

Risk Management In Public Procurement In The Public Sector, Cross River State, Nigeria

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ABSTRACT:- This study was focused on assessing risk management in the public sector, Cross River State, Nigeria. The study adopted a descriptive survey approach and a questionnaire as instruments for data collection using a five-point Likert scale. A calculation of sample size using the Tarro Yamane method. Out of 205 copies of the questionnaire distributed to the respondents, only 179 were filled and returned, while the remaining 26 were not returned and used for analysis. The research hypothesis was tested and analyzed using the Pearson correlation method. The findings confirmed that there exists a significant positive correlation between adequate risk assessment and ethical standards of large-scale infrastructure. The study recommends that organizations should regularly train their employees and key stakeholders in the latest regulatory changes and risk management best practices to keep the workforce informed and prepared to identify and respond to risks and compliance requirements. Firms are advised to implement tools and software that provide real-time monitoring, predictive analytics, and automated compliance reporting.

Keywords: Risk Management Strategies; Public Procurement; Risk Assessment, Ethical Standard, Institutional Theory

I. INTRODUCTION

Effective risk management is crucial for public procurement because it enables companies to predict, assess, and minimize possible problems that can interfere with the process (Collins & Murray, 2023). The importance of risk management resides in its capacity to uphold the integrity of public services, guarantee regulatory compliance, and enhance financial stability. The complexity of public procurement projects, financial limitations, and the public's increasing demands for accountability and openness have all contributed to the increased focus on risk management in public procurement in recent years.

According to Collins and Murray (2023), public organizations can avoid problems like project delays, cost overruns, and quality failures by practicing good risk management. The COVID-19 pandemic also highlighted the necessity of strong risk management plans, particularly in industries like infrastructure and healthcare where supply chain interruptions and inefficient procurement practices could have detrimental effects on the economy and public health. To overcome these obstacles, recent studies have emphasized the significance of risk management frameworks, digital technologies, and cooperative approaches.

Thuo, Kimani, and Otieno (2022) posit that risk management in public procurement is a critical process that ensures transparency, efficiency, and accountability in the acquisition of goods and services. Public procurement involves using government or public sector resources, which means that any associated risks, whether financial, operational, or reputational have significant social and economic consequences. In recent years, many governments have sought to improve risk management in procurement by implementing stricter policies, adopting new technologies, and engaging in cross-sector collaborations. Such efforts are intended to mitigate risks ranging from financial mismanagement to non-compliance with regulatory standards.

Recent studies have focused on the various dimensions of risk in public procurement across sectors, analyzing the effectiveness of different risk management strategies. Thuo et al. (2022) conducted a detailed study on proactive risk management strategies in public procurement, focusing specifically on the construction sector. Their research identified key approaches that enable organizations to anticipate and address potential risks before they materialize, thus avoiding costly delays, budget overruns, and quality issues in construction projects. The study found that conducting comprehensive risk assessments at the earliest stages of a project helps organizations pinpoint potential issues related to budget, resource availability, contractor performance, and regulatory compliance. This early identification allows for the design of customized risk mitigation strategies tailored to the project's specific needs.

Similarly, Choy, Lee, and Tan (2023) also analyzed procurement risks in the health sector and identified significant effects on service delivery and patient safety. The study found that poor procurement

strategies such as reliance on single suppliers, delayed tender processes, and inadequate quality checks lead to supply disruptions. These issues directly threaten patient care by causing shortages of essential medicines and equipment, which are especially critical during emergencies or high-demand periods. Additionally, procurement challenges linked to high transaction costs and limited competition can make it harder for healthcare facilities to acquire innovative or high-quality products, impacting service delivery.

Although, these studies demonstrate the growing recognition of the importance of effective risk management in public procurement, highlighting regional differences and common challenges faced across regions and industries. Considering the previous studies, none investigated the relationship between risk assessment, and ethical standards, of large-scale infrastructure, in Cross River State, Nigeria. This is a gap the present study identified and seeks to fill.

1.2 Problem Statement

Poor risk identification hurts project outcomes, resulting in major delays, cost overruns, and deterioration of quality. Additionally, insufficient risk monitoring practices usually result in regulatory violations, project delays, and increased project costs. Project procurement delays and cost overruns are caused by an organization's limited ability to change. Lastly, sustainability initiatives in infrastructure projects are hampered by the absence of cutting-edge technologies in procurement procedures. These problems necessitate the study objective stated below.

