GARP INTERNATIONAL JOURNAL OF LIBRARY AND INFORMATION SCIENCES

https://garp.org.ng/gijlis

Vol. 1, Issue I, Pp.113-124; JUN., 2026

ASSESSING THE ROLE OF INFORMATION SYSTEMS IN PROCUREMENT PLANNING EFFECTIVENESS IN TECHNOLOGY ORGANIZATIONS

AHMAD, Iliyasu

E-Librarian, Centre for Distance Learning,
Igbinedion University Okada, Edo State Nigeria
ahmediliyasu45@gmail.com; +2348106045831

ARTICLE INFO

Received Date: 10th May. 2026
Date Revised Received: 18th May. 2026
Accepted Date: 27th May. 2026
Published Date: 9th June. 2026

Citation: Ahmad, Iliyasu (2026): Assessing the Role of Information Systems in Procurement Planning Effectiveness in Technology Organizations: GARP INTER J. of Lib & Info. Sci. Vol. 1, Issue I, Pp.113-124; Jun. 2026.

Abstract

This study assessed the role of information systems in procurement planning effectiveness in technology organizations using the Nigerian Institute of Leather and Science Technology, Zaria as the study area. The study examined the influence of information systems on procurement planning effectiveness, assessed the role of data management and stakeholder information sharing in procurement planning processes, and identified institutional information challenges affecting procurement planning effectiveness. A quantitative research approach and descriptive survey design were adopted for the study. Data were collected through structured questionnaires administered to procurement officers, finance personnel, ICT staff, and administrative staff of the institution. Out of 114 questionnaires distributed, 104 were successfully completed and returned, representing a response rate of 91.2 percent. The data collected were analyzed using frequencies and percentages. The findings revealed that information systems improve procurement planning accuracy, decision-making, and interdepartmental coordination. The study further showed that effective data management and stakeholder information sharing enhance procurement planning efficiency. However, weak information systems, inadequate ICT infrastructure, poor information flow, and bureaucratic delays were identified as major challenges affecting procurement planning effectiveness. The study concluded that effective information systems are essential for improving procurement planning and organizational performance in technology organizations.

Keywords: *information systems, procurement planning, data management, data management*

Introduction

Information systems have become essential tools for improving organizational efficiency, accountability, and decision-making in modern institutions. Information systems support planning activities through data management, budgeting, forecasting, communication, and supplier coordination. The increasing adoption of digital technologies has transformed procurement processes from manual procedures into integrated electronic systems that enhance transparency and operational effectiveness (World Bank, 2022).

Procurement planning refers to the process of identifying organizational needs, forecasting demand, allocating resources, and scheduling procurement activities to ensure timely acquisition of goods and services. Effective procurement planning helps organizations reduce costs, improve service delivery, and achieve value for money. According to Monczka et al. (2021), procurement planning serves as the foundation for efficient procurement operations because it ensures that procurement decisions are aligned with institutional objectives and available resources.

The integration of information systems into procurement planning has significantly improved procurement performance in many organizations. Technologies such as e-procurement systems, enterprise resource planning systems, and digital workflow platforms facilitate accurate record management, information sharing, and real-time monitoring of procurement activities. These systems also enhance coordination between procurement units, finance departments, and management, thereby improving decision-making and reducing administrative delays (OECD, 2023). Despite these benefits, many organizations continue to experience procurement planning challenges associated with weak information systems and poor data management practices. Inadequate digital infrastructure, fragmented information systems, and poor records management often limit access to reliable information required for forecasting and budgeting. Studies have shown that organizations with ineffective information systems frequently experience procurement delays, unrealistic procurement schedules, and inefficient resource allocation (Adegoke & Ojo, 2021).

Budgetary uncertainty and weak financial information systems also affect procurement planning effectiveness. Delays in budget approvals and irregular release of funds disrupt procurement schedules and often result in emergency procurement practices that reduce transparency and accountability. According to the Chartered Institute of Procurement and Supply (2022), effective procurement planning depends largely on timely access to accurate financial information and proper coordination between procurement and finance units.

