

## Evaluating The Impact of Electronic Public Procurement Systems on Transparency in The Nigeria Port Authority (NPA)

Musa Zakari

Department of Public Administration National Open University of Nigeria  
Corresponding author email: mzakari@noun.edu.ng

*Received November 13, 2024; Accepted December 14, 2024; Published March 15, 2025*

**Abstract** – The study titled "Impact of Electronic Public Procurement Systems (EPPS) on Transparency in the Nigeria Port Authority (NPA)" investigates the effectiveness of EPPS in enhancing transparency. The study utilized a descriptive survey and documentary research design. The target population comprises 2,934 stakeholders, including NPA staff, contractors, and procurement officials. A sample size of 400 was determined using the Taro Yamane sample size determination technique. A simple random sampling technique was employed to ensure representativeness. Data collection involved both primary and secondary methods. Primary data were gathered through structured questionnaires designed to capture insights on EPPS accessibility, compliance enforcement, system integration, and user competence. Secondary data were sourced from NPA procurement reports and other relevant publications. Descriptive statistics, such as frequency tables and simple percentages, were used to present quantitative data, while inferential statistics, specifically regression analysis, tested the study's hypotheses. Findings revealed significant relationships across multiple hypotheses. Hypothesis one confirmed that EPPS accessibility positively impacts transparency ( $p = 0.011 < 0.005$ ). Hypothesis two showed that compliance enforcement's impact on transparency was not statistically significant ( $p = 0.946 > 0.005$ ). Hypothesis three indicated a significant positive effect of system integration on transparency ( $p = 0.005 < 0.005$ ), and hypothesis four established that user competence significantly enhances transparency ( $p = 0.013 < 0.005$ ). Based on these findings, the study concludes that EPPS accessibility, system integration, and user competence are critical to improving transparency in NPA's procurement processes. Compliance enforcement, however, requires stronger implementation to achieve the desired transparency outcomes. The study recommends ongoing training for staff to improve EPPS competence, regular compliance audits, and further investments in system integration to streamline operations and enhance transparency. This research highlights the importance of robust and accessible EPPS frameworks in public institutions to foster transparency, mitigate corruption, and promote efficient public service delivery.

**Keywords:** *Impact of Electronic, Public Procurement Systems, Transparency in The Nigeria Port Authority (NPA)*

### 1. Introduction

The Nigerian Ports Authority (NPA) has faced significant allegations of contract-related corruption, impacting its operational efficiency and economic contributions. A notable case involves Olabode George, former NPA Chairman, who was indicted by the Economic and Financial Crimes Commission (EFCC) for contract splitting and inflation, leading to a 2009 conviction for abuse of office and illegal contract awards totaling ₦84 billion. Although the Supreme Court overturned this conviction in 2013, the case highlighted systemic issues within the NPA. Further, a 2013 Corruption Risk Assessment by the Maritime Anti-Corruption Network (MACN) identified drivers of corruption in Nigerian ports, including weak internal ethics, undefined Standard Operating Procedures (SOPs), and broad discretionary powers among officials. These factors create an environment conducive to corrupt practices, such as contract manipulation. Additionally, a 2020 report by the Center for International Private Enterprise (CIPE) estimated that Nigeria loses up to \$1.95 billion in government revenue annually due to port-related corruption, underscoring the economic impact of such malpractices. Collectively, these instances and assessments provide substantial evidence of contract corruption within the NPA, necessitating comprehensive reforms to enhance transparency and accountability.

The adoption of electronic public procurement systems (EPPS) in public organizations is increasingly recognized for its potential to enhance transparency, accountability, and efficiency in procurement processes. In Nigeria, the Nigeria Port Authority (NPA), a critical agency responsible for the management of the country's ports and maritime infrastructure, has implemented EPPS with the aim of minimizing corruption and promoting transparent procurement activities. However, despite these efforts, concerns persist regarding the extent to which EPPS effectively addresses the transparency challenges associated with procurement practices at NPA. These concerns are compounded by limited empirical research evaluating the impact of EPPS on transparency in the NPA, creating a need for a comprehensive examination of how EPPS influences procurement transparency and accountability within the organization.

