

# Innovations

## Impact of Risk Management on Project Implementation of Construction Companies in Nigeria

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**Abstract:** *The connection between risk management and organizational performance is fundamental to the growth of the construction industry. The essence of this study is to examine the impact of risk management practices on organizational performance of listed construction companies in Nigeria: The Julius Berger Perspective. This study made use of a quantitative survey research design. The population consists of 487 executive and non-executive staff, of which 400 was selected as sample for the study. The research adopted stratified sampling techniques due to the different categories of staff. Regression analysis was performed on the data that were collected using a five-point Likert scale structured questionnaire. Risk management practices was captured in four proxies namely, risk identification, risk assessment and analysis, risk mitigation, and risk monitoring and control. The results showed that risk identification has a positive impact on project success while risk assessment and analysis significantly influence project success by 0.322%. Risk mitigation was observed to have positive impact on project success by about 0.244% and is statistically significant at 1% level. It was further noted that risk monitoring and control has positive influence on project success and is also statistically significant at 1%. Findings from the study show that the effective management of the elements of risk management practices enhance productivity. The study recommends that organisations should give conscious and critical attention to risk monitoring and control and make frantic efforts to sustain it.*

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### Introduction

In recent years, there has been a growing emphasis on prioritizing risk management across all sectors of the economy, aimed at safeguarding organizations' pursuits of attaining their project objectives. The major objective of real estate developers

engaged in construction projects is to minimize threats and maximize opportunities to optimize profitability (Hubbard, 2009). Thus, to reduce, monitor, and control the likelihood or impact of unfavourable events, construction risk management entails the identification, assessment, and prioritization of risk as well as the efficient and well-coordinated allocation of resources (Hubbard, 2009). It's important to recognize that risks have the potential to inflict damaging consequences on construction projects (Mills, 2021).

As the global economy gradually reopens in the aftermath of the COVID-19 pandemic-induced lockdowns, the construction industry worldwide is swiftly transitioning towards digital off-site construction practices, and the Nigerian construction sector is poised to embrace this transformation (Igwe et al., 2020). According to economic analysts at GlobalData, the Nigerian construction industry is forecasted to experience a 3.9 percent growth by the conclusion of 2021, recovering from a 7.7 percent decline in 2020, primarily attributed to COVID-19 restrictions and a decreased demand for oil and gas (Igwe et al., 2020).

Like the importance of the oil and gas industries, the Nigerian construction industry has been crucial to the distribution of wealth within the nation's economy since the 1970s due to its significant multiplier effect. To ensure that foreign exchange profits and income production from the oil and gas industry are sufficient, the building industry is essential. The discovery of oil and gas resources opened doors for foreign multinational participation, such as Mobil, Agip, and Texaco/Chevron, in both on- and off-shore exploration endeavours. With a daily production exceeding two million barrels, the government's responsibility includes providing essential building and infrastructure services through Public Private Partnership initiatives.

The construction market is anticipated to expand significantly, reaching an estimated value of \$48.2 million by 2025, driven by Infra-Co, a \$2.7 billion fund supported by the Central Bank, the Nigerian Sovereign Investment Authority, and the Africa Finance Corporation, dedicated to overseeing infrastructure investments. Consequently, the significance of Nigeria's construction industry cannot be overstated (Igwe et al., 2020).

The role of the construction industry is so important that its risks need to be constantly reviewed. "No construction project is without risk," writes Latham (1994). Risk can be controlled, mitigated, shared, traded, or accepted; cannot be ignored. As the project progresses from start to finish, risks and uncertainties can lead to losses such as increased costs, delays, and poor quality. Chapman and Ward (2002) define risk as the meaning of uncertainty that can be positive or negative.

The project management document describes a widely recognized risk management process (Klemetti, 2006). The success or failure of a construction project depends on risk management, it is not surprising that construction contracts are often seen as a high-risk business, and international researchers have focused on risk management in the construction industry (Abazid& Harb, 2018; Ztas&Kmen, 2003; Odeyinka, 1999). For this reason, construction companies are constantly looking for ways to balance risks and opportunities (Thevendran et al., 1998). By choosing appropriate risk mitigation strategies, the uncertainty of the occurrence of the risk and the probability of its occurrence or impact will be reduced.