Human capacity and stakeholder coordination remain additional factors influencing the effectiveness of information systems in procurement planning. Procurement personnel require competencies in digital systems usage, market analysis, forecasting, and information management. However, many institutions still face shortages of trained personnel and weak interdepartmental communication, which negatively affect procurement planning processes and institutional performance (Agu & Onyekwena, 2020).Technology organizations particularly depend on effective procurement planning because of their need for specialized equipment, technical services, and timely acquisition of operational resources. However, the extent to which information systems contribute to procurement planning effectiveness in technology organizations remains insufficiently examined. This study therefore seeks to assess the role of information systems in procurement planning effectiveness in technology organizations.

Objectives of the Study

The study seeks to:

1. examine the influence of information systems on procurement planning effectiveness in technology organizations;
2. assess the role of data management and stakeholder information sharing in procurement planning processes;
3. identify the institutional information challenges affecting procurement planning effectiveness in technology organizations.

Literature Review

Information systems have become increasingly important in modern organizational management due to their role in improving communication, decision-making, data processing, and operational efficiency. In procurement management, information systems support procurement planning by facilitating accurate forecasting, budget control, records management, supplier coordination, and

workflow automation. According to Monczka et al. (2021), organizations that integrate digital information systems into procurement activities are better positioned to improve procurement efficiency, reduce delays, and enhance accountability. Information systems therefore provide a strategic foundation for effective procurement planning and institutional performance.

Procurement planning refers to the systematic process of determining organizational procurement needs, forecasting demand, allocating resources, and scheduling procurement activities to ensure timely acquisition of goods and services. Effective procurement planning is essential for achieving value for money, reducing procurement irregularities, and improving service delivery. The World Bank (2022) emphasizes that procurement planning enables organizations to align procurement activities with institutional objectives and available financial resources. Similarly, Lysons and Farrington (2020) argue that procurement planning minimizes waste, improves coordination among departments, and reduces the likelihood of emergency procurement.

The integration of information systems into procurement planning has transformed traditional procurement processes from manual procedures into digital operations. E-procurement systems, enterprise resource planning systems, and digital databases facilitate information sharing, supplier management, expenditure monitoring, and procurement documentation. According to the Organisation for Economic Co-operation and Development (OECD, 2023), organizations that adopt digital procurement systems experience improved transparency, faster procurement cycles, and enhanced procurement decision-making. Information systems also support real-time access to procurement data, enabling organizations to make evidence-based decisions and monitor procurement performance effectively.

Data management remains a critical component of procurement planning effectiveness. Procurement planning depends on accurate and accessible information regarding budget allocations, supplier availability, market conditions, and organizational needs. Poor data management practices often result in inaccurate forecasting, duplication of procurement requests, and inefficient allocation of resources. Adegoke and Ojo (2021) found that organizations with fragmented information systems and weak records management frequently encounter procurement delays and budgetary inconsistencies. Effective data management systems therefore enhance procurement planning by improving information accuracy, accessibility, and coordination across departments.

Stakeholder information sharing also plays a significant role in procurement planning processes. Procurement planning involves collaboration among procurement units, finance departments, user departments, and organizational management. Weak communication and poor coordination among these stakeholders frequently result in specification errors, delayed approvals, and unrealistic procurement schedules. According to Nwogwugwu and Okeke (2020), organizations with integrated information-sharing systems achieve better procurement coordination and improved decision-making compared to institutions that rely on manual communication processes. Information systems therefore strengthen procurement planning by facilitating timely communication and institutional collaboration.

Financial information systems are equally important in ensuring procurement planning effectiveness. Procurement activities require timely access to budgetary information to ensure that procurement plans align with available financial resources. However, delays in budget approvals and irregular funding patterns often affect procurement implementation. The Chartered Institute of Procurement and Supply (CIPS, 2022) notes that weak financial information systems contribute to procurement inefficiencies because organizations struggle to monitor expenditures and forecast procurement requirements accurately. Integrated financial information systems help organizations maintain procurement accountability and improve budgetary control.

Human capacity and digital competence are additional factors influencing the effectiveness of information systems in procurement planning. Procurement personnel require competencies in information management, digital systems operation, forecasting, and procurement analytics. Studies indicate that many organizations still experience shortages of personnel with adequate technological and procurement management skills. Agu and Onyekwena (2020) argue that limited technical expertise reduces the effectiveness of digital procurement systems and weakens procurement planning processes. Continuous training and professional development

are therefore necessary to enhance the utilization of information systems in procurement activities.