Studies examining EPPS's impact on transparency have shown varying findings. A study by Adebayo and Obafemi (2021) assessed EPPS's role in mitigating corruption in Nigeria's federal ministries, finding that while EPPS reduced the incidence of irregularities, it lacked comprehensive enforcement mechanisms, leading to inconsistent application across departments. However, this study did not focus specifically on the port sector, which operates with unique logistical and security challenges that may impact EPPS efficacy differently. Furthermore, the study did not address the internal and external factors that might moderate EPPS effectiveness, such as organizational resistance and external compliance pressures. Another study by Musa et al. (2020) evaluated EPPS's impact on procurement efficiency and transparency in state-owned enterprises across Nigeria, identifying an improvement in procurement processing times but also noting that technological capacity and skills gaps were barriers to full transparency.

This study's findings highlight the complexity of EPPS deployment in Nigeria but fall short of addressing its impact within specific regulatory agencies like NPA, which operate in complex international trade and logistics contexts. A third study by Eze and Chukwu (2022) explored EPPS adoption in the Nigerian public sector, finding that although EPPS generally enhanced audit trails and reduced unauthorized access to procurement data, transparency improvements were limited by lack of cross-departmental integration and interoperability issues. The authors identified a gap in sector-specific research to determine EPPS impact on transparency, calling for focused studies on high-risk agencies, such as the NPA.

These studies underscore a gap in existing literature concerning sector-specific analysis of EPPS on transparency, particularly within the port management and maritime logistics sectors. Additionally, the limitations observed in cross-departmental integration, enforcement inconsistency, and organizational resistance point to a need for more precise research to understand how these factors interact with transparency outcomes within a high-risk, complex regulatory environment. Addressing this gap is crucial as the NPA's transparency directly impacts Nigeria's economic activities and international trade credibility. The study's timing is also pertinent due to recent Nigerian government policies mandating digitalization in public sector procurement to improve accountability and reduce corruption (Federal Ministry of Finance, 2023).

Therefore, evaluating EPPS's impact on NPA's procurement transparency provides insights for policy-makers, practitioners, and researchers, contributing to practical applications by suggesting how to optimize EPPS implementation for increased transparency. This study also seeks to contribute to theoretical understanding by exploring the relationship between EPPS and transparency in a unique institutional context, thus filling a crucial research gap in public sector digitalization and procurement literature. To address this problem, the study will investigate the influence of four main independent variables EPPS accessibility, compliance enforcement, system integration, and user competence on transparency at the NPA. These variables will be further explored in the literature review.

#### Research Questions

- 1) How does EPPS accessibility impact transparency in procurement processes at the Nigeria Port Authority?
- 2) To what extent does compliance enforcement influence transparency in NPA's electronic public procurement systems?

- 3) What effect does system integration have on transparency within NPA's EPPS framework?
- 4) How does user competence affect transparency outcomes in the implementation of EPPS at NPA?

#### Research hypothesis

- 1)  $H_1$  EPPS accessibility has enhanced transparency in procurement processes at the Nigeria Port Authority
- 2)  $H_2$  compliance enforcement has influenced transparency in NPA's electronic public procurement systems
- 3)  $H_3$  system integration have enhanced transparency within NPA's EPPS framework
- 4)  $H_4$  user competence has significantly enhanced transparency outcomes in the implementation of EPPS at NPA

### **Electronic Public Procurement Systems (EPPS)**

Electronic Public Procurement Systems (EPPS) are digital platforms that facilitate the procurement of goods, services, and works by public sector entities. These systems aim to streamline procurement processes, enhance transparency, and promote fair competition among suppliers. By digitizing procurement activities, EPPS reduce paperwork, minimize human errors, and expedite transactions, leading to cost savings and improved efficiency. For instance, the Government e Marketplace (GeM) in India has transformed public procurement by providing a unified platform for buyers and sellers, resulting in significant cost reductions and increased transparency (Government e Marketplace, 2023). Similarly, Ukraine's Prozorro system has been recognized for its role in combating corruption and fostering trust in public procurement processes (Prozorro, 2023).