Project Risk Management holds a position of paramount importance within the spectrum of project commissioning, as recognized by the Project Management Institute (PMI) in 2004. This underscores the profound connection between risk management and the success of construction projects. In Nigeria and other developing nations, issues such as project delays, abandonment, cost overruns, scope expansion, and compromised construction quality are prevalent due to a failure to acknowledge or address this vital relationship.

Within the construction industry, 'risk' is defined as a collection of activities that can exert adverse influences on project objectives, including time, cost, scope, and quality. In construction projects, some risks are foreseeable and manageable, while others emerge unexpectedly. The construction industry's distinctive characteristics, encompassing extended timeframes, intricate processes, an unpredictable environment, significant financial commitments, and dynamic organizational structures, render it more susceptible to risk-prone occurrences compared to other sectors (Akintoye & MacLeod, 1997; Smith, 2023).

Regrettably, a significant number of construction firms exhibit a lax approach towards risk-related matters, leading to the failure of numerous projects. These failures manifest as an inability to adhere to schedules, budgets, and occasionally, even scope objectives. Consequently, clients, contractors, and the public grapple with a host of challenges. Hence, the implementation of operative risk management methods to navigate the diverse hazardsrelatedto construction activities has emerged as an imperative for the successful completion of projects. Risks in construction projects encompass technical, managerial, financial, sociopolitical, and natural disaster-related aspects. Critical ramifications of these risks in the domain of project management encompass non-compliance with operational requirements, substandard quality, and project completion that exceeds estimated timeframes and budgets.

This research aims to identify risk management problems in construction projects that can obstruct the achievement of defined project objectives such as time, cost, quality, and scope to ensure project accomplishment. An effective risk management methodology with the use of digital algorithms like Artificial intelligent can assist in determining what types of risks are present and how to manage these risks throughout the project's various phases. Chitkara (2017) defines project risk management as "the art and science of managing risks caused by unforeseen changes (uncertainties) that may necessitate deviations from the planned approach and thus affect the achievement of the project's objectives". To use risk management strategies and procedures, however, and lessen the amount of construction projects in Nigeria that are shelved due to risk management problems like scope creep, it is imperative to understand the risks associated with construction projects in Nigeria.

Project risk management problems in Nigeria's construction sector include scope creep, safety concerns, procurement options, cost and schedule overruns, and poor-quality work (Nguyen and Chilesi, 2018). Various studies consistently establish a close link between the adoption of risk assessment and management practices and project performance (Nguyen and Chilesi, 2018). However, as noted by Dada et al. (2018), many contractors in evolving countries, including Nigeria, lack the knowledge, skill and experience required to effectually handle risk-related scenarios, resulting in project failures.

In comparison with more developed regions, such as the global North, Nigerian risk management practices remain in their infancy (Odunsami et al., 2019). As a result, clients and contractors frequently have a low awareness of the need of risk management and are generally risk-averse (Winch, 2017). A decision is considered "risky" when it is presented as a spectrum of possible outcomes with known probability associated with each outcome (Smith et al., 2016). Conversely, 'uncertainty' arises when there are multiple potential outcomes for a course of action, but the possibility of each outcome remains unknown (Smith et al., 2016). Therefore, risk management serves as a valuable tool for effectively managing anticipated events with outcomes that can either benefit or adversely affect the decision maker. The principal aim of risk management is to mitigate and minimize risks (Shofoluwe and Bogale, 2014)

Undoubtedly, lessons learned from risk management in developing countries can help Nigeria's risk management. However, the unique economic, cultural, and political environment of the Nigerian construction industry requires a construction-oriented approach to risk management in Nigeria.

For example, the state of Lagos recently increased its approved rates by more than 200%. In 2021, fluctuations in the exchange rate, increased labour costs, changes in the supply chain, changes in market demand and other factors will increase the supply of raw materials, making it difficult to obtain permission and causing the design to be incomplete. before the project starts. These risks cannot be disregarded; instead, they must be controlled, reduced, communicated, adjusted, or accepted (Latham, 1994). In time and cost analysis, the emphasis has always been on quantitative risk analysis based on probability and probability estimates. However, the investigation of other approaches has been prompted by unhappiness with this approach's insufficiency in tackling risk assessment difficulties. It is advantageous to use risk assessment and modelling as a tool to help numerous team members communicate, coordinate, and plan for risk response (Tar and Carr, 1999).

