminary and construction phases. For greater project efficiency and quality, they found that project managers are needed.

Bahamid and Doh (2017) examined developing country building risk management. The research sought to identify common risk detection and analysis methods. It also sought to clarify risk source classifications in developing country literature and offer future research areas on building project hazards. The analysis found that risk management is seldom used due to a lack of knowledge and awareness. Project objectives are also affected by the tiny risk management track record. Categorizing hazards helps management comprehend their nature. All examined strategies are useful for decision-making, and all propose evaluating alternative risks. Some approaches estimate risk better than others, but they all need medium to high expertise, time, and thorough data. Construction risk assessment relies heavily on practical experience and expert judgment. Unfortunately, theory and practice differ greatly. However, the current corpus of knowledge provides a solid foundation for exploring new ways to connect theory and practice. Risk categories, interdependencies, the complicated project environment, and management team improvement proposal experience cannot be captured. Risk management is well-covered in project management literature, but few studies have examined risk assessment and practitioners' views on tools. The research found that the literature lacks a comprehensive risk assessment approach that addresses multiple risk implications on project goals. A methodology like this is essential for accurate risk assessments, the first step to determining project risk. Current risk management approaches in developing nations' construction sectors tend to minimize or transfer these risks, making risk management in many industries reactive and informal.

Olatunji, Oke, Aghimien, & Seidu (2016) explored how construction project performance affects Nigerian economic growth. The research examined the impact of construction performance on Nigeria's economy to improve project performance and economic growth. The research found that project design cost, rework costs, resource shortages, average payment delays, equipment and raw material quality, and lack of skilled construction workers are the main variables impacting project performance. The study also found that construction project performance affects economic growth most in technology, infrastructure, employment, and government spending.

Study by Onengiyeofori (2016) seek to know how risk management may lead building construction projects in underdeveloped nations like Nigeria. The research developed a complete risk management model to enhance the time, cost, and quality of building construction projects in developing nations and meet customer expectations. The results

demonstrated how the 27 risk variables affected cost, time, and quality overruns. The main hazards impacting building construction costs were material price fluctuations, health and safety difficulties, bribery and corruption, material waste, inadequate site management and monitoring, and schedule overruns. Supply of substandard supplies, working under severe circumstances, incorrect building procedures, lack of protective equipment, inadequate time allocation, poor stakeholder communication, and unsuitable leadership style directly affected quality. Quality issues, low productivity, incorrect construction techniques, poor communication, delayed contract payments, and inadequate site management and oversight led building construction project delays. He found that applying a risk management method would improve building construction project completion and profitability.

Literature Gap

This empirical review has shown that different studies has been conducted on effect or impact of risk management on performance of construction projects generally, but there are few specific studies on impact of risk management practices on performance of construction projects by real estate developers. Most research used ANOVA and qualitative method for analysis, this research presents multiple regression analysis to measure the impact of the identified risk management concepts on cost performance.

METHODOLOGY

An experimental quantitative research design (Pangarso & Setyorini 2023) and a survey approach were utilised in this research. The paper utilised the staff of Urban Shelter Limited and Brains and Hammer Real Estate Companies with a combined population of 256. Thus, a purposive sampling technique was used which ensure adapting the entire population. Primary data is gathered and generated for the purpose of this study. All members of the sample population were given a questionnaire to fill out for the research. A structured closes ended questionnaire was used. The research adopted a five-point Likert questionnaire. To ensure high return, the questionnaire was administered through survey planet. This research follows the model of Mwangi & Ngugi (2018) which examined the impact of risk management practices on the performance of construction projects. The following algebraic expression of the analytical model will be applied:

$$Perf = f(RI, RA, RT, RM) \tag{1}$$

Where Perf represents organisational performance, RI is Risk identification, RA stands for Risk assessment, RT represents Risk mitigation and RM means Risk monitoring. Augmenting the equation and presenting it in econometric form would have:

$$Pcost = \theta_1 + \beta_1 RI_i + \beta_2 RA_i + \beta_3 RT_i + \beta_4 RM_i + \varepsilon_i \tag{2}$$

PCost represents Cost performance; θ is the constant, β_1 to β_4 are parameters to be estimated while ε = Error term which assumed to be normally distributed.