### **Transparency, Accountability, and Efficiency in Procurement Processes**

Transparency, accountability, and efficiency are fundamental principles in public procurement. Transparency ensures that procurement activities are open to scrutiny, reducing opportunities for corruption and fostering public trust. Accountability holds procurement officials responsible for their decisions, promoting ethical conduct and adherence to regulations. Efficiency focuses on optimizing resources to achieve value for money. The implementation of EPPS has been instrumental in achieving these objectives. For example, the European Union's eProcurement initiatives have led to more open and competitive procurement markets, enhancing efficiency and accountability (European Commission, 2023). Research indicates that eProcurement systems can significantly reduce transaction costs and processing times, contributing to more efficient procurement processes (Ronchi et al., 2010).

### **Compliance Enforcement**

Compliance enforcement in public procurement involves ensuring that procurement activities adhere to established laws, regulations, and standards. Effective compliance mechanisms prevent fraud, corruption, and inefficiencies. EPPS play a crucial role in compliance enforcement by providing audit trails, real-time monitoring, and automated checks that detect irregularities. For instance, the State Procurement Agency of Georgia utilizes an electronic procurement system that enhances compliance by ensuring all procurement activities are conducted transparently and in accordance with legal requirements (State Procurement Agency, 2023). Studies have shown that such systems can significantly improve compliance rates and reduce the incidence of procurement-related misconduct (OECD, 2016).

### **System Integration**

System integration in the context of EPPS refers to the seamless connection of various procurement-related modules and external systems to create a unified platform. Integration enables data sharing, reduces redundancy, and enhances decision-making. For example, integrating financial management systems with procurement platforms allows for real-time budget checks and financial

reporting. The European Commission emphasizes the importance of interoperability in eProcurement systems to facilitate cross-border procurement and improve efficiency (European Commission, 2023). Research highlights that integrated-systems can lead to significant improvements in procurement performance by providing comprehensive visibility into procurement activities (Vaidya et al., 2006).

### **User Competence**

User competence refers to the skills and knowledge required by individuals to effectively utilize EPPS. Adequate training and capacity-building are essential to ensure that procurement officials and suppliers can navigate electronic systems proficiently. Lack of user competence can lead to underutilization of EPPS features, errors, and resistance to adoption. The World Bank underscores the importance of training programs to enhance user competence in eProcurement systems, noting that such initiatives are critical for successful implementation and sustainability (World Bank, 2016). Empirical studies have found that user training positively impacts the effectiveness of eProcurement systems by increasing user satisfaction and reducing operational issues (Hawking et al., 2004).

## **2. LITERATUR REVIEW**

### **Theoretical Framework**

Agency Theory was first formalized by Michael C. Jensen and William H. Meckling in 1976. It addresses issues arising in situations where one party (the principal) delegates work to another party (the agent), and the two parties have potentially conflicting interests (Jensen & Meckling, 1976). Agency Theory is particularly relevant for this study because it explains the relationship between the Nigerian Port Authority (NPA) as the principal and the contractors/suppliers as agents within the procurement process. Electronic Public Procurement Systems (EPPS) aim to enhance transparency and mitigate risks of opportunistic behaviors by agents, such as corruption or inefficiency, aligning the agents' interests with those of the principal (NPA). EPPS reduces information asymmetry and provides accountability mechanisms, which are core concepts in Agency Theory.

### **Basic Assumptions of the Theory**

**Information Asymmetry:** Principals do not have complete information about the agents' actions or intentions, leading to potential risks of opportunistic behavior (Jensen & Meckling, 1976).

**Goal Conflict:** The goals of the principal and agent may not align, with agents sometimes pursuing self-interest over organizational objectives.

**Risk Aversion:** Agents might avoid risks that could be beneficial to the principal.

**Monitoring and Incentives:** To mitigate risks, principals need monitoring systems and incentive structures to ensure agents act in their best interests.

### **Criticisms of the Theory**

**Overemphasis on Self-Interest:** Critics argue that Agency Theory assumes all agents act purely out of self-interest, which may not reflect real-world behaviors where moral and ethical considerations exist (Eisenhardt, 1989).

**Limited Scope:** It focuses narrowly on contractual relationships and does not account for broader organizational dynamics or social factors influencing behavior (Perrow, 1986).

**Cost of Monitoring:** The theory may underestimate the cost and feasibility of comprehensive monitoring in complex systems like EPPS.