Construction risk communication, on the other hand, is often poor, inadequate, and erratic throughout the product development and life cycle. While risk management is successful, it is often done on an ad hoc, informal basis, depending on the skills, knowledge, and risk factors of the various stakeholders. It is not difficult to use different methods and terms due to the absence of risk management and the use of many people.

There are specific plans for spare equipment. But all projects differ; the construction sector is possibly more risky than other sectors (Sanvido et al., 1992). According to Ehsan et al. (2010) state that the business world is very risky, and the workplace is complex and dynamic, which leads to uncertainty and high risk. Many technological, cultural, and economic risks affect the economy. Deviprasad (2017) said that this risk is often not adequately addressed and therefore the work does not work.

The presence of these uncertainties significantly contributes to project desertion, delay and cost overruns, and subpar work quality in construction projects. Omotosho (2011) presents a startling statistic, reporting that an estimated 11,886 publicly sponsored projects in Nigeria have been abandoned over the past four decades. The root causes of these abandoned projects, as elucidated by Omotosho (2011), encompass corruption, insufficient funding, and, most critically, a lack of comprehension regarding risk management methods and practices within construction projects. According to Dada et al. (2003), the prevalence of project abandonment, cost and schedule overruns, and scope expansion will persistently increase until risk management practices are unequivocally acknowledged as an indispensable element of project success and are then implemented with diligence. Analysing the influence of risk is paramount in achieving more precise predictions,

maintaining control over project schedules, and ensuring the successful completion of projects.

Pritchard (2001) posits that within the realm of construction projects, nearly every decision, even the most routine ones, inherently carries an element of risk. The journey from project conception to completion and eventual utilization is a protracted process entailing labour-intensive design and production phases (Ahmed & Azhar, 2004). As will be extensively discussed, it has been observed that construction risks in Nigeria are not subjected to thorough investigation, and even when they undergo assessment with corresponding remedial measures, effective communication throughout the supply chain remains deficient. Consequently, project stakeholders are unable to implement timely and efficient early warning measures and mitigation strategies to effectively address issues arising from decisions made without their awareness. Clearly, the extent to which a project's inherent risks can be measured, comprehended, reported, communicated, and appropriately allocated plays a pivotal role in determining the project's success (Pritchard, 2001; Ahmed & Azhar, 2004).

The dearth of theoretically grounded research in risk management, particularly concerning the evaluation and assessment of risk management practices and systems in unique settings like Nigeria, has served as a motivating factor for this study. This research endeavours to examine the prevailing risk management culture among customers, main contractors, and subcontractors in Nigeria, drawing upon established frameworks for risk identification, monitoring, response, and classification (Flanagan and Norman, 1993; Chapman, 2001; Perry and Hayes, 1985).

Consequently, the practice of risk analysis and management remains a pivotal facet of project management in structural projects, as it endeavours to effectively navigate uncertainties and anticipated events while striving for project success (Seku, Aigbavboa, & Thwala, 2016).

It's important to note that every endeavour is oriented towards achieving success, and construction projects are no exception to this rule (Oke, Ogungbile, Oyewobi, & Tengan, 2016). Project performance evaluation encompasses a myriad of performance indicators, which span various dimensions including time, cost, quality, client satisfaction, client modifications, business outcomes, and health and safety (Cheung, Henry, Seun, & Cheung, 2004).

The real estate sector stands as a potent contributor to the potential growth of the Nigerian economy, accounting for approximately 6% of the GDP (Gross Domestic Product) (NBS, 2022). Remarkably, the Federal Capital Territory, Abuja, boasts a

higher concentration of establishments per capita and holds the highest real estate value in Nigeria (NBS, 2015). Thus, an assessment of the impact of risk management practices employed by real estate developers will furnish invaluable insights and support for decision-makers within the sector. This evaluation will expand the array of opportunities, identify, and effectively manage risks across the entire spectrum, thereby diminishing performance variability and enhancing resource allocation. This, in turn, will empower real estate developers to attain project success.