RESULTS AND DISCUSSIONS

The questionnaire used for this research was distributed online through survey planet which makes it possible for high percentage return. There was a total of 256 questionnaires while 242 questionnaires were returned. This research captured three demographic elements: Years of experience, profession and academic qualifications. The essence is to demonstrate the categories of respondents in the questionnaire to establish its validity. Looking at the item in Figure 1 which demonstrate the years of experience of the respondents. This necessary because it shows the percentage of people who have passed through the project implementation and risk management. From the analysis as posted in Figure 1, it could be deduced that the greater number of people captured in the questionnaire has a good number of experiences. First, about 42 per cent of the respondent has been in business for over around 0-5 years, to form most of the respondents while the second-highest category with 18.14 per cent of the respondents have been in business for about 16 to 20 years. Also, respondents with experience of about 11 to 15 years are the third-highest category of the respondent of this research while the 4th category has about 6 to 10 years of experience. The 5th is those with 21 to 25 years of experience and the 6th are those with 26 to 30 years of experience. The last category is mostly those at the management level.
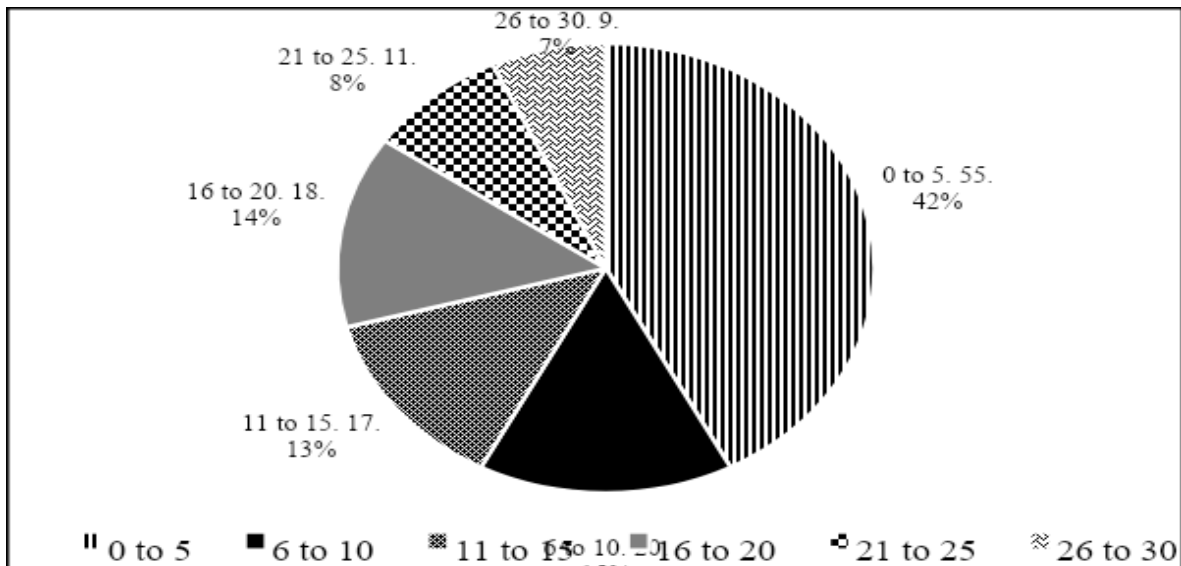

Figure 1: Distribution of the Years of Experience of the Respondents

This research also considered the profession of employees in the organisations that has its questionnaire represented. The organisation constitutes high number of professionals who undertake their projects. It was understood that most of the manual works within a project are mostly outsourced. Thus, those captured in the questionnaire are within the category of permanent staff. There are 15 Engineers, 16 Architects, 6 Builders, 12 Quantity Surveyors,

25 Estate Surveyors and 56 others in the system as presented in Figure 2. The others include those in Administration and other staff that did not fall within the ones earlier mentioned.