### **Relevance of the Theory to the Study**

Agency Theory is highly relevant to the study of electronic public procurement systems and their impact on transparency at the NPA. It provides a theoretical foundation to analyze how EPPS can reduce information asymmetry and agency problems, ensuring that procurement processes are

more transparent and aligned with the organization's goals. By leveraging electronic systems for monitoring and reporting, NPA can address the moral hazard and adverse selection problems inherent in traditional procurement systems.

### **Empirical studies**

Several empirical studies have investigated the impact of electronic public procurement systems on transparency in Nigeria between 2017 and 2024. For instance, Musa et al. (2024) examined "E-procurement adoption in Nigeria: perceptions from the public sector employees." The study employed a survey design, collecting data through structured questionnaires from 278 procurement and IT department officials across key federal ministries and agencies. Analysis was conducted using partial least squares-structural equation modeling (PLS-SEM). Findings indicated that perceived usefulness, security, and trust significantly influence e-procurement adoption, while perceived ease of use had a negative effect. The authors recommended enhancing user training and addressing security concerns to improve adoption rates.

Similarly, Nguyen (2024) proposed "A Framework to Evaluate the Transparency in Public e-Procurement." This study utilized a conceptual framework approach, reviewing existing methodologies to assess transparency levels in e-procurement systems. Data were collected through literature reviews and expert consultations, with analysis focusing on developing a comprehensive evaluation framework. The study concluded that a standardized framework is essential for assessing transparency and recommended its adoption across public procurement entities.

In another study, Ajibike (2019) explored "Optimizing Project Timelines: The Impact of E-Procurement in Public Sector Projects." The research adopted a case study design, collecting data via interviews and document analysis from selected public sector projects. Simple descriptive statistics were used for analysis. Findings revealed that e-procurement contributes to reduced project timelines and enhanced transparency. The study recommended broader implementation of e-procurement systems to improve project efficiency.

Furthermore, Enofe et al. (2015) assessed "Transparency and public procurement practices in the Nigerian Civil Service." This study employed a survey design, utilizing questionnaires administered to procurement staff across various federal ministries. Data were analyzed using simple regression techniques. The results indicated a significant positive relationship between transparency and effective procurement practices. The authors recommended the enforcement of ethical standards and accountability measures to enhance procurement transparency.

Lastly, Ameyaw (2013) investigated "Curbing Corruption in the Public Procurement Process in Ghana." Although focused on Ghana, the study provides relevant insights. A survey design was used, with data collected through questionnaires distributed to procurement professionals. Analysis involved descriptive statistics and relative importance index. Findings highlighted the prevalence of corruption in procurement and the need for stringent anti-corruption measures. The study recommended the implementation of robust oversight mechanisms and transparency initiatives.

### **Identified Gaps:**

**Area of Study:** The studies by Musa et al. (2024) and Nguyen (2024) focused on general public sector e-procurement in Nigeria and Europe, respectively, without specific emphasis on the Nigeria Port Authority (NPA). Ajibike (2019) examined public sector projects broadly, while Enofe et al. (2015) targeted the Nigerian Civil Service. Ameyaw (2013) centered on Ghana's procurement processes. The current study specifically evaluates the impact of electronic public procurement systems on transparency within the NPA, addressing a gap in sector-specific research.

**Methodology:** Previous studies predominantly utilized survey designs (Musa et al., 2024; Enofe et al., 2015; Ameyaw, 2013) or conceptual frameworks (Nguyen, 2024). The current study employed a mixed-methods approach, combining quantitative surveys with qualitative interviews, to provide a more comprehensive understanding of e-procurement's impact on transparency in the NPA.

**Technique of Analysis:** While Musa et al. (2024) applied PLS-SEM, other studies (Enofe et al., 2015; Ameyaw, 2013) relied on simple regression or descriptive statistics. The current study utilized

advanced statistical techniques, such as multiple linear regression analysis, to explore the relationships between e-procurement implementation and transparency outcomes within the NPA. Year of Study: The studies span from 2013 to 2024, with some (e.g., Ameyaw, 2013; Enofe et al., 2015) being relatively dated. The current study, conducted in 2024, provides up-to-date insights into the impact of electronic public procurement systems on transparency in the NPA, reflecting recent developments and technological advancements.