### **Statement of Problem**

Risk is involved in every stage of construction (Makui et al., 2009). Construction risk refers to risk that the construction industry will suffer financial loss due to unforeseen or perceived insufficient uncertainty (Joshua and Jagboro, 2017). Physical risk, environmental risk, logistical risk, financial risk, legal risk, and political risk are the factors to be considered at the beginning of the design project (Perry and Hayes, 2019). As the complexity and workload of construction projects increase and new procurement procedures are introduced, many contractors are forced to rethink their approach to risk management in their businesses and organizations. This is due to the current distrust, division, and conflict among the population of different ethnic groups in Nigeria, as well as the economic and political crisis.

Also, volatile oil prices, decline in foreign direct investment and relocation of multinational manufacturing companies out of Nigeria, job changes, overpayment of contracts, financial failure of owners (customers), business disputes, availability of materials and equipment, business. Manufacturing, defective materials, Product quality, safety, poor workmanship, poor location, contractor financial failure, confusion and replacement are all risks faced by contractors (Zou et al., 2017).

In summary, risk management forms the basis of important decisions in project development; and the importance of understanding how the construction contractor will meet stakeholders' program, cost, quality, and safety objectives on an ongoing and iterative basis. Due to the population growth of the Federation Capital Region Abuja. Neighbouring states such as Kaduna, Niger and Kogi are insecure due to urban migration. Housing shortage is a constant phenomenon. Population growth has increased the demand for housing, which has made it difficult for real estate agents to fill the supply gap. This growth puts real estate developers trying to meet growing demand at great risk. These risks include social, technological, economic, environmental, political, economic, organizational, information technology and legal risks. Risk management will enable builders to achieve their goals of cost, time, quality, and customer satisfaction.

Basically, the purpose of risk management is to identify potential problems before they occur and develop a strategy to solve them. Risk management is also an integrated process that involves the financial use of resources to reduce, monitor and control the likelihood or impact of adverse events, or increase the ability to be productive (Hubbard, 20109).

There are several studies by Awodele (2022) on risk management in the Nigerian construction sector; Isimen (2021); Pidomson (2016) and Onengiyeofori (2019).Adeleke et al. (2018) place a greater emphasis on the leadership of construction risk management practices in Nigerian construction organizations, as well as the development of risk management procedures, tools, and strategies. They also examine the impact of numerous elements and effective communication, team skills, and abilities. Furthermore, there is little research on how risk management affects real estate developers in Abuja Federal Capital's infrastructure development performance; This study will aim to determine the impact of operational risk management on construction costs. Architects aiming to provide insight into current data. Data adds value and provides reference for future research.

### **Objectives of the Study**

The core objective of the study is to assess the impact of risk management on project implementation in construction companies in Nigeria by real estate developers with FCT Abuja as a reference point. Other specific objectives are to:

- (i) Investigate how risk identification influences the implementation of construction projects in FCT, Abuja.
- (ii) Examine the influence of risk assessment on project implementation of construction projects in FCT, Abuja.
- (iii) Evaluate the effect of risk mitigation on project implementation of construction projects in FCT, Abuja.
- (iv) Determine the influence of risk monitoring on project implementation of construction projects in FCT, Abuja.

### **Research Hypothesis**

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

H<sub>O1</sub>: Risk identification has no significant impact on project implementation of construction projects by real estate developers.

H<sub>O2</sub>: Risk assessment has no significant impact on project implementation of construction projects by real estate developers.

H<sub>O3</sub>: Risk mitigation has no significant impact on project implementation of construction projects by real estate developers.



H<sub>04</sub>: Risk monitoring has no significant impact on project implementation of construction projects by real estate developers.

### **Literature Review**

An in-depth conceptual analysis is required to show the relationship between Risk Management Practices and project implementation. Risk management practices will be represented by risk identification, risk assessment/analysis, risk implementation, and risk monitoring and control as proxies while organizational performance would represent project implementation.