Within the organisation captured in this research, there are about 24.18 per cent of them having only WASSCE certificate. This constitute the lowest cadre of workers in the organisation who are permanent in the organisation for necessary manual jobs. This is reported in Figure 3. the figure also shows that there are about 22 per cent of the permanent staff who has only OND/NCE certificates. On the other hand, 28 per cent of the staff possess HND/ BSC certificate while 36 per cent has post-graduate certificates.
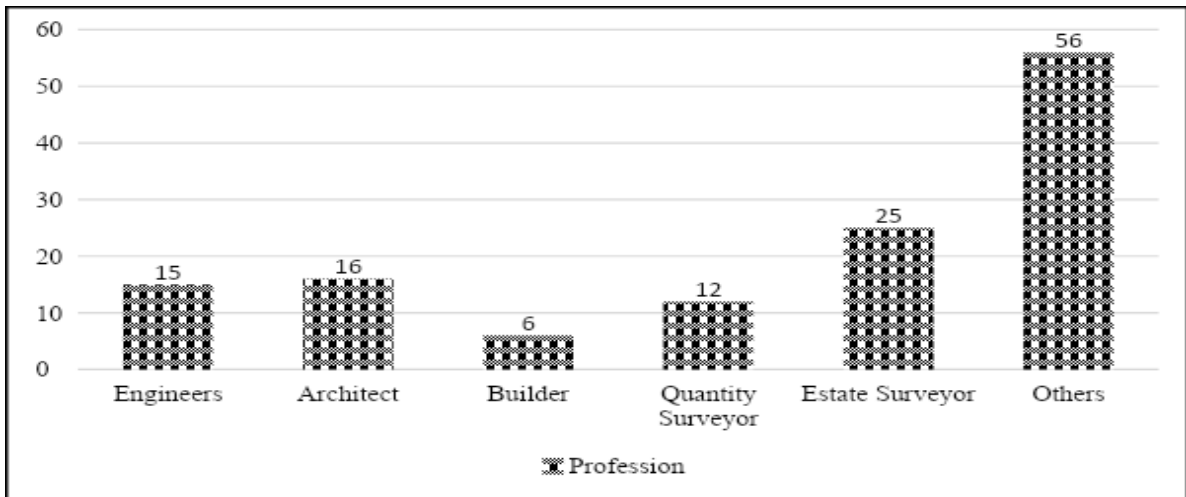

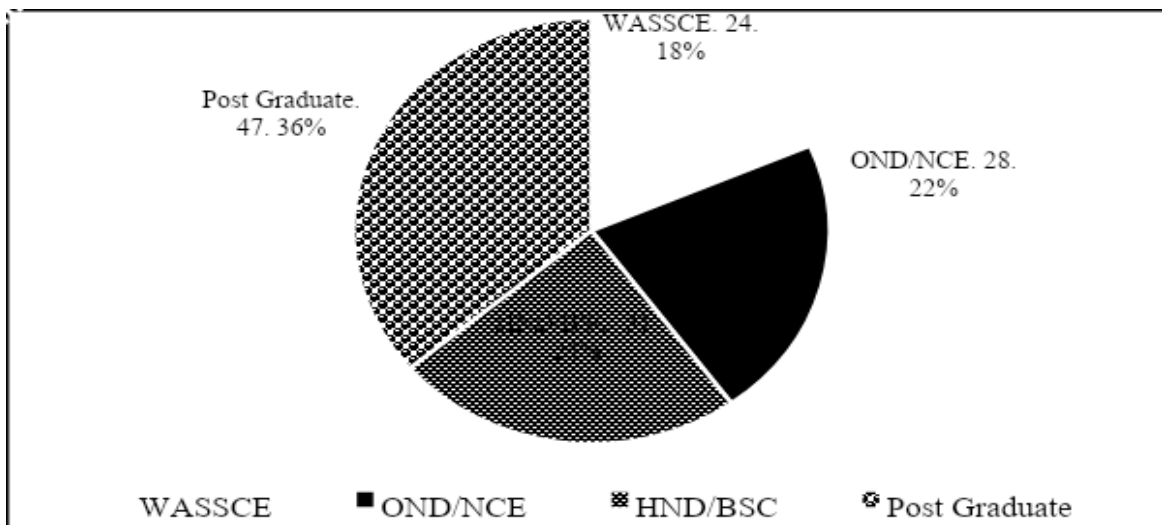Figure 2: Distribution of the Profession of the Respondents

