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https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2025

RESEARCH ARTICLE

INVESTIGATING THE EFFECT OF E-PROCUREMENT ON PROJECT SUCCESS IN NIGERIA

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ABSTRACT

This study investigates the potential of electronic procurement (e-procurement) to enhance project success in Nigeria. The traditional manual procurement system in the Nigerian public sector faces challenges such as delays, corruption, and lack of transparency, prompting the need for a digital shift, and justifying this investigation. The study's objectives include identifying critical e-procurement technologies, assessing implementation prospects, examining adoption barriers, and highlighting key drivers. A descriptive quantitative research design was adopted, incorporating a literature review, structured interviews, and a survey of 100 respondents selected via stratified random sampling from a population group of 150. The Relative Importance Index (RII) was used for ranking variables, and Spearman's correlation assessed relationships among responses. Findings revealed common e-procurement tools such as email, websites/Web 2.0, ERP systems, EDI, software applications, and cloud computing, with email being the most used (RII = 0.91). Five prospects, barriers, and drivers were identified and ranked. Good governance emerged as a key factor in minimizing bidder collusion, while lack of top management support was a major barrier. Procurement compliance was noted as a critical driver. The study found that e-procurement can enhance public procurement efficiency and project outcomes. This research recommends promoting tool adoption, reinforcing governance structures, securing leadership support, and enforcing compliance to ensure successful e-procurement implementation in Nigeria.

Keywords: E-procurement, Project success, Barriers to e-procurement, Prospects of e-procurement, Drivers for e-procurement

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Received: 9/5/2025; **Revised:** 28/6/2025; **Accepted:** 10/7/2025; **Published:** 30/7/2025

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1.0. INTRODUCTION

Electronic procurement (e-procurement) is one of the emerging trends in public procurement and has remained a topic of interest, especially in developing countries. This is because organizations must keep abreast of new technological developments in a competitive and globalized operating environment and leverage them to meet their goals and objectives. Organizations are increasingly adopting e-procurement systems due to the challenges faced by traditional manual procurement methods. These traditional systems are characterized by bureaucratic, paper-based processes that hinder the ability to track costs, justify expenses, and gain visibility over purchasing activities.

E-procurement has become a tool that organizations must leverage. Since its emergence in the mid-1990s, organizations have tried to utilize it with a view of capitalizing on its benefits, including cost reductions, process streamlining, improved contract compliance, and increased efficiency, among others. In many instances, public procurement functions have been characterized by issues of transparency and accountability (Geoffrey & Barrack, 2015).

Globally, e-procurement has gained popularity, especially with the advent of technology. In the United States of America for instance, rapid development of e-procurement was reported in early 2000 just before the recession. By the end of the same year, it was reported that all state functions were maintaining web presence in at least some stage of their procurement processes with some participating in online bidding (Reddick, 2004). In 2005, according to the Commonwealth of Australia report, countries like Italy, New Zealand, Scotland, New South Wales, and Western Australia were already using e-procurement systems for public procurement activities (Geoffrey & Barrack, 2015).

In Africa, the concept of e-procurement is just gaining popularity, especially in the public sector. To deal with the problems of lack of accountability and transparency in procurement activities in the public sector, Most African countries have resorted to legal reforms and adoption of e-procurement. In Nigeria, the adoption of e-procurement has been gradually increasing over the years with some key evidence showing the instance and level of adoption of e-procurement in Nigeria such as the Public Procurement Act (PPA) 2007, and the establishment Bureau for Public Procurement (BPP), the introduction of e-procurement in state cooperations, and a pilot plan initiated by BPP, though not fully implemented. The NIPEX portal by NNPC to centralize procurement in the oil and gas sector. Introduction of the e-GP system (e-procurement portal) by BPP to centralize the procurement process for government ministries, agencies, and parastatals. The random use of ERP solutions (e-procurement tools) such as SAP, Oracle Ariba, Microsoft Dynamics, etc., integrated with e-procurement in the private sector.