Despite the benefits associated with information systems, many organizations continue to face challenges related to inadequate digital infrastructure, weak records management systems, cybersecurity concerns, and resistance to technological change. According to Alabi and Mohammed (2021), limited ICT infrastructure and poor internet connectivity negatively affect the implementation of digital procurement systems in many developing countries. Similarly, weak institutional policies and insufficient investment in information technology often undermine the effectiveness of procurement information systems and organizational performance.

Technology organizations particularly depend on effective procurement planning because of the technical nature of their operations and the need for specialized equipment, software, and services. Effective information systems enable these organizations to manage procurement data efficiently, coordinate suppliers, monitor procurement activities, and improve operational continuity. However, studies focusing specifically on the role of information systems in procurement planning effectiveness within technology organizations remain limited. Existing literature has concentrated more on procurement management generally, with less emphasis on information management dimensions such as data integration, stakeholder information sharing, and digital decision-support systems. This gap therefore justifies the need for further research on the role of information systems in procurement planning effectiveness in technology organizations.

Research Design

This study adopted a quantitative research approach to assess the role of information systems in procurement planning effectiveness at the Nigerian Institute of Leather and Science Technology, Zaria. A descriptive survey research design was employed to collect relevant data from procurement officers, finance personnel, ICT staff, and administrative staff of the institution. The descriptive survey design was considered appropriate because it enabled the researcher to obtain firsthand information from respondents regarding the utilization of information systems in procurement planning and decision-making processes.

The population of the study comprised all staff directly involved in procurement planning, procurement execution, financial management, and information management activities at the Nigerian Institute of Leather and Science Technology, Zaria, totaling one hundred and sixty (160) staff members. Due to the relatively large size of the population, the study adopted Taro Yamane's sampling formula to determine a representative sample size of one hundred and fourteen (114) respondents. A stratified random sampling technique was employed to ensure adequate representation of procurement officers, finance officers, ICT personnel, and administrative staff within the institution. This enhanced the reliability and validity of the findings.

The instrument used for data collection was a structured questionnaire designed by the researcher. The questionnaire contained close-ended items aimed at obtaining information on information management practices, data management, stakeholder information sharing, and institutional information challenges affecting procurement planning effectiveness. The use of questionnaires was considered suitable because it allowed for the collection of reliable, standardized, and quantifiable data from respondents.

The researcher personally administered the questionnaires and subsequently retrieved the completed copies to ensure a high response rate. A total of 114 questionnaires were distributed, while 104 were successfully completed and returned, representing a response rate of 91.2 percent. The data collected were organized and presented in tables for clarity and ease of analysis. Descriptive statistical tools, particularly frequencies and percentages, were used to analyze and interpret the findings of the study.

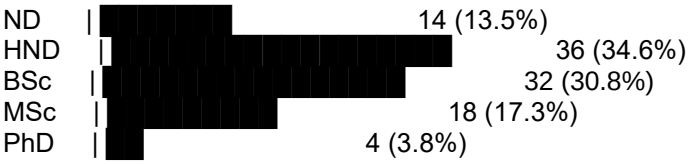
Data Analysis

Table 1: Demographic Characteristics of Respondents

Gender Distribution

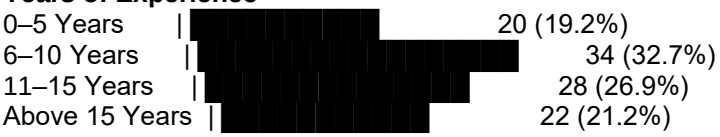
Table 1 shows that out of 104 respondents, 68 (65.4%) were male while 36 (34.6%) were female. This indicates that male respondents constituted the majority of the study population. The implication is that procurement and information systems activities within the organization may be dominated by male personnel, although the representation of female respondents provides a reasonable basis for gender inclusiveness in the study findings.