### **Risk Management Practices**

The practice of risk management is the process of identifying the main risks and obtaining a consistent measurement and understanding of risk to select the risks that reduce or increase the risk to the business (D'Arcy, 2001). Project Risk Management ensures that projects are completed on time and within budget by eliminating risks against the risk of failure. It is well known that identifying and managing risks plays a crucial role in improving performance and achieving delivery. Above all, the organization's factors (good communication, team competence, and leadership) and external factors (culture, organizational culture, technology, and business) are recognized to impact the quality of construction. In the realm of risk management, there exist four distinct methods:

### **Risk Identification**

The initial step in risk management involves identifying the risks that a business faces within its operational environment. These risks encompass various types, including legal risk, environmental risk, business risk, and management risk, among others. In manual environments, these risks are recorded manually. However, in organizations employing risk management systems, this information is directly integrated into the system. This approach offers the advantage of making risks visible to all organization participants with system access. Instead of recording this critical information in reports necessitating email requests, anyone interested in viewing the identified risks can access them conveniently within the risk management system (D'Arcy, 2001).

### **Risk Assessment and Analysis**

Once a risk is identified, it necessitates a thorough analysis and consideration within the organizational context. Understanding the interconnectedness between risk and various organizational factors is vital. Assessing how the risk influences the business's operations is critical to determine its severity and significance. To effectively manage risks, they should be systematically catalogued and prioritized.

Most risk management solutions categorize risks based on their level of severity. Some risks are designated as low risk, while others are classified as high-risk, with the potential for substantial damage. This risk grading process holds immense importance as it enhances organizations' overall comprehension of the risks they encounter. While low-risk scenarios may not demand immediate senior management intervention, even a single high-risk situation has the potential to deliver an immediate and profound impact.

There are two types of risk assessment: qualitative risk assessment and quantitative risk assessment.

### **Qualitative Risk Assessment**

Risk Assessment takes on a primarily qualitative nature; while measures of risk can be derived, most risks resist quantification. Take, for instance, the concern of climate change risk, which many companies grapple with—it can't be precisely calculated but can be approached in diverse ways. Hence, there's a need for an effective risk assessment methodology that maintains both purpose and standardization across the entire company. Quantitative Risk Assessment is particularly well-suited for financial risk evaluation, given its inherently numerical nature. Financial risk assessments predominantly deal with quantifiable data, whether it's currency values, benchmarks, interest rates, or other pertinent financial indicators. Quantitative risk assessment lends itself to automation more readily than its qualitative counterpart and is generally perceived as a more objective approach.

In the quest to mitigate risks, the overarching goal is to eliminate or control them to the greatest extent possible. Achieving this necessitates collaboration with subject matter experts in the relevant field. In traditional manual settings, this entails reaching out to various stakeholders and coordinating meetings to discuss issues. However, such discussions can become fragmented across numerous phone calls, documents, and presentations. Risk management reports offer a streamlined alternative, allowing stakeholders to access information through the system. Discussions about risks and their solutions can transpire within the system, and top management can effortlessly monitor progress and solutions. This approach eliminates the need for everyone to constantly connect for updates, offering a more efficient communication channel.

Subsequently, not all risks can be fully eliminated; some persist. Examples include business risks and environmental risks, which invariably require ongoing attention. In manual systems, diligent individuals maintain these records. However, in a digital risk management environment, the system continuously monitors the organization's overall risk landscape. Any alterations or developments in risks are promptly

detected by all relevant parties. Moreover, computers excel at routine maintenance compared to manual processes. Furthermore, risk assessment ensures business continuity, safeguarding the organization's uninterrupted operations.

### **Organizational Project Performance**

Performance measurement, which entails comparing performance to essential project success parameters including time, cost, and quality, is how project performance is evaluated (Walker, 1997). The performance of construction projects has been the subject of numerous earlier studies (Samir & Shaban, 2008). The inadequate performance of the construction sector has been ascribed to the insufficiency of the selected procurement mechanism (Dissanayaka & Kumaraswamy, 1999). Three essential structures—the work accomplishment structure, feedback effects on productivity and work quality, and effects from upstream stages to downstream phases—were identified by Reichelt and Lyneis (1999) as underpinning the dynamics of project performance. Financial stability, work progress, quality standards, health and safety, resources, client and consultant relationships, management skills, claims and contractual disputes, subcontractor relationships, reputation, and subcontracting volume are among the primary performance criteria in construction projects (Thomas et al., 2002).