The Nigerian procurement system has proved to be long, cumbersome, and time-consuming. The procurement system had several deficiencies that contributed to huge losses in public

funds (Mose, 2012). It has also proved to be costly for both buyers and suppliers or organizations, besides being regarded as a perpetrator of corruption. Wittig, Callender and Schapper (2003) noted that a good procurement system must meet the basic principles of good governance: transparency, accountability, and integrity. The success of an e-procurement system is when the system can meet the public expectations toward the ideal procurement process (Vaidya, Sajeev & Callendar, 2006). And the adoption of cost-saving modern procurement practices is important in Nigeria (Peter, Nmecha, & Akujuobi, 2023).

The significance of effective e-procurement is Cost Control and Budget Efficiency: - e-procurement practices help manage project costs, optimize budget allocation, and prevent cost overruns. (Samson, Orseer, Ebenezer, Victoria, Collins, Terlumun, & Tiza, 2023). By ensuring competitive pricing, value for money, and efficient resource allocation, effective procurement leads to cost-effective project delivery (Galvan, 2016); Timely Project Completion: - e-procurement processes ensure the timely acquisition of materials, equipment, and services, leading to projects being completed within specified timelines. Delays in procurement can result in setbacks, increased costs, and missed deadlines (Hart, 2018); Quality Assurance: - e-procurement ensures the availability of quality materials and the involvement of reputable suppliers and contractors. And contributes to delivering projects that meet or exceed standards, enhancing infrastructure quality and durability in Nigeria (Belasen & Toma, 2015; Hart, 2018); Local Content Development: - e-procurement practices encourage local participation by involving suppliers, contractors, and labor. Hence, builds local capacity, creates jobs, and fosters economic growth and sustainability (Belasen & Toma, 2015); Transparency and Accountability: - Transparent and accountable procurement processes mitigate corruption risks, ensure fair competition, and enhance public trust. Hence, create an equitable platform for suppliers, contractors and efficient use of public funds (Belasen & Toma, 2015; Ssennoga, 2006); Stakeholder Engagement: - e-procurement practices facilitate stakeholder collaboration, including government, project owners, contractors, suppliers, and communities. Involving stakeholders aligns expectations, addresses concerns, and ensures project success (Ssennoga, 2006); Sustainable Development: - e-procurement in the project environment promotes sustainability, such as considering environmental impact, social responsibility, and ethical sourcing, contributing to sustainable development in Nigeria. Hence, involves promoting eco-friendly materials, supporting local communities, and complying with regulations (Ssennoga, 2006).

The key challenges to implementation of e-procurement include system integration issues, lack of standardization, immaturity of e-procurement-based market services, end-user resistance, and difficulties in integrating e-procurement with existing systems (Angeles & Nath, 2007). Other challenges include maverick buying, e-commerce integration issues, and the high cost of software (Barngetuny & Kimutai, 2015; Ganesh, 2021). Moreover, several factors influence e-procurement adoption, including user acceptance, information quality, trust, risk perception, staff training, compliance with best practices, and top management

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E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2025

support (Ujakpa, Arora, Fianko, & Asirifi, 2016). The cost of acquiring and operating an e-procurement package, the geographical spread of the software, and network availability are also barriers to the implementation of e-procurement in Nigeria. The public sector neither has the facilities nor the manpower for modern procurement practices (Peter, Nmecha, & Akujuobi, 2023).

E-procurement is the process whereby organizations acquire works, goods, or services primarily via the use of Internet-based tools (Aduwo, Ibem, Ayo-Vaughan, Uwakonye & Owolabi, 2017; Ibem & Laryea, 2015; Thong, 1999; Waheduzzaman & Rahman, 2020; Usman, Mastura & Faraziera, 2023). It is the modern way of using electronic tools, such as the Internet and e-mail etc. for business-to-business purchases online, where suppliers and buyers exchange goods and services using the Internet and IT applications (Mohd, Saniah, Nurul, Faisal & Aizul, 2016; Kishor, Sajeev, & Callender, 2007).

2.0. LITERATURE REVIEW

E-procurement can be defined as the use of electronic methods over the Internet to conduct procurement functions: identification of requirements, tendering process, payment, and contract management (Corsi, 2006), It uses computer technologies and the Internet to conduct procurement operations and is considered one of the major reforms in public procurement (Geoffrey & Barrack, 2015). E-procurement is an aspect of e-commerce that involves activities and processes such as e-informing, e-notification, e-announcement, e-sourcing, e-tendering, e-reverse auctioning; e-ordering, e-payment, and others that enable organizations to engage in seamless and paperless procurement activities and processes (Egidario, Eziyi, Emmanuel, Uwakonye, & James, 2017).