1.3 Objective of the Study

The general objective of this study is to investigate the influence of risk management strategies on the public procurement of large-scale infrastructure in the Public Sector, in Nigeria. Drawn from the general, specific objectives are aimed at:

- I. To ascertain how risk assessment relates to ethical standards of large-scale Public Sector infrastructure in South-South Nigeria.

1.4 Research Question

- I. How does risk assessment relate to the ethical standards of large-scale infrastructure in the Public Sector, in Nigeria?

1.5 Research Hypothesis

- I. HA3: Risk assessment significantly improves the ethical standards of large-scale Public Sector infrastructure in South-South Nigeria.

II. REVIEW OF RELATED LITERATURE

2.1 Conceptual Review

2.1.1 The Concept of Risk Management Framework

Risk management frameworks are often used to identify, assess, and prioritize risks, followed by strategies to minimize potential negative impacts (Thuo, Kimani & Otieno, 2022; Choy, Lee, & Tan, 2023). The primary types of risks in public procurement include financial risks, legal and compliance risks, operational risks, and reputational risks. The complexity of procurement projects, particularly large-scale infrastructure or technology acquisitions, can further compound these risks, making robust risk management practices essential to avoid delays, cost overruns, and quality issues.

In addition, risk management includes enterprise risk management framework, cyber security risk management, project risk management, financial risk management, health risk management, and supply chain risk management. For this study, project risk management is adopted since the study focuses on risk management in public procurement of large-scale infrastructure in Nigeria. In project management, risk management is crucial for identifying potential project pitfalls and developing mitigation strategies (Hillson, 2023).

2.1.2 Risk Assessment

Ahmed, Khalid, and Al-Fahad (2022) defined risk assessment as the systematic process of identifying, evaluating, and managing risks that could affect the achievement of an organization's objectives. The main purpose of risk assessment is to reduce the likelihood or impact of risks and develop mitigation strategies to safeguard the organization's operations.

Risk assessment is critical for decision-making (Ahmed, Khalid & Al-Fahad, 2022). The authors posit that risk assessment helps managers make informed decisions by providing a clear understanding of the risks and their potential consequences. This allows organizations to prioritize resources and actions toward high-risk areas. Many industries, such as finance, healthcare, and construction, are subject to regulations requiring formal

risk assessments to ensure safety and compliance. Effective risk management prevents financial losses by mitigating risks such as fraud, market volatility, or operational failures. Risk assessment is applied in various sectors such as healthcare and manufacturing, to ensure the safety of employees, consumers, and assets by identifying and managing hazards.

A study conducted by Zhang and Li (2023) evaluated risk assessment models for stock market investments in China. The study reveals that traditional models like Value at Risk (VaR) may underestimate risks in high-volatile environments. The study recommended integrating machine learning algorithms into risk models to improve predictive accuracy.

2.1.3: The Concept of Public Procurement

Public procurement is not only about acquiring goods and services but also serves as a strategic policy tool that enables governments to achieve broader policy goals, such as environmental sustainability and social inclusion (McCrudden, 2021).

Public procurement refers to the process by which government departments or public sector institutions purchase goods, services, and works from the private sector to fulfill public needs (Flynn & Davis, 2022). This process includes planning, tendering, contracting, and contract management.

Public procurement is increasingly viewed as a strategic tool to promote economic development and innovation. Governments use procurement policies to support local industries, drive technological advancement, and achieve socio-economic objectives, such as reducing unemployment and promoting sustainability (OECD, 2023).

Numerous researchers have recognized the significance of public procurement in different industries across the globe. Some of these studies are stated below. A study by Sanchez-Graells (2022) examined the procurement challenges faced by European healthcare systems during the pandemic. The research identified inefficiencies in emergency procurement processes, particularly in the acquisition of personal protective equipment (PPE) and vaccines. It emphasized the need for more flexible procurement frameworks to improve crisis response capabilities in the healthcare sector.

2.1.4: Ethical Standard

Ethical Standards are one of the components of public procurement for large-scale projects. Procurement of goods and works is essential to follow ethical standards to avoid the risk of project failure. Several authors have come up with a lot of definitions which are stated below.

Smith and Taylor (2022) defined ethical standards as a set of rules that govern anything morally right or wrong in specific circumstances, ensuring that individuals adhere to socially and professionally acceptable behaviors. Procurement of goods or works is essential to follow ethical standards to promote efficiency and effectiveness to ensure value is created. Procurement of materials ought to be done transparently to reduce corruption. Lewis (2023) argues that ethical standards in public procurement ensure transparency, allowing stakeholders to see how decisions are made, and funds are allocated. This openness reduces opportunities for corruption and favoritism.