Highest Qualification



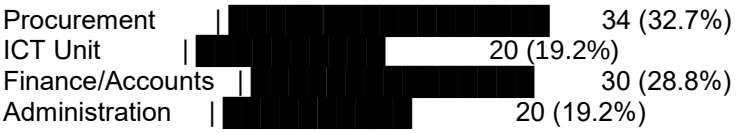
The educational qualification of respondents reveals that HND holders constituted the highest proportion with 36 (34.6%), followed by BSc holders with 32 (30.8%). Respondents with MSc qualifications accounted for 18 (17.3%), while ND and PhD holders represented 13.5% and 3.8% respectively. This suggests that the majority of respondents possess tertiary-level qualifications, indicating that they are likely knowledgeable enough to provide reliable information on procurement planning and information systems.

Years of Experience



The results indicate that respondents with 6–10 years of work experience formed the largest group, accounting for 34 (32.7%). Those with 11–15 years of experience represented 28 (26.9%), while respondents with more than 15 years of experience accounted for 22 (21.2%). Employees with less than five years of experience constituted 20 (19.2%). This distribution demonstrates that most respondents have considerable professional experience, which enhances the credibility of their responses regarding procurement planning effectiveness.

Department/Unit Distribution



The majority of respondents were drawn from the Procurement Department, representing 34 (32.7%) ofthe sample. Finance/Accounts staff accounted for 30 (28.8%), while ICT Unit and Administration staff each contributed 20 (19.2%). The inclusion of respondents from different departments ensured a broad perspective on the influence of information systems on procurement planning effectiveness.

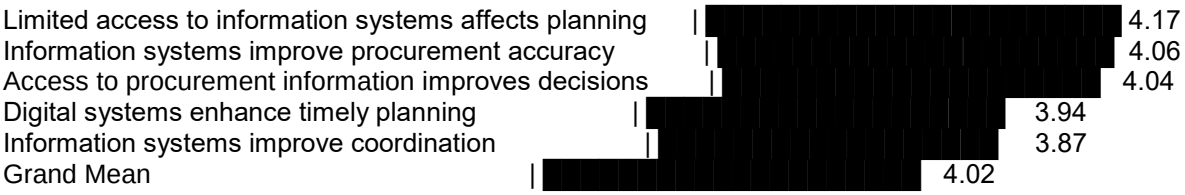
Table 1: Demographic Characteristics of Respondents

Variables	Category	Frequency	Percentage (%)
Gender	Male	68	65.4
	Female	36	34.6
	Total	104	100
Highest Qualification	ND	14	13.5
	HND	36	34.6
	BSc	32	30.8
	MSc	18	17.3
	PhD	4	3.8
	Total	104	100
Years of Experience	0–5 years	20	19.2
	6–10 years	34	32.7
	11–15 years	28	26.9
	Above 15 years	22	21.2
	Total	104	100
Department/Unit	Procurement	34	32.7
	ICT Unit	20	19.2
	Finance/Accounts	30	28.8
	Administration	20	19.2
Total		104	100

Table 1 indicates that the majority of respondents were male, representing 65.4%, while female respondents accounted for 34.6%. This suggests that procurement and information management activities within the institution are predominantly handled by male staff. The findings further reveal that most respondents possessed HND and BSc qualifications, indicating that respondents were academically qualified to provide reliable information relating to information systems and procurement planning activities. Regarding work experience, the majority of respondents had between 6–10 years of experience, suggesting adequate institutional knowledge and familiarity with procurement planning processes. The distribution of respondents across procurement, ICT, finance, and administrative departments also indicates that data were collected from relevant personnel directly involved in procurement planning and information management activities within the institution.

Table 2: Influence of Information Systems on Procurement Planning Effectiveness

Mean Score of Responses



The findings reveal a high level of agreement among respondents regarding the positive influence of information systems on procurement planning effectiveness. The statement "Limited access to information systems affects procurement planning effectiveness" recorded the highest mean score of 4.17, indicating strong consensus that inadequate access to information systems hinders effective procurement planning.

Similarly, respondents agreed that information systems improve procurement planning accuracy (Mean = 4.06) and that access to procurement information enhances decision-making (Mean = 4.04). The statement that digital procurement systems enhance timely procurement planning also received a favorable rating (Mean = 3.94). Furthermore, respondents agreed that information systems improve coordination among departments, although it recorded the lowest mean score among the statements (Mean = 3.87).

The grand mean of 4.02 indicates overall agreement that information systems significantly contribute to procurement planning effectiveness. This suggests that organizations that invest in robust information systems are more likely to achieve improved planning accuracy, timely procurement processes, better decision-making, and enhanced interdepartmental coordination.