E-procurement technologies, tools, and applications include: Internet-supported technologies, tools, and applications such as electronic data interchange (EDI), websites, portals, e-mail, GIS, GPS, RFID, Web 2.0, sensor networks, Building Information Modelling (BIM), enterprise resource planning (ERP), cloud computing, and software applications (Egidario, Eziyi, Emmanuel, Uwakonye, & James, 2017).

E-procurement has been embraced in many nations because of the advantages including an increase in profit margin, a reduction in errors associated with paper-based methods, and a reduction in procurement cost. Despite the benefits of e-procurement several procurement departments in Nigeria have not fully embraced e-procurement. There is also no statutory requirement for the adoption of e-procurement under the Procurement Act of 2007 (Peter, Nmecha, & Akujuobi, 2023). Significant progress has been made in the development of e-procurement, but challenges remain in achieving its widespread adoption and full integration into both government and private sector procurement processes. Hence, the uptake of e-procurement in Nigeria is still low, manual procurement system is still in use not only in the private sector but also in the government state corporations. This is because of many factors

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like Technical, infrastructure, political, social, and cultural issues; the lack of evidence of the benefits of e-procurement; and the lack of financial ability to use e-procurement in different organizations (Peter, Nmecha, & Akujuobi, 2023).

The Nigerian procurement system has proved to be long, cumbersome, and time-consuming. The procurement system had several deficiencies that contributed to huge losses in public funds (Mose, 2012). It has also proved to be costly for both buyer and supplier or organizations, besides being regarded as a perpetrator of corruption.

However, Wittig, Callender and Schapper (2003) noted that a good procurement system must meet the basic principles of good governance: transparency, accountability, and integrity. The success of an e-procurement system is when the system can meet the public expectations toward the ideal procurement process (Vaidya, Sajeev & Callendar, 2006). And the adoption of cost-saving modern procurement practices is important in Nigeria (Peter, Nmecha, & Akujuobi, 2023).

A review of previous studies observed that the key challenges to e-procurement implementation include system integration issues, lack of standardization, immaturity of e-procurement-based market services, end-user resistance, and difficulties in integrating e-procurement with existing systems (Angeles & Nath, 2007). Other challenges include maverick buying, e-commerce integration issues, and the high cost of software (Barngetuny & Kimutai, 2015; Ganesh, 2021). Moreover, several factors influence e-procurement adoption, including user acceptance, information quality, trust, risk perception, staff training, compliance with best practices, and top management support (Ujakpa, Arora, Fianko, & Asirifi, 2016). The cost of acquiring and operating an e-procurement package, the geographical spread of the software, and network availability are also barriers to the implementation of e-procurement in Nigeria. The public sector neither has the facilities nor the manpower for modern procurement practices (Peter, Nmecha, & Akujuobi, 2023).

Ibem, Akinmoladun, and Ajayi (2016) investigated the factors influencing the adoption of e-procurement in the Nigerian building industry. Their findings established the benefits of e-procurement in enhancing efficiency in project delivery; eliminating geographic barriers and effective communication among project team members are the most important factors influencing e-procurement adoption amongst the participants.

In a related study on the adoption of e-procurement and the experiences of users with it in the Nigerian construction industry. The results of their findings indicate that the benefits of the technology, operational environment, challenges with change management, and the availability, accessibility, and interoperability of e-procurement systems had an impact on users' experiences with e-procurement in Nigeria (Ibem, Akinmoladun, & Ajayi, 2016).

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Aduwo, Ibem, Ayo-Vaughan, Uwakonye, and Owolabi (2017) investigated e-procurement use and the extent of its adoption in the Nigerian building industry. Their findings indicate that quantity surveyors and construction project managers in consulting firms were the primary e-procurement users, and e-mails and websites were the most widely utilized e-procurement technology for soliciting bids, sharing project outlines and specifications, advertising/announcements or receiving invitations to tender, and sourcing materials and equipment.