2.2: Theoretical Framework

The study is anchored on Institutional theory postulated by sociologists and organizational theorists such as Meyer and Rowan in 1977. Institutional theory posits that organizations are heavily influenced by the rules, norms, and cultural beliefs that exist in their institutional environments (Scott, 2001). These rules shape organizational behavior, determining what is considered acceptable, legitimate, and rational. Organizations must align their actions with institutional norms to gain legitimacy and secure resources.

Furthermore, risk management in public procurement must align with the regulatory frameworks that govern public entities. Strategies may include complying with international procurement standards, ensuring transparency in procurement decisions, and conducting regular audits to minimize risks of fraud or corruption (DiMaggio & Powell, 1983).

Institutional theory is extremely relevant to this study on “risk management strategies in public procurement of large-scale infrastructure, in Nigeria. The reason is that institutional theory helps organizations to operate within stringent legal frameworks, professional norms, and societal expectations designed to promote transparency, fairness, and accountability as well as reduce corruption. Therefore, public procurement is often shaped by institutional pressures, which guide how procurement activities are conducted and how risk is managed.

2.3: Empirical Review

This sector discusses several studies undertaken by researchers and some of the findings are presented below.

A study by Zhang and Li (2023) evaluated risk assessment models for stock market investments in China using the financial industry. The study reveals that traditional models like Value at Risk (VaR) may underestimate risks in high-volatile environments. The study recommended integrating machine learning algorithms into risk models to improve predictive accuracy.

Chen, and Yu (2023) investigated A Framework for Risk Assessment and Ethical Considerations in Construction Projects on large construction projects in China and Australia. The study involved interviews with project managers and stakeholders, supplemented by a review of project documentation and risk assessment reports. The study found a positive correlation between robust risk management practices and the ethical conduct of project managers.

Awan, Asif, and Khan (2023) evaluated Risk Management Practices in Large-Scale Infrastructure Projects using a Comparative Study across the UK, USA, and Pakistan. This study utilized a mixed-method approach, including surveys and case studies of large-scale infrastructure projects across the UK, USA, and Pakistan. The researchers distributed questionnaires to project managers and conducted interviews with stakeholders involved in infrastructure development. The study found that effective risk management practices significantly improve project outcomes.

III. METHODOLOGY

The study employed a correlational survey and questionnaire as instruments for data collection. The target population of this study comprised project managers, procurement officials, construction workers, and other pertinent stakeholders involved in project management across the public sector in Cross River State. The study population comprised 108 employees of the public sector. The questionnaire was structured and validated on both face and content levels to ensure all relevant aspects of the concept are included. The study hypothesis was tested and analyzed using the Pearson Correlation method to determine the correlation between two variables.

IV. RESULTS AND DISCUSSION

4.1 Presentation of Data

The researcher investigated the influence of risk management strategies on public procurement of large-scale infrastructure, in Cross River State, Nigeria. The researcher presented the following results in the order of the research questions. Primary data were collected, tabulated, and analyzed using Statistical Package on Social Science (SPSS Version 25). Out of 188 copies of the questionnaire distributed to the respondents, only 179 were filled and returned, while the remaining 9 were not returned and used for the analysis.

4.2 Analysis of Research Question One

How does risk assessment affect ethical standards of large-scale infrastructure, in Cross River State, Nigeria?

Table 4.2.1: Investigative Questions on Risk Assessment and Ethical Standards

S/N	Questions	SA	AG	UN	DA	SD	Total
A.	Risk Assessment (Independent Variable)						
1	My firm identifies potential challenges early in the procurement process, leading to more successful project outcomes.	81	86	5	1	6	179
2	We collaborate with stakeholders during risk assessment and facilitate proactive mitigation strategies.	80	84	6	5	4	179
3	Inadequate risk assessment can affect us and possibly lead to costly procurement delays.	82	83	9	2	3	179
4	Poor risk management increases the likelihood of our supplier failure in procurement.	84	86	7	2	0	179
5	A thorough risk assessment promotes better supplier relationships and reliability in my organization.	81	84	5	6	3	179
6	Overlooking potential risks can jeopardize long-term procurement contracts in the organization.	80	85	1	7	6	179
7	Proactive risk management ensures timely project delivery in procurement.	83	81	2	5	8	179
B.	Ethical Standards (Dependent Variable)						
1	Ethical procurement ensures transparency in all supplier relationships.	85	81	6	2	5	179
2	Fair competition in procurement promotes trust and long-term	81	83	3	5	7	179

	partnerships.						
3	Adhering to ethical standards in procurement minimizes the risk of corruption.	86	80	1	9	3	179
4	Ignoring ethical standards in procurement can lead to supplier exploitation.	82	83	6	7	1	179
5	Unethical procurement practices increase the risk of legal repercussions.	84	88	2	3	2	179
6	Ethical sourcing leads to sustainable supply chains and better brand reputation.	89	82	1	6	0	179
7	Ethical procurement practices promote fairness, ensuring suppliers are paid fairly and on time.	83	86	3	0	7	179