The study demonstrates that information systems play a critical role in enhancing procurement planning effectiveness. Respondents overwhelmingly agreed that access to accurate and timely procurement information supports better planning outcomes, while limitations in information system accessibility negatively affect procurement performance. The overall positive grand mean confirms that information systems are essential tools for improving procurement operations and organizational efficiency.

Table 2: Influence of Information Systems on Procurement Planning Effectiveness

Statement	SA	A	D	SD	Total	Mean
Information systems improve procurement planning accuracy	38 (36.5%)	42 (40.4%)	16 (15.4%)	8 (7.7%)	104	4.06
Digital procurement systems enhance timely procurement planning	34 (32.7%)	40 (38.5%)	20 (19.2%)	10 (9.6%)	104	3.94
Access to procurement information improves decision-making	36 (34.6%)	44 (42.3%)	16 (15.4%)	8 (7.7%)	104	4.04
Limited access to information systems affects procurement planning effectiveness	46 (44.2%)	38 (36.5%)	12 (11.5%)	8 (7.7%)	104	4.17
Information systems improve coordination among departments	30 (28.8%)	40 (38.5%)	24 (23.1%)	10 (9.6%)	104	3.87
Grand Mean						4.02

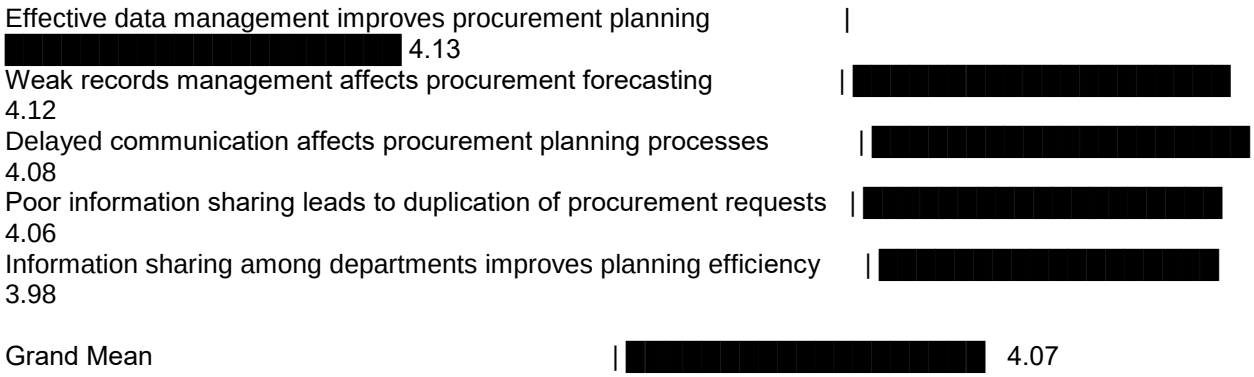
Table 2 presents respondents' views on the influence of information systems on procurement planning effectiveness in Technology Organizations. The study revealed that information systems improve procurement planning accuracy, as 38 (36.5%) respondents strongly agreed while 42 (40.4%) agreed. However, 16 (15.4%) respondents disagreed and 8 (7.7%) strongly disagreed, indicating that some staff still experience limitations in the effectiveness of institutional information systems. Regarding the use of digital procurement systems in enhancing timely procurement planning, 34 (32.7%) respondents strongly agreed and 40 (38.5%) agreed, while 20 (19.2%) disagreed and 10 (9.6%) strongly disagreed. This suggests that although digital systems support procurement planning, challenges such as inadequate infrastructure and limited access still affect their effectiveness.

The study further revealed that access to procurement information improves procurement decision-making, as 36 (34.6%) respondents strongly agreed and 44 (42.3%) agreed. In contrast, 16 (15.4%) respondents disagreed and 8 (7.7%) strongly disagreed. Similarly, 46 (44.2%) respondents strongly agreed and 38 (36.5%) agreed that limited access to information systems negatively affects procurement planning effectiveness. Only 12 (11.5%) respondents disagreed, while 8 (7.7%) strongly disagreed. Concerning interdepartmental coordination, 30 (28.8%) respondents strongly agreed and 40 (38.5%) agreed that information systems improve coordination among departments, whereas 24 (23.1%) disagreed and 10 (9.6%) strongly disagreed. The findings therefore indicate that information systems play significant roles in improving procurement planning effectiveness

despite existing institutional and technological limitations.