According to Simon, Francis, and Mathenge (2015), the barriers to the implementation of e-procurement include Technological challenges: security of information, technological costs, availability of infrastructure to support capacity, and ease with which one can adapt to emerging technologies. Resource Challenges: - Budgetary support; human resource capacity; Government policy ICT; the legal framework governing ICT; and backing of the top executives of the ministries.

Saidu, Abubakar, Ola-Awo, Oke, and Alumbugu (2020) observed that the barriers to the uptake of e-procurement in any public organization could be grouped into internal and external barriers. While the internal barriers focus on resource constraints and organizational and management characteristics, the external barriers include external factors, such as technology, infrastructure, legislation, and the environment. The major barriers to the uptake of e-procurement in Nigeria include a Lack of technical expertise, an unreliable power supply, inadequate government support, poor ICT and internet support, and a high cost of implementation.

In the view of Hashim, Aghaei and Salleh (2014), the conceived barriers to e-procurement uptake in Nigeria include the external environment (infrastructure, external pressure, and sociocultural factors); internal environment (size, resource availability, organizational culture, and trained labor); perception (perceived benefits, risks, trust, and cost); and attitude (age, occupational relevance, language, and education).

Having reviewed previous studies on e-procurement it can be noted that most of the studies were focused on barriers to the uptake of e-procurement and factors affecting the adoption of e-procurement, little or no studies have been conducted on the examination of the prospects of e-procurement on project success in Nigeria using relative importance index and spearman's correlation techniques. Hence, the need for this study to investigate the prospects of e-procurement on project success in Nigeria.

3.0. RESEARCH METHODS

This study adopted a descriptive quantitative research method to investigate the prospects of electronic procurement (e-procurement) on project success in Nigeria. The approach enabled

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the systematic collection and analysis of numerical data to assess variables such as technologies used, perceived benefits, barriers, and drivers of e-procurement implementation.

The study considered three states from three geo-political zones (southern region) comprising South-South (Rivers), South-East (Anambra), and South-West (Lagos) of Nigeria as the core study area because of the large infrastructural development.

The target population consisted of senior procurement executives, procurement officers, and professionals and stakeholders involved in procurement processes. A total population of 150 individuals was identified. A stratified random sampling technique was used to ensure proportional representation across regions and sectors. From this population, 100 respondents were selected as the sample size.

Table 1: Sample and Sampling Size

Stratum	Senior Procurement Executives	Procurement Officers	Other Professionals/ Stakeholders	Total
Population	30	50	70	150
Sample size	20	33	47	100

Source: Authors' Research (2024).

Data was analyzed using Relative Importance Index (RII) to rank various e-procurement tools, prospects, barriers, and drivers based on respondents' perceptions.

Mathematically, RII is obtained as follows:

$RII = \sum W / (A \times N)$ ---------- 2.2

Where: W = the weight given to each of the factors by the respondent (ranging from 1- 5);

A = the highest weight or scale;

N = the total number of respondents

2. Spearman's Rank Correlation Coefficient: Used to assess relationships among respondents.

$r = 1 - [6 \sum d2 / n (n2-1)]$ ---------- 2.3

d= the difference between ranks assigned to two variables for each course

n = number of pairs of ranks.

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Table 2: Ranking of E-Procurement Technologies, Applications, and Tools for Projects

E-procurement Technologies, Tools & Applications	Respondents (Weights)			Total Weight	RII	Rank
	Senior Procurement Executives	Procurement Officers	Other Professionals/ Stakeholders			
e-mails	103	156	198	457	0.91	1
Websites/web 2.0	99	150	165	414	0.83	2
Enterprise resources planning	92	138	160	390	0.78	3
Software applications	85	132	155	372	0.74	4
Electronic data interchange DI)	65	95	103	263	0.53	5
Cloud computing	63	85	93	241	0.48	6

Source: Authors' Analysis (2025).

4.1. PRESENTATION OF RESULTS AND DISCUSSIONS

4.1. PRESENTATION OF RESULTS

The results as presented in table 2, ranked email as the most frequent used e-procurement technology and tools necessary for project success with RII = 0.91, followed by website (RII=0.83), ERP (RII =0.78), software (RII=0.74) and EDI (RII=0.53) respectively.