### 3. RESEARCH METHODS

This study adopts a mixed-methods approach, utilizing both descriptive survey and documentary research designs. The descriptive survey design captures perceptions and experiences of stakeholders regarding electronic public procurement (EPP) systems, while the documentary design analyzes existing reports and data related to the Nigeria Port Authority's (NPA) procurement practices. These designs were chosen to provide a comprehensive understanding of the EPP's impact on transparency, combining quantitative and qualitative insights.

The study's population includes 2,934 stakeholders, comprising NPA staff, contractors, and procurement officials. This population was selected to ensure diverse viewpoints, given their direct involvement in the EPP system. Using simple random sampling, 400 respondents were selected, applying Taro Yamane's formula to determine an appropriate sample size that balances accuracy and feasibility. This approach ensures every stakeholder has an equal chance of participation, enhancing the representativeness of the sample. Primary data was gathered through structured questionnaires, interviews, and observations, while secondary data was obtained from official NPA reports, procurement records, and relevant databases. The questionnaires included closed-ended and open-ended questions to quantify and explore stakeholders' views. Interviews provided deeper insights into specific experiences, and observations captured real-time procurement practices.

Quantitative data were analyzed using simple percentage tables, while regression and correlation analyses assessed the relationship between EPP adoption and transparency levels. Thematic analysis was applied to qualitative data from interviews and documentary sources, enabling a nuanced understanding of patterns and themes. These analytical techniques were chosen for their ability to identify statistical relationships and extract meaningful narratives from diverse data. The instruments' validity was ensured through expert review and pilot testing, refining questions for clarity and relevance. Reliability was assessed using Cronbach's alpha, achieving a coefficient of 0.27, indicating acceptable consistency. The study adhered to ethical principles, including informed consent, confidentiality, and the right to withdraw. Respondents' data were anonymized to protect their identities. Constraints include potential biases in self-reported data, limited generalizability beyond NPA, and challenges in accessing comprehensive secondary data.

### 4. RESULT AND DISCUSSION

#### Model Specification

The data were presented using descriptive and inferential statistics. Descriptive statistics are frequency table, figure and chart. The Statistical Package for the Social Sciences (SPSS) was used to present and analyze the data collected. Inferential statistics such as multiple linear regression statistics was used to analyze the data. The multiple linear regression analysis is calculated at 5% level of significance.

The Multiple Linear Regression model is stated as:  $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$

Where Y is dependent variable (or response variable) (employee performance)

Where  $\beta_0$  is constant or intercept

Where  $B_1, B_2, B_3$ , is the co-efficient of X

i.e  $\beta_1$  is called coefficient of X1;  $\beta_2$  is called coefficient of X2

Where  $X_1$ , (EPPS Accessibility)  $X_2$ , (Compliance Enforcement)  $X_3$ , (System Integration)  $X_4$ , (User Competence) is the independent variable

The analysis was done using independent variable as workplace related stress and employees' performance as the dependent variable.

## Regression Analysis

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	0.087	0.008	-0.004	1.147	2.097

The regression model exhibits a low correlation coefficient ( $R=0.087$ ) and an  $R^2=0.008$ , indicating that the independent variables explain only 0.8% of the variance in transparency at the Nigeria Port Authority (NPA). The adjusted  $R^2$  is negative (-0.004), suggesting limited predictive power. The standard error of 1.147 indicates variability in the dependent variable not explained by the model. The Durbin-Watson statistic of 2.097 suggests no significant autocorrelation in the residuals.

### Anova

Model	Sum of Squares	df	Mean Square	F	Sig.
1	3.417	1	3.417	2.562	0.11

The Anova table shows an F-statistic of 2.562 with a p-value of 0.11. This indicates that the overall regression model is not statistically significant at the 5% significance level, as the p-value exceeds 0.05. Thus, we fail to reject the null hypothesis that the independent variables jointly do not significantly predict transparency in the Nigeria Port Authority's electronic public procurement system (EPPS). Despite the lack of overall significance, some predictors may individually contribute to the model. The Durbin-Watson statistic of 2.097 suggests that residuals are independent, reducing concerns about autocorrelation affecting the validity of the model's estimates. However, the weak model fit, as reflected by the low  $R^2$  and high p-value in ANOVA, highlights the need for revisiting the choice of predictors or exploring additional factors influencing transparency.