Table 3: Data Management and Stakeholder Information Sharing in Procurement Planning

Mean Score Bar Chart



Interpretation of Table 3

The results presented in Table 3 indicate that respondents generally agreed that data management and stakeholder information sharing significantly influence procurement planning effectiveness. The statement "Effective data management improves procurement planning" recorded the highest mean score of 4.13**,** indicating strong agreement among respondents that proper management of procurement data enhances planning efficiency and effectiveness.

Similarly, respondents agreed that weak records management affects procurement forecasting (Mean = 4.12), suggesting that poor record-keeping can negatively impact the accuracy of procurement projections and planning activities. The statement "Delayed communication affects procurement planning processes" also recorded a high mean score of 4.08**,** highlighting the importance of timely communication in procurement operations.

Furthermore, respondents agreed that poor information sharing leads to duplication of procurement requests (Mean = 4.06), indicating that ineffective information dissemination may result in inefficiencies and wastage of organizational resources. The statement "Information sharing among departments improves procurement planning efficiency" recorded a mean score of 3.98, showing that respondents recognized the value of interdepartmental collaboration and information exchange.

The grand mean of 4.07 demonstrates overall agreement that effective data management and stakeholder information sharing are essential for successful procurement planning. This finding suggests that organizations should prioritize proper records management systems, timely communication channels, and effective information-sharing mechanisms to enhance procurement performance.

Table 3: Data Management and Stakeholder Information Sharing in Procurement Planning

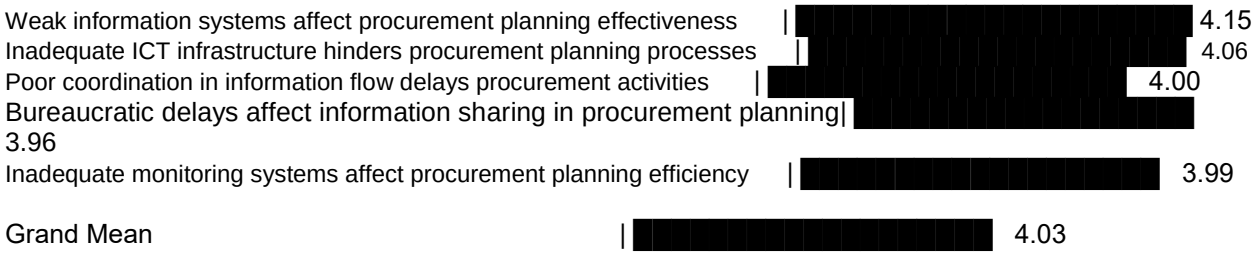
Statement	SA	A	D	SD	Total	Mean
Effective data management improves procurement planning	40 (38.5%)	44 (42.3%)	14 (13.5%)	6 (5.8%)	104	4.13
Weak records management affects procurement forecasting	44 (42.3%)	38 (36.5%)	14 (13.5%)	8 (7.7%)	104	4.12
Information sharing among departments improves procurement planning efficiency	36 (34.6%)	40 (38.5%)	18 (17.3%)	10 (9.6%)	104	3.98
Delayed communication affects procurement planning processes	42 (40.4%)	36 (34.6%)	18 (17.3%)	8 (7.7%)	104	4.08
Poor information sharing leads to duplication of procurement requests	38 (36.5%)	42 (40.4%)	16 (15.4%)	8 (7.7%)	104	4.06
Grand Mean						4.07

Table 3 presents respondents' views on data management and stakeholder information sharing in procurement planning processes at the Nigerian Institute of Leather and Science Technology, Zaria. The study showed that effective data management improves procurement planning 40 (38.5%) respondents strongly agreed while 44 (42.3%) agreed. However, 14 (13.5%) respondents disagreed and 6 (5.8%) strongly disagreed. This suggests that effective management of procurement information contributes significantly to planning efficiency within the institution.