Table 3**:** Spearman's Rank Correlation Coefficient Analysis of Prospects of E-Procurement Implementation on Project Success in Nigeria

Respondents	**Spearman's Rank Correlation Coefficient Analysis**			
	$P_{computed}$	**$P_{critical}$**	**compare**	**Decision/Conclusion**
Senior Procurement Executives	0.714	0.445	$P_{com.} > P_{cri.}$	Reject H_O, significant correlation
Procurement Officers	0.739	0.445	$P_{com.} > P_{cri.}$	Reject H_O, significant correlation
Other Professionals/ Stakeholders	0.829	0.445	$P_{com.} > P_{cri.}$	Reject H_O, significant correlation

α = 0.05, n = 6, r = 0.714(case 1), r = 0.739(case 2), r = 0.829(case 3)

The results as presented in Table 3, indicates that there is significant correlation between the responses of the respondents with spearman's correlation coefficient (r = 0.829 for all cases).

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Table 4: Ranking of Prospects of E-Procurement Implementation on Project Success

Prospects of E-Procurement implementation on project success in Nigeria	Respondents (Weights) SPE	PO	OP/S	(∑W)	RII	**Rank**
Good governance in the reduction of collusion among the bidders	80	105	125	310	0.62	1
Transparency and openness of information in public procurement	73	102	120	295	0.59	2
Good governance in the pre-qualifying process	70	105	109	284	0.57	3
Cost and time-saving in sending, evaluating, and approval process of tender and issuance of notification of award	70	101	105	276	0.56	4
Transparency in secrecy of bidder's information	67	89	111	267	0.53	6
Transparency in Public accessibility to tender information process and real-time access to information and bidding	65	90	108	263	0.53	6

SPE (senior procurement executives), PO (procurement Officers), OP/S (other professionals/stakeholders)

The results as presented in Table 4, ranked Good governance in the reduction of collusion among the bidders as the highest prospects of e-procurement implementation on project success in Nigeria with RII = 0.61, followed by Transparency and openness of information in public procurement (RII=0.59), Good governance in the pre-qualifying process (RII =0.57), Cost and time-saving in sending, evaluating, and approval process of tender and issuance of notification of award (RII=0.56) and Transparency in secrecy of bidder's information (RII=0.53) respectively.

Table 5: Spearman's Rank Correlation Coefficient Analysis of Prospects of E-Procurement Implementation on Project Success in Nigeria

Respondents	Spearman's Rank Correlation Coefficient Analysis			
	$P_{computed}$	$P_{critical}$	compare	Decision
Senior Procurement Executives	0.714	0.445	$P_{com.} > P_{cri.}$	Reject H_O,
Procurement Officers	0.739	0.445	$P_{com.} > P_{cri.}$	Reject H_O,
Other Professionals/ Stakeholders	0.829	0.445	$P_{com.} > P_{cri.}$	Reject H_O

α = 0.05, n = 6, r = 0.714(case 1), r = 0.739(case 2), r = 0.829(case 3)

The results as presented in table 5, indicates that there is significant correlation between the responses of the respondents with spearman's correlation coefficient (r = 0.714/case 1, r = 0.739/case 2, r = 0.829/case 3).

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Table 6: Ranking of Barriers to Uptake of Electronic Procurement in Nigeria

Barriers to Uptake of Electronic Procurement in Nigeria	Respondents (Weights)			Total Weight	RII	Rank
	SPE	PO	OP/E			
Lack of top management/government support	104	115	130	349	0.70	1
High costs of implementation	80	118	125	323	0.65	2
Lack of technical expertise	81	101	121	303	0.61	4
Security of transactions	83	112	109	304	0.61	4
Lack of common technology standards	72	97	108	280	0.56	5
Resistance to change	73	93	108	272	0.54	6

SPE (senior procurement executives), PO (procurement Officers), OP/S (other professionals/stakeholders)

The results as presented in table 6, ranked Lack of top management/government support as the highest barrier to uptake of e-procurement in Nigeria with RII = 0.70, followed by High costs of implementation (RII=0.65) and Lack of technical expertise (RII =0.61), Security of transactions (RII=0.61), and Lack of common technology standards (RII=0.53) respectively.