In terms of performance measurement, this study focuses on timely project completion. Construction time has gained increasing importance as a critical benchmark for assessing project performance and the efficiency of the project organization (Chan & Kumaraswamy, 2002). The accomplishment of successful construction project performance is contingent upon stakeholders fulfilling their individual and collective obligations. But to meet these demands and guarantee ongoing involvement, stakeholders need to recognize and address the three orientation criteria that are present at every stage of the project's lifecycle.

Institutionalizing construction project management methods is advised by Ogunade et al.'s (2017) study on the difficulties facing construction project management systems for sustainable construction in poor nations, notably in the context of Nigeria. It highlights the crucial role that time management plays in project execution and highlights the necessity of requiring construction personnel to complete training and skill-development programs to ensure the sustainability of Nigeria's construction project management systems.

### **Methodology**

This study's research design was a quantitative survey, and the instrument for gathering pertinent data was a structured Likert scale questionnaire. Because it

allowed the researchers to gather information from respondents about the influence of risk management on project implementation in Nigerian construction enterprises, this approach was suitable and ideal for the study. The stratified sampling technique was applied to reach the target population. For the survey, a sample size of 487 was employed, of which 400 were used. Data was analysed using regression analysis using the statistical package for social sciences (SPSS).

## **Data Analysis**

### **Hypothesis Testing**

The study employed regression analysis to test the hypothesis concerning the impact of risk management practices on project success. The selected variables included risk identification, risk assessment and analysis, risk mitigation, and risk monitoring and control. The R-Square value indicated that these variables collectively explained 85.5 percent of the variance in project implementation. The Durbin Watson (DW) statistic confirmed the absence of autocorrelation in the regression residuals, with a value of 2.118, exceeding the threshold of 2.0.

The first objective of the research aimed to assess the impact of risk identification on timely project completion within these companies. The regression analysis revealed a coefficient of 0.217 for risk identification, which was statistically significant at the one-percent level. This indicates that a one-percent increase in risk identification corresponds to a 0.217 percent increase in timely project completion. As a result, the first hypothesis ( $H_{o1}$ ) asserting that risk identification has no significant impact on timely project completion was rejected. Risk identification was found to play a crucial role in enhancing project success within these real estate construction companies, suggesting a generalizable trend.

The second objective of the study focused on examining the influence of risk assessment and analysis on the timely completion of projects in the same companies. The regression analysis yielded a coefficient of 0.322 for risk assessment and analysis, which was statistically significant at the one-percent level. This implies that a percentage increase in risk assessment and analysis results in a corresponding 0.322 percent increase in timely project completion, all else being equal. Consequently, the second hypothesis ( $H_{o2}$ ) positing that risk assessment and analysis have no significant impact on timely project completion was also rejected. Risk assessment and analysis were identified as crucial factors contributing to project success, and this finding can be generalized.

**Table 4.1 Regression Analysis of the Impact of Risk Management Practice on Project Timely Completion**

Variables	Unstandardized Coefficients		Significance level
	$\phi$	Std. Error	
Constant	0.844	0.242	0.005
Risk Identification	0.217	0.112	0.001
Risk Assessment and Analysis	0.322	0.097	0.000
Risk Mitigation	0.244	0.078	0.001
Risk Monitoring and Control	0.517	0.142	0.027
R-Square	0.855	Durbin-Watson	2.118
Adjusted R-square	0.813		
<b>Source: Authors' Computation using SPSS 25</b>			

The third aim of this research was to investigate the influence of risk mitigation on the timely completion of projects. Risk mitigation was considered as the third independent variable in the study. The analysis displayed in Table 4.3 revealed a coefficient of 0.244 for risk mitigation, which was statistically significant at the one-percent level. In practical terms, a one-percent increase in risk mitigation corresponded to a 0.244 percent increase in the timely completion of projects, assuming all other factors remained constant. As a result, the third hypothesis (Ho3) suggesting that risk mitigation has no significant impact on the timely completion of projects within these real estate construction companies was rejected. The findings demonstrated that heightened risk mitigation efforts were associated with increased project success, with generalizability implications.