Weak records management affects procurement forecasting, as 44 (42.3%) respondents strongly agreed and 38 (36.5%) agreed, while 14 (13.5%) disagreed and 8 (7.7%) strongly disagreed. This indicates that poor record-keeping limits the institution's ability to forecast procurement requirements accurately. Regarding stakeholder information sharing, 36 (34.6%) respondents strongly agreed and 40 (38.5%) agreed that information sharing among departments improves procurement planning efficiency. 18 (17.3%) respondents disagreed and 10 (9.6%) strongly disagreed. Similarly, 42 (40.4%) respondents strongly agreed and 36 (34.6%) agreed that delayed communication affects procurement planning processes. Only 18 (17.3%) respondents disagreed while 8 (7.7%) strongly disagreed. 38 (36.5%) respondents strongly agreed and 42 (40.4%) agreed that poor information sharing leads to duplication of procurement requests, whereas 16 (15.4%) disagreed and 8 (7.7%) strongly disagreed. The study therefore indicate that effective data management and stakeholder information sharing significantly influence procurement planning effectiveness within the institution.

Table 4: Institutional Information Challenges Affecting Procurement Planning Effectiveness

Mean Score Bar Chart



Interpretation of Table 4

Table 4 examines the institutional information challenges affecting procurement planning effectiveness. The findings reveal that respondents strongly agreed that **"**weak information systems affect procurement planning effectiveness**,"** as reflected by the highest mean score of 4.15**.** This suggests that ineffective or outdated information systems can significantly hinder procurement planning activities.

Respondents also agreed that inadequate ICT infrastructure hinders procurement planning processes (Mean = 4.06), indicating that the availability of modern technological infrastructure is critical for efficient procurement operations. Similarly, "poor coordination in information flow delays procurement activities" recorded a mean score of 4.00, emphasizing the importance of seamless information exchange across organizational units.

The statement "Inadequate monitoring systems affect procurement planning efficiency" recorded a mean score of 3.99, showing that respondents acknowledged the role of monitoring mechanisms in ensuring effective procurement planning. Additionally, bureaucratic delays affect information sharing in procurement planning recorded a mean score of 3.96, indicating that administrative bottlenecks can impede timely information dissemination and decision-making.

The grand mean of 4.03 indicates overall agreement that institutional information challenges

significantly affect procurement planning effectiveness. These findings suggest that organizations need to strengthen their information systems, improve ICT infrastructure, enhance information flow coordination, reduce bureaucratic bottlenecks, and establish effective monitoring mechanisms to improve procurement planning outcomes.

The findings show that:

1. Effective data management significantly enhances procurement planning and forecasting.
2. Timely communication and information sharing among stakeholders improve procurement efficiency.
3. Weak records management and poor information sharing contribute to procurement inefficiencies.
4. Institutional challenges such as weak information systems, inadequate ICT infrastructure, poor coordination, and bureaucratic delays negatively affect procurement planning effectiveness.

The overall grand means of 4.07 and 4.03 indicate a strong consensus among respondents that both effective information management and the elimination of institutional information barriers are crucial for achieving efficient procurement planning.

Table 4: Institutional Information Challenges Affecting Procurement Planning Effectiveness

Statement	SA	A	D	SD	Total	Mean
Weak information systems affect procurement planning effectiveness	46 (44.2%)	36 (34.6%)	14 (13.5%)	8 (7.7%)	104	4.15
Inadequate ICT infrastructure hinders procurement planning processes	40 (38.5%)	38 (36.5%)	18 (17.3%)	8 (7.7%)	104	4.06
Poor coordination in information flow delays procurement activities	42 (40.4%)	34 (32.7%)	18 (17.3%)	10 (9.6%)	104	4.00
Bureaucratic delays affect information sharing in procurement planning	38 (36.5%)	40 (38.5%)	16 (15.4%)	10 (9.6%)	104	3.96
Inadequate monitoring systems affect procurement planning efficiency	36 (34.6%)	42 (40.4%)	16 (15.4%)	10 (9.6%)	104	3.99
Grand Mean						4.03