Figure 3: Distribution of the Academic Qualification

Before entering the data into the computer, it was checked for any mistakes, whether they were made by omission or commission. Data analysis was conducted using descriptive statistics, including mean and standard deviation. To get the results for OLS regression from the previously built model, the data were processed using SPSS version 26. The major data type precludes the need for post-diagnostic tests such as a unit root test, however meeting the OLS fundamental assumption is critical. Therefore, to get the values for each variable, this study will average the questionnaire. The questionnaire used for this research was distributed online through survey planet which makes it possible for all the questionnaire to be returned. There is a total of 242 staff as established in chapter three and all returned their questionnaires.

Table 2 Inter-Item Correlation Matrix

Variables	RI	RA	RT	RM	PCost
RI	1				
RA	0.446	1			
RT	0.334	0.693	1		
RM	0.385	0.529	0.588	1	
Pcost	0.0389	0.0466	-0.0584	0.362	1

Source: Author's Computation

Pre-Estimation Tests and Correlation

This study reports the results of a pre-estimation test using descriptive and reliability statistics as well as correlation coefficients. The association is shown in Table 2. All of the variables may be estimated concurrently in the model since they are not substantially connected with each other. In other words, Azu, Jelivov, Aras, and Isik (2020) and Azu and Nwauko (2021), noted that when independent variables are correlated, this is a likelihood of multicollinearity issues in the model. The correlation matrix in Table 2 does not include this.

Overall, the research used descriptive statistics and a reliability test to assess the questionnaire's response rate. Tabulated in Table 3 are the findings from the research's important variable's summary statistics (Panel A) and reliability test (Panel B). The mean value of the dependent variable, Project Implementation, is 4.11 in panel A of Table 3, with a standard deviation of around 0.34 and a variance of about 0.12. With a mean of 4.00 and a standard deviation of 0.66, the independent variable risk assessment provides a variance of

0.44, while risk identification has a mean of 4.14 and a standard deviation of 0.62, yielding a variance of around 0.38. Risk response planning and risk monitoring and control make up the third and fourth independent variables respectively; their respective means and standard deviations are 4.02 and 0.65, respectively, yielding a variance of around 0.42 and 0,27 respectively.

Table 3 Descriptive and Reliability Statistics

Panel A: Descriptive Statistics

Variables	Mean	Std. Deviation	N
Cost Performance	4.11398600340	0.3439321944	242
Risk Identification	4.14134775850	0.6234345665	242
Risk Assessment	4.00354230104	0.6594534082	242
Risk Mitigation	4.02039853016	0.6489538482	242
Risk Monitoring and Control	4.21328318565	0.5156067855	242

Panel B: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items	N
0.891	0.874	5	242

Source: Author's Computation

The Cronbach's Alpha for the five variables is 0.861 which is above the minimum requirement. Therefore, the questionnaire passed the reliability test for both the pilot test in Chapter three and the entire questionnaire and reported herein. This is reported in Panel B of Table 3.