Source: (Field Survey, 2024).

4.3 Research Hypothesis One

HA3: Risk assessment significantly improves ethical standards of large-scale infrastructure in the Public Sector, Cross River State, Nigeria.

4.3.1 Decision Rule

The null hypothesis is rejected when the p-value is less than 0.05; if not, accept the alternative hypothesis (HA). The table below shows the results of the Pearson correlation method. The null hypothesis which states that risk assessment does not significantly improve ethical standards of large-scale infrastructure in the Public Sector, Cross River State, Nigeria was rejected when the p-value (000) was less than the critical value (0.05). On the contrary, the alternate hypothesis which states that risk assessment significantly improves ethical standards of large-scale infrastructure in the Public Sector, Cross River State, Nigeria was accepted when the p-value (000) was less than the critical value (0.05). The result confirms that there exists a significant linear correlation between independent and dependent variables.

		RA	ES
RA	Pearson Correlation	1	.996**
	Sig. (2-tailed)		.000
	N	179	179
ES	Pearson Correlation	.996**	1
	Sig. (2-tailed)	.000	
	N	179	179

Source: (SPSS Version 25)
 **. Correlation is significant at the 0.01 level (2-tailed).

4.4 Discussion of Findings

The general objective of this study is to investigate the influence of risk management strategies on public procurement of large-scale infrastructure Projects in the Public Sector, in Cross River State, Nigeria. One research hypothesis was tested and analyzed using Pearson correlation.

4.4.1 Discussion on Adequate Risk Assessment and Ethical Standards

Furthermore, research hypothesis three confirmed that there exists a significant positive correlation between adequate risk assessment and ethical standards of large-scale infrastructure in the Public Sector, in South-South Nigeria. This result can be explained that a +1 (one) unit increase in effective risk assessment contributes to a .996 unit increase in ethical standards. Therefore, a value close to $r= 1$ indicates a strong (positive) linear correlation existing between X (risk assessment, RA) and Y (ethical standards, ES). This can be further stated that effective risk assessment ensures regulatory compliance. This result agrees with the literature on earlier works carried out by Awan, Asif, and Khan (2023) which found that effective risk management practices significantly improve project outcomes.

V. CONCLUSIONS, AND RECOMMENDATIONS

5.1 Conclusion of the Study

The general objective of this study is to investigate the influence of risk management strategies on public procurement of large-scale infrastructure Projects in the Public Sector, in Cross River State, Nigeria.

Furthermore, the result of the research hypothesis also confirmed a significant positive correlation between adequate risk assessment and ethical standards of large-scale infrastructure in the Public Sector, when the p-value (.000) was less than the critical value at a 5% level of significance. Adequate risk assessment and adherence to ethical standards are essential for the successful and responsible execution of large-scale projects. The research objective one was met.

5.2 Recommendations for Further Research

Based on the findings, the following recommendations were made to guide this study.

- i. Organizations should regularly train their employees and key stakeholders in the latest regulatory changes and risk management best practices. This will keep the workforce informed and prepared to identify and respond to risks and compliance requirements.
- ii. Managers should develop a clear governance structure where risk responsibilities are assigned at various levels of the organization. Ensure that senior leadership is involved in risk assessment and decision-making processes.
- iii. Organizations should adopt a corporate culture where compliance and risk management are integrated into everyday operations. Encourage transparency and open communication across all levels to ensure that risks and compliance issues are identified and addressed promptly.

5.3 Contribution to Knowledge

Additionally, future researchers should explore risk impacts on financial, environmental, social, and political factors in public procurement in other sectors.

- I. The researcher has created a regression model linking risk management strategies and public procurement in large-scale public sector infrastructure projects.
- II. The researcher has contributed to the body of literature by expanding current frameworks to incorporate stakeholders' theory, contingency theory, and institutional theory to enrich the study.

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