Table 4 presents respondents' views on institutional information challenges affecting procurement planning effectiveness at the Nigerian Institute of Leather and Science Technology, Zaria. The study show s that weak information systems affect procurement planning effectiveness, as 46 (44.2%) respondents strongly agreed and 36 (34.6%) agreed. However, 14 (13.5%) respondents disagreed while 8 (7.7%) strongly disagreed. This indicates that weaknesses in institutional information systems constitute major barriers to effective procurement planning. Inadequate ICT infrastructure hinders procurement planning processes, as 40 (38.5%) respondents strongly agreed and 38 (36.5%) agreed. 18 (17.3%) respondents disagreed while 8 (7.7%) strongly disagreed. Similarly, 42 (40.4%) respondents strongly agreed and 34 (32.7%) agreed that poor coordination in information flow delays procurement activities, whereas 18 (17.3%) disagreed and 10 (9.6%) strongly disagreed. This suggests that communication gaps among departments negatively affect procurement efficiency. 38 (36.5%) respondents strongly agreed and 40 (38.5%) agreed that bureaucratic delays affect information sharing in procurement planning. However, 16 (15.4%) respondents disagreed while 10 (9.6%) strongly disagreed. Concerning monitoring systems, 36 (34.6%) respondents strongly agreed and 42 (40.4%) agreed that inadequate monitoring systems affect procurement planning efficiency, whereas 16 (15.4%) disagreed and 10 (9.6%) strongly disagreed. The findings therefore indicate that institutional information challenges significantly affect procurement planning effectiveness at the Nigerian Institute of Leather and Science Technology, Zaria.

Discussion of Findings

The findings of the study revealed that information systems significantly influence procurement planning effectiveness in technology organizations. Respondents indicated that

information systems improve procurement planning accuracy, facilitate timely procurement processes, and enhance procurement decision-making through improved access to procurement information. The findings further showed that digital information systems support organizational coordination and contribute to efficient procurement operations within the institution.

The study further revealed that data management and stakeholder information sharing significantly contribute to procurement planning effectiveness. Respondents agreed that effective data management improves procurement planning efficiency, while poor records management negatively affects procurement forecasting and institutional coordination. The findings equally showed that information sharing among departments improves procurement planning processes, whereas delayed communication contributes to duplication of procurement requests and inefficiencies. This suggests that effective communication and proper management of procurement information are essential for achieving efficient procurement planning within technology organizations.

The study revealed that institutional information challenges negatively affect procurement planning effectiveness within the institution. Respondents identified weak information systems, inadequate ICT infrastructure, bureaucratic delays, poor information flow, and inadequate monitoring systems as major constraints affecting procurement planning processes. These challenges reduce the efficiency of procurement planning activities and limit the effective utilization of procurement information within the institution. The study indicates that information systems play critical roles in improving procurement planning effectiveness. However, institutional and technological challenges continue to hinder the effective management and utilization of procurement information systems at the Nigerian Institute of Leather and Science Technology, Zaria.

Conclusion

The study assessed the role of information systems in procurement planning effectiveness Technology, Zaria. The findings revealed that information systems play significant roles in improving procurement planning accuracy, enhancing decision-making, supporting interdepartmental coordination, and facilitating effective procurement processes. The study also established that effective data management and stakeholder information sharing positively influence procurement planning effectiveness within the institution. However, the study identified several institutional information challenges affecting procurement planning effectiveness, including weak information systems, inadequate ICT infrastructure, poor information flow, bureaucratic delays, and inadequate monitoring systems. These challenges reduce the efficiency of procurement planning processes and limit the effective utilization of procurement information within the institution. The study therefore concludes that effective information systems are critical for improving procurement planning effectiveness in technology organizations. Strengthening institutional information systems, improving stakeholder communication, and enhancing data management practices are essential for achieving efficient procurement planning and organizational performance.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. Management of the Nigerian Institute of Leather and Science Technology, Zaria should strengthen institutional information systems through improved digital infrastructure and procurement management technologies to enhance procurement planning effectiveness.
2. The institution should improve data management practices by establishing integrated digital records management systems to facilitate accurate procurement forecasting and effective information accessibility.
3. Procurement units, ICT departments, finance departments, and user departments should enhance stakeholder information sharing and interdepartmental communication to improve procurement coordination and reduce delays in procurement planning processes.
4. Regular training programmes should be organized for procurement personnel and ICT staff to improve digital competence and effective utilization of procurement information systems.
5. The institution should establish effective monitoring and evaluation mechanisms to ensure proper management of procurement information and improve

accountability in procurement planning activities.

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