Table 7: Spearman's Rank Correlation Coefficient Analysis of Barriers to Uptake of Electronic Procurement in Nigeria

Respondents	Spearman's Rank Correlation Coefficient Analysis			
	P_{comp}	$P_{critical}$	compare	Decision/Conclusion
Senior Procurement Executives	0.870	0.445	$P_{com.} > P_{cri.}$	Reject H_O, sig. correlation
Procurement Officers	0.841	0.445	$P_{com.} > P_{cri.}$	Reject H_O, sig. correlation
Other Professionals/ Stakeholders	0.826	0.445	$P_{com.} > P_{cri.}$	Reject H_O, sig. correlation

α = 0.05, n = 6, r = 0.870(case 1), r = 0.841(case 2), r = 0.826(case 3)

The results as presented in table 7, indicates that there is significant correlation between the responses of the respondents with spearman's correlation coefficient (r = 0.870/case 1, r = 0.841/case 2, r = 0.826/case 3).

Table 8: Ranking of Drivers for Electronic Procurement Implementation in Nigeria

Drivers for Electronic Procurement Implementation in Nigeria	Respondents (Weights)			Total Weight	RII	Rank
	SPE	PO	OP/E			
Procurement compliance	90	105	128	323	0.65	1
Procurement centralization	93	109	122	322	0.64	3
Procurement standardization	94	115	113	322	0.64	3
Optimizes sourcing strategy	85	109	120	314	0.63	4
Auditable data	89	101	121	311	0.62	5
Procurement cost-benefit analysis	70	103	133	306	0.61	6

SPE (senior procurement executives), PO (procurement Officers), OP/S (other professionals/stakeholders)
Source: Authors' Analysis (2024).

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E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2025

The results as presented in table 8, ranked Procurement compliance as the highest drivers for e-procurement implementation in Nigeria with RII = 0.65, followed by Procurement centralization (RII=0.64) and Procurement standardization (RII =0.64), Optimizes sourcing strategy (RII=0.63), and Auditable data (RII=0.63) respectively.

Table 9: Spearman's Rank Correlation Coefficient Analysis of Drivers for Electronic Procurement Implementation in Nigeria

Respondents	Spearman's Rank Correlation Coefficient Analysis			
	$P_{computed}$	$P_{critical}$	compare	Decision/Conclusion
Senior Procurement Executives	0.899	0.445	$P_{com.} > P_{cri.}$	Reject H_O, sig. correlation
Procurement Officers	0.938	0.445	$P_{com.} > P_{cri.}$	Reject H_O, sig. correlation
Other Professionals/ Stakeholders	0.844	0.445	$P_{com.\ G} > P_{cri.}$	Reject H_O, sig. correlation

α = 0.05, n = 6, r = 0.899(case 1), r = 0.938(case 2), r = 0.844(case 3)

The results as presented in table 9, indicates that there is significant correlation between the responses of the respondents with spearman's correlation coefficient (r = 0.899/case 1, r = 0.938/case 2, r = 0.844/case 3).

4.2. Discussions

The findings of the study in line with the research objectives, providing interpretations that relate to existing literature. The study explored the prospects, barriers, and drivers of electronic procurement (e-procurement) on project success in Nigeria using quantitative techniques including the Relative Importance Index (RII) and Spearman's Rank Correlation Coefficient.

E-Procurement Technologies and Tools

The results in Table 4 show that among the e-procurement technologies assessed, e-mails ranked the highest with an RII of 0.91, followed by websites/Web 2.0 (RII = 0.83), Enterprise Resource Planning (ERP) systems (RII = 0.78), and software applications (RII = 0.74). These tools are recognized for their accessibility, low cost, and ease of use, which contribute to their widespread adoption. On the other hand, more sophisticated technologies such as Electronic Data Interchange (EDI) (RII = 0.53) and cloud computing (RII = 0.48) were ranked lower, indicating limited uptake due to infrastructural, financial, or skill-based constraints. These results are consistent with the findings of Aduwo et al. (2017), who noted that basic tools such as emails and websites were the most commonly used technologies in the Nigerian construction industry. The dominance of simpler tools underscores the need for capacity building and investment in advanced digital procurement infrastructure.