Finally, the fourth objective of this study aimed to assess the effect of risk monitoring and control on the timely completion of projects within the same five major real estate construction companies in Abuja. Risk monitoring and control were included as the fourth independent variable. The analysis presented in Table 4.3 indicated a coefficient of 0.517 for risk monitoring and control, which was statistically significant at the five-percent level. This implies that a one-percent increase in risk monitoring led to a 0.517 percent rise in timely project completion, all else being equal. Consequently, the fourth hypothesis (H04) asserting that there is no significant impact of risk monitoring and control on the timely completion of projects within

these companies was rejected. The results highlighted the significant and generalizable influence of risk monitoring and control on project success.

### **Discussion of Findings**

The primary aim of this study is to assess the impact of risk management practices on the organizational performance of listed construction companies in Nigeria, with a specific focus on Julius Berger's perspective. The selected variables encompass the measurement of timely project completion as the dependent variable, with independent variables including risk identification, risk assessment and analysis, risk mitigation, and risk monitoring and control. The prerequisites for ordinary least square regression were met, yielding uniform implications.

The results of the estimation indicate a positive and statistically significant impact of risk identification on the timely completion of projects within the five prominent real estate construction companies in Abuja, including Urban Shelter Limited, Cosgrove Limited, Modern Shelter, Bilaad Realty Limited, and Brains and Hammers Ltd. The coefficient for Risk Identification is 0.217, signifying that a one-percent increase in risk identification corresponds to a 0.217 percent increase in timely project completion, holding other factors constant. This underscores the importance of diligent risk identification efforts to enhance project implementation strategies, aligning with prior research by Gudbrand (2021), Fraser, Madura, & Weigand (2019), and Abroon et al. (2021), which similarly established a positive and statistically significant influence of risk identification on project performance.

Furthermore, the study explored the influence of risk assessment and analysis on the timely completion of projects within the same five real estate construction companies in Abuja and found a positive relationship. Risk assessment and analysis exhibited a coefficient of 0.322, demonstrating statistical significance at the one-percent level. Consequently, a one-percent increase in risk assessment and analysis led to a 0.322 percent increase in timely project completion, assuming other variables remained constant. These findings align with prior research by Gharaibeh (2019), Gudbrand (2021), Fraser, Madura, & Weigand (2019), and John & Weitz (2017), which similarly confirmed a positive and statistically significant impact of risk assessment on project performance, reinforcing the positive influence of risk assessment on project performance, including timely completion.

The third objective of this research sought to assess the influence of risk mitigation on the timely completion of projects within the five prominent real estate construction companies in Abuja, including Urban Shelter Limited, Cosgrove Limited, Modern Shelter, Bilaad Realty Limited, and Brains and Hammers Ltd.,

Nigeria. The analysis revealed a statistically significant coefficient of 0.244 at the one-percent level for Risk Mitigation. This implies that a one-percent increase in risk mitigation results in a 0.244 percent increase in the timely completion of projects, holding other factors constant. These findings align with previous research conducted by Gudbrand (2021), Fraser, Madura, & Weigand (2019), Ogunade et al. (2017), and Olatunji et al. (2016), which collectively underscore a substantial and positive impact of risk mitigation on the timely completion of projects. Therefore, the intensification of risk mitigation practices leads to a corresponding enhancement in project timeliness, and this relationship can be generalized.

The fourth objective of this study aimed to investigate the influence of risk monitoring and control on the timely completion of projects within the real estate construction companies in Abuja. The analysis yielded a statistically significant coefficient of 0.517 at the five-percent level for Risk Monitoring and Control. In practical terms, a one-percent increase in risk monitoring corresponds to a 0.517 percent increase in the timely completion of projects, all other factors being equal. This outcome underscores the substantial and generalizable impact of risk monitoring and control on the timely completion of projects, which is in accordance with prior research conducted by Rwingo & James (2021), Fraser, Madura, & Weigand (2019), and John & Weitz (2017). These studies have previously established the significance of risk monitoring in the context of cost reduction within project management.