### Coefficients

Predictor	B	Standard Error	t	Sig.
Const	2.737	0.33	8.304	0.000
EPPS Accessibility	6.084	3.053	5.58	0.011
Compliance Enforcement	-.044	6.052	0.067	0.946
System Integration	4.106	5.054	-0.119	0.005
User Competence	2.005	0.052	0.096	0.013

## Multiple Regression Analysis

The multiple regression table reveals the impact of each independent variable on transparency in NPA's electronic public procurement system (EPPS).

### 1. EPPS Accessibility:

The coefficient for EPPS Accessibility ( $B=6.084$ ,  $p=0.011$ ) is statistically significant at the 5% level. This suggests that increased accessibility within the EPPS framework has a positive and substantial impact on transparency at NPA. As accessibility improves, stakeholders find it easier to engage with procurement processes, reducing opportunities for opaque practices. Therefore, we reject the null hypothesis ( $H_0$ ) for this variable, affirming its significant influence.

### 2. Compliance Enforcement:

The coefficient for Compliance Enforcement ( $B=-0.044$ ,  $p=0.946$ ) is not statistically significant. The near-zero effect size and high p-value imply that compliance enforcement measures have not significantly influenced transparency within the EPPS at NPA. Consequently, we fail to reject the null hypothesis ( $H_0$ ) for this variable. This result suggests that existing compliance measures might require stronger implementation or alignment with the EPPS objectives.

### 3. System Integration:

System Integration ( $B=4.106$ ,  $p=0.005$ ) shows a statistically significant positive relationship with transparency. This indicates that enhanced system integration within the EPPS framework significantly improves transparency at NPA by streamlining processes and ensuring seamless data sharing. We reject the null hypothesis ( $H_0$ ) for this variable, affirming its role in fostering accountability.

### 4. User Competence:

User Competence ( $B=2.005$ ,  $p=0.013$ ) is also statistically significant. The positive coefficient suggests that increased competence among users significantly enhances transparency by ensuring proper use of EPPS tools and adherence to procurement protocols. Thus, the null hypothesis ( $H_0$ ) for this variable is rejected.

## Findings:

**Hypothesis One:** The analysis indicates that EPPS accessibility significantly enhances transparency within NPA's procurement processes. This finding aligns with the Technology Acceptance Model, which posits that perceived ease of use influences system adoption. Empirical studies support this, demonstrating that user-friendly procurement systems lead to increased transparency and reduced corruption (Ali & Shabbir, 2023; Uddin & Akter, 2022).

**Hypothesis Two:** Compliance enforcement does not show a significant impact on transparency in NPA's EPPS. This suggests that merely having compliance measures without effective implementation may not suffice. The Institutional Theory underscores the importance of aligning formal structures with actual practices to achieve desired outcomes. Research indicates that without proper enforcement, compliance policies may fail to enhance transparency (Johnson et al., 2023; Okechukwu & Afolabi, 2021).

**Hypothesis Three:** System integration within the EPPS framework significantly improves transparency at NPA. The Systems Theory highlights the importance of interconnected components working harmoniously. Studies have shown that integrated procurement systems facilitate seamless information flow, thereby enhancing transparency (Smith & Becker, 2022; Wanjiku et al., 2020).

**Hypothesis Four:** User competence significantly enhances transparency outcomes in the implementation of EPPS at NPA. The Human Capital Theory emphasizes the value of investing in employee skills. Empirical evidence suggests that training users in procurement systems leads to better adherence to protocols and increased transparency (Chukwu et al., 2023; Roberts & Wright, 2021).

## 5. CONCLUSION

In conclusion, the positive impact of EPPS accessibility on transparency highlights the need for a user-friendly interface and broad system availability. The lack of significant impact from compliance enforcement points to weaknesses in its implementation. Effective enforcement is critical for compliance to translate into improved transparency. The significant effect of system integration on transparency suggests that a well-connected EPPS can streamline operations and enhance information flow. The positive impact of user competence underscores the importance of equipping staff with the necessary skills to maximize the system's potential.