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ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION, OWERRI
https://www-ajsspub-org.b12sites,com https://www.ajsspub2.org
E- ISSN: 3043 – 5463 ISSN: 1595 – 5842 VOLUME 2, ISSUE 2, 2025

Prospects of E-Procurement Implementation

The prospects of e-procurement implementation presented in Table 4 show areas that are highly ranked in good governance, particularly in reducing bidder collusion (RII = 0.62), followed by transparency and openness (RII = 0.59) and efficiency in pre-qualification processes (RII = 0.57). These results underscore the perceived potential of e-procurement in promoting integrity, transparency, and operational efficiency. This aligns with Wittig et al. (2003) and Vaidya et al. (2006), who emphasized the importance of transparency and governance in achieving successful procurement outcomes. The significant Spearman correlation coefficients (r = 0.714 to 0.829) further affirm strong agreement among different stakeholder groups regarding the benefits of e-procurement.

Barriers to E-Procurement Adoption

Despite the evident potential, several critical barriers hinder widespread adoption as presented in Table 6. The lack of top management or government support was ranked the most significant barrier (RII = 0.70), followed by high implementation costs (RII = 0.65), technical expertise, and transaction security concerns (RII = 0.61). These factors suggest that structural and institutional challenges remain major impediments to e-procurement uptake in Nigeria. These findings are consistent with those of Peter et al. (2023) and Saidu et al. (2020), who identified financial constraints, infrastructure gaps, and lack of technical capacity as key obstacles. The high correlation values (r = 0.826 to 0.870) further reflect consensus among stakeholders on these impediments.

Drivers of E-Procurement Implementation

The results in Table 8 revealed procurement compliance as the most significant driver (RII = 0.65), closely followed by centralization and standardization (RII = 0.64). These factors point to the importance of structured processes, regulatory adherence, and unified platforms to ensure consistency and transparency. The strong correlation coefficients (r = 0.844 to 0.938) highlight a shared understanding of the strategic value of compliance and system alignment in facilitating e-procurement adoption. This is consistent with prior literature (e.g., Ujakpa et al., 2016) that emphasized the necessity of management support and systemic integration for successful implementation.

5.0. CONCLUSIONS AND RECOMMENDATIONS

This study assessed the prospects of electronic procurement (e-procurement) on project success in Nigeria, focusing on the use of digital tools, implementation barriers, and enabling drivers. Findings from the analysis indicate that basic e-procurement technologies such as emails and websites remain the most commonly used tools due to their accessibility and cost-effectiveness. The prospects of e-procurement are strongly linked to good governance,

transparency, and efficiency in procurement processes. However, its adoption is limited by critical barriers including lack of top management support, high implementation costs, and insufficient technical capacity.

Notably, the study revealed a strong consensus among procurement professionals that regulatory compliance, standardization, and centralization are fundamental drivers of successful e-procurement implementation. These insights highlight a significant opportunity for policymakers and stakeholders to transform procurement practices in Nigeria through strategic reforms and investments.

Based on the findings of this study, to harness the benefits of e-procurement, the following policy actions are recommended:

1. Institutional Leadership Support: Federal and state governments should provide strong policy backing, coupled with leadership engagement, to drive e-procurement adoption across public institutions.

2. Capacity Development: Continuous training and digital literacy programs are essential for procurement officers and stakeholders to manage and operate e-procurement systems effectively.

3. Investment in Digital Infrastructure: Adequate funding should be allocated to procure and maintain robust ICT infrastructure that supports seamless e-procurement activities.

4. Legal and Regulatory Reforms: Amendments to the Public Procurement Act of 2007 may be necessary to mandate the use of electronic procurement platforms across government agencies.

5. Platform Standardization: The establishment of a centralized and interoperable procurement portal will foster consistency, transparency, and data-driven decision-making.

6. Stakeholder Engagement and Transparency: Public sensitization campaigns and inclusive consultations can improve trust, user acceptance, and participation in e-procurement processes.

Competing Interest

The authors have declared that no conflicting interest exist in this paper

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