The estimated regression will be used to test the hypothesis to ascertain the impact of risk management on project implementation in the federal capital territory (FCT) Abuja, with emphasis on Urban Shelter Limited and Brains and Hammer Real Estate Company, Abuja. These independent factors may have an 84.7% impact on the dependent, according to the R-Square. The statistical regression analysis's residuals do not show any signs of autocorrelation, according to the Durbin-Watson (DW) statistic test. A score of 2.105, which is greater than 2.0, indicates that there is no autocorrelation seen in the sample.

Publication of the European Centre for Research Training and Development-UK

The first objective of this research is to establish the impact of risk identification on cost performance in the selected estate developers in Abuja. It was observed that risk identification has a coefficient of 0. 287 and statistically significant at 5%. This implies that as risk identification increases by 1%, cost performance improves by 28.7@, all things being equal. Therefore, the first hypothesis (Ho$_1$): Risk identification has no significant impact on cost performance of construction projects by real estate developers is hereby rejected.

Table 4 Regression Analysis on Effect Impact of Risk Management on Project Implementation

Variables	Unstandardized Coefficients		Significance level
	φ	Std. Error	
Constant	1.634	0.217	0.000
Risk Identification	0.287	0.085	0.042
Risk Assessment	0.272	0.079	0.002
Risk Response Planning	0.264	0.064	0.031
Risk Monitoring & Control	0.446	0.028	0.000
R-Square	0.847	Durbin-Watson	2.109
Adjusted R-square	0.756		

Source: Author's Computation

On the other hand, the result also presented that risk assessment has a positive coefficient of 0.272 and statistically significant at 1%. This implies that as risk assessment increases by 1%, cost performance improves by 27.2%, all things being equal. Therefore, the second hypothesis (Ho$_2$): Risk assessment has no significant impact on cost performance of construction projects by real estate developers is hereby rejected.

Again, the research assessed the impact of risk response planning on cost performance and it was observed that the coefficient of is 0.264 and statistically significant at 5%. This means that as risk response planning increases by 1%, cost performance improves by 26.4%, all things being equal. Therefore, the third hypothesis (Ho$_3$): Risk mitigation has no significant impact on cost performance of construction projects by real estate developers. is hereby rejected. This result signifies that as risk response planning intensifies, project implementation intensifies too.

Finally, the research investigated the impact of Risk Monitoring and Control on cost performance of the select estate developer. It was reported that risk monitoring and control has a coefficient of 0.446 and statistically significant at 1%. This is to say that as risk monitoring and control increases by 1%, cost performance improves by 44.6%, all things being equal. Therefore, the third hypothesis (Ho3): Risk response planning does not influence project implementation in Brains and Hammers company, Abuja is hereby rejected. This result signifies that as risk response planning intensifies, project implementation intensifies too.

CONCLUSION AND RECOMMENDATION

There is an increasing need for more housing units in FCT, Abuja which insert more pressure to estate developer due to rising population in the city. While more housing development essential, risk management is even of greater importance. Thus, this research tends to ascertain the impact of risk management practices on performance of construction projects by real estate developers in Federal Capital Territory (FCT), Abuja with Urban Shelter Limited and Brains and Hammer Real Estate Companies selected for the experiment. Risk management was captured in four instances: risk identification, risk assessment, risk response planning and risk monitoring & control. Multiple regression was used for estimating the impact of these variables on cost performance of the selected organisations.

It was observed the impact of all the four variables are positive toward improving cost performance. In other words, risk identification, risk assessment, risk response planning and risk monitoring & control reduces cost by 26% to 45%, all things being equal. It was also noted that risk monitoring & control has the most influence of approximately 45% while risk response planning had the lowest influence of 26%, all things being equal. Therefore, there is need for improvement on how risks are being identified. it is recommended that one should sustain the tempo on risk assessment. Training and retraining in this aspect are needed. There is an indication that risk response planning inspires business project implementation, therefore sustaining the current level of risk response planning is paramount while embraced improvement is the way forward.

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