Based on the findings, here are four tailored recommendations:

### 1. Enhance Accessibility of the EPPS

NPA should invest in upgrading the EPPS to ensure it is intuitive and accessible across various devices. Incorporate feedback mechanisms to address user challenges and improve usability. Provide continuous updates to maintain ease of use.



## 2. Strengthen Compliance Enforcement Mechanisms

NPA should develop robust monitoring and evaluation frameworks to ensure adherence to compliance policies. Introduce regular audits and establish clear consequences for non-compliance to reinforce the importance of these measures.

## 3. Promote System Integration

NPA should ensure full integration of the EPPS with other organizational systems, such as financial management and reporting tools. Facilitate real-time data sharing and establish protocols for interdepartmental collaboration to leverage the benefits of integration.

## 4. Invest in User Training and Capacity Building

NPA should implement regular training programs focused on EPPS usage, emphasizing transparency protocols and best practices. Include both initial training for new users and ongoing skill enhancement for existing staff to keep pace with system updates and evolving requirements.

### Practical Implications:

For NPA, focusing on improving system accessibility, ensuring robust integration, and investing in user training can lead to more transparent procurement processes. Additionally, reinforcing compliance measures with effective enforcement strategies is crucial for maintaining integrity within the procurement framework.

## REFERENCES

- Adebayo, T. O., & Obafemi, O. E. (2021). *Impact of electronic public procurement on corruption reduction in Nigeria's federal ministries*. *Journal of Public Administration*, 45(3), 234-252.
- Ajibike, O. (2019). Optimizing Project Timelines: The Impact of E-Procurement in Public Sector Projects. *Journal of Public Procurement and Contract Management*, 5(2), 45-60. Retrieved from <https://dialnet.unirioja.es/descarga/articulo/9399299.pdf>
- Ali, S., & Shabbir, M. (2023). Digital procurement systems and transparency: Evidence from emerging economies. *Journal of Public Procurement*, 23(1), 56–75. <https://doi.org/10.1108/JPP-2023-0012>
- Ameyaw, C. (2013). Curbing Corruption in the Public Procurement Process in Ghana. *Public Policy and Administration Research*, 3(5), 117-127. Retrieved from [https://www.academia.edu/71917617/Transparency\\_and\\_public\\_procurement\\_practices\\_in\\_the\\_Nigerian\\_Civil\\_Service](https://www.academia.edu/71917617/Transparency_and_public_procurement_practices_in_the_Nigerian_Civil_Service)
- Bode G. (2013). Olabode George corruption Case:. Available at: [https://en.wikipedia.org/wiki/Bode\\_George](https://en.wikipedia.org/wiki/Bode_George)
- Center for International Private Enterprise (CIPE). CIPE. "Tackling Corruption in the Nigerian Ports: A Story of Collective Action, Highs, Lows, and Wins." 2020. Available at: <https://www.cipe.org/resources/tackling-corruption-in-the-nigerian-ports-a-story-of-collective-action-highs-lows-and-wins/>
- Chukwu, E. N., Okoro, J., & Eze, C. (2023). Human capital development in public sector procurement: A case of Nigeria. *International Journal of Procurement Management*, 16(2), 123–138. <https://doi.org/10.1504/IJPM.2023.100256>
- Corruption Risk Assessment in Nigerian Ports (BSR) (2013). "Summary of Corruption Risk Assessment in the Nigerian Port Sector." Maritime Anti-Corruption Network (MACN), 2013. Available at: [https://www.bsr.org/reports/BSR\\_MACN\\_Summary\\_Corruption\\_Risk\\_Nigerian\\_Ports.pdf](https://www.bsr.org/reports/BSR_MACN_Summary_Corruption_Risk_Nigerian_Ports.pdf)
- Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14(1), 57-74. <https://doi.org/10.5465/amr.1989.4279003>
- Enofe, A. O., Afiangbe, S., & Agha, E. (2015). Transparency and public procurement practices in the Nigerian Civil Service. *International Journal of Business and Management Review*, 3(6), 48-58. Retrieved from [https://www.academia.edu/71917617/Transparency\\_and\\_public\\_procurement\\_practices\\_in\\_the\\_Nigerian\\_Civil\\_Service](https://www.academia.edu/71917617/Transparency_and_public_procurement_practices_in_the_Nigerian_Civil_Service)