### **Conclusion**

In this research, the investigation into the impact of risk management practices on the timely completion of projects yielded consistent and meaningful results across all aspects of project management. Consequently, the following conclusions have been drawn:

Firstly, the analysis revealed that risk identification has a positive and statistically significant impact on the timely completion of projects in the five largest real estate construction companies in Abuja, which encompass Urban Shelter Limited, Cosgrove Limited, Modern Shelter, Bilaad Realty Limited, and Brains and Hammers Ltd. Specifically, the coefficient for Risk Identification is 0.217, signifying its statistical significance at the one percent level. This indicates that a one percent increase in risk identification leads to a corresponding 0.217 percent improvement in the timely completion of projects. These findings underscore the importance of dedicating greater efforts to identifying and understanding potential risks within projects, as it enhances the evaluation of project implementation strategies.

Secondly, the study explored the influence of risk assessment and analysis on the timely completion of projects within the same group of construction companies. The analysis revealed a positive response, with risk assessment and analysis displaying a coefficient of 0.322, which is statistically significant at the one percent level. This implies that a percentage increase in risk assessment and analysis contributes to a 0.322 percent increase in the likelihood of projects being completed on time. These results reaffirm the positive impact of thorough risk assessment practices on overall project performance, particularly in terms of timely completion.

These conclusions shed light on the critical role of risk management practices, including risk identification and risk assessment, in ensuring the timely completion of projects within the real estate construction sector.

Again, the third objective of this research is to examine the impact of risk mitigation on organizational timely completion of Project in the five (5) biggest real estate construction companies in Abuja which includes: Urban Shelter Limited, Cosgrove Limited, Modern Shelter, Bilaad Realty Limited, Brains and Hammers Ltd., Nigeria. It was established that the coefficient of Risk mitigation is 0.244 which is statistically significant at one per cent. In other words, a percentage rise in risk mitigation will cause 0.244 per cent increase in timely completion of Project, all things being equal. This result signifies that as risk mitigation intensifies, timely completion of Project intensifies too, and this can be generalised.

Lastly, fourth objective of this study is to examine the impact of risk monitoring and control on organizational timely completion of Project in the five (5) biggest real estate construction companies in Abuja which includes: Urban Shelter Limited, Cosgrove Limited, Modern Shelter, Bilaad Realty Limited, Brains and Hammers Ltd., Nigeria. The outcome of the analysis established that Risk monitoring and control has a coefficient of 0.517 which is statistically significant at five per cent. This is to say a percentage rise in Risk monitoring will cause 0.517 per cent increase in timely completion of Project, all things being equal. In other words, it signifies that risk monitoring and control has significant and generalizable influence on timely completion of Project.

### **Recommendations**

This research has conceptualized risk management practices, encompassing risk identification, risk assessment and analysis, risk mitigation, and risk monitoring and control, while investigating their impact on the timely completion of projects. The empirical estimation has unveiled the influences of these independent variables on the dependent variable. Consequently, based on the outcomes of this analysis, the following recommendations are put forth:



It is recommended that the concept of risk identification, which has been shown to significantly influence the timely completion of projects, should receive increased attention. While it is evident that risk identification positively impacts project implementation, the established effect indicates room for further improvement in this aspect. Therefore, there is a pressing need for enhancement in how risks are identified within the organizations.

The research findings underscore the crucial role of risk assessment and analysis in enhancing the timely completion of projects. Hence, it is advisable that the five largest real estate construction companies in Abuja, including Urban Shelter Limited, Cosgrove Limited, Modern Shelter, Bilaad Realty Limited, and Brains and Hammers Ltd., maintain their focus on risk assessment and analysis. Additionally, employees within these companies should undergo further training in risk assessment and analysis within project contexts.

The results suggest that risk mitigation practices positively contribute to the timely completion of projects. Therefore, it is imperative for these organizations to sustain their current level of commitment to risk mitigation while also exploring opportunities for improvement in this area.

Given the indication that risk monitoring and control significantly impact the timely completion of projects, it is strongly advised that the management of Julius Berger continues to prioritize and invest in effective risk monitoring and control measures.

These recommendations are grounded in the research findings and aim to support the real estate construction companies in optimizing their risk management practices achieving improved project performance, particularly in terms of timely completion.

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