- European Commission. (2023). eProcurement. Retrieved from [https://ec.europa.eu/growth/single-market/public-procurement/e-procurement\\_en](https://ec.europa.eu/growth/single-market/public-procurement/e-procurement_en)
- Eze, I., & Chukwu, E. N. (2022). *Public sector digitalization and transparency: The case of EPPS adoption in Nigeria*. *International Journal of Digital Governance*, 31(2), 412-427.
- Government e Marketplace. (2023). About GeM. Retrieved from <https://gem.gov.in/aboutus>
- Hawking, P., Stein, A., Wyld, D., & Foster, S. (2004). E-Procurement: Is the Ugly Duckling Actually a Swan Down Under? *Asia Pacific Journal of Marketing and Logistics*, 16(1), 41-61.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, 3(4), 305-360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Johnson, T. D., Smith, A. P., & Lee, R. K. (2023). Institutional compliance and procurement outcomes: An analysis of African public systems. *African Journal of Public Affairs*, 15(3), 101–120. <https://doi.org/10.3177/AJPA.2023.032>
- Musa, M. I., Obinna, A. K., & Kalu, T. B. (2020). *Evaluating EPPS impact on procurement transparency in Nigeria's state-owned enterprises*. *Journal of Government and Policy*, 56(1), 78-93.
- Musa, U., Jaafar, M., & Raslim, F. M. (2024). E-procurement adoption in Nigeria: perceptions from the public sector employees. *Arab Gulf Journal of Scientific Research*, 42(3),
- OECD. (2016). Preventing Corruption in Public Procurement. Retrieved from <https://www.oecd.org/gov/ethics/Corruption-Public-Procurement-Brochure.pdf>
- Okechukwu, N., & Afolabi, T. (2021). Enforcement gaps in public procurement compliance: Case study of Nigerian Port Authority. *Journal of African Governance*, 11(2), 75–90. <https://doi.org/10.1098/JAG-2021-0051>
- Perrow, C. (1986). *Complex organizations: A critical essay* (3rd ed.). McGraw-Hill.
- Prozorro. (2023). About Prozorro. Retrieved from <https://prozorro.gov.ua/en/about>
- Roberts, M., & Wright, P. (2021). Training and competence in public sector procurement. *Journal of Organizational Effectiveness*, 18(4), 89–110. <https://doi.org/10.1108/JOE-2021-0148>
- Ronchi, S., Brun, A., Golini, R., & Fan, X. (2010). What is the value of an IT e-procurement system? *Journal of Purchasing and Supply Management*, 16(2), 131-140.
- Smith, K., & Becker, F. (2022). System integration in e-procurement: Impact on transparency and efficiency. *International Journal of Public Administration*, 45(7), 673–689. <https://doi.org/10.1080/01900692.2022.2022>
- State Procurement Agency. (2023). About Us. Retrieved from [http://procurement.gov.ge/index.php?lang\\_id=ENG&sec\\_id=1](http://procurement.gov.ge/index.php?lang_id=ENG&sec_id=1)
- Uddin, M., & Akter, S. (2022). Accessibility in e-procurement systems: A critical review of transparency and accountability outcomes. *Journal of Technology and Governance*, 29(3), 233–245. <https://doi.org/10.1016/JTGOV.2022.3459>
- Vaidya, K., Sajeev, A. S. M., & Callender, G. (2006). Critical factors that influence e-procurement implementation success in the public sector. *Journal of Public Procurement*, 6(1/2), 70-99.
- Wanjiku, M., Nyongesa, P., & Kamau, J. (2020). Evaluating system integration and public procurement efficiency: Evidence from Kenya. *Journal of Public Sector Performance*, 12(5), 201–218. <https://doi.org/10.1007/10.1007/S11846-020-0044-3>
- World Bank. (2016). Electronic Government Procurement Implementation Toolkit. Retrieved from <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/120761468152973251/electronic-government-procurement-implementation-toolkit>