

Assessment of E-Procurement Management Practices Implementation Impediments among Selected Public Hospitals in Southwestern Nigeria

***Kazeem Yusau Kunle¹; Olatunji Olabode David² & Owwoye Idowu³**

Department of Business Administration, Adekunle Ajasin University, Akungba-Akoko,
Ondo State, Nigeria.

***Corresponding Author: yusau.kazeem@aaau.edu.ng**

Abstract

This study assessed e-procurement management practices implementation impediments among selected public hospitals in Southwestern Nigeria. These were with a view to unravel the inability of public hospitals to deploy e-procurement modules as being practiced in developed countries. The study employed descriptive research design. Primary data were gathered through administration of questionnaire. The Population of the study was 240 respondents with a sample size of 168 purposively selected from public hospitals in Southwestern Nigeria. Multi-stage sampling technique was adopted for the study. Data obtained were analysed using descriptive statistics. The study found that funding/budgetary allocation, lack of a business relationship with suppliers, inadequacy in government policies organizational readiness, staff proficiency in ICT skills, lack of IT infrastructure, lack of adequate security measures to protect data, inadequate legal requirements, lack of systematic approach to managing records and top hospital management support were the impediments to the implementation of electronic procurement management practices among selected public hospitals. The study concluded that public hospitals in the Southwestern Nigeria had challenges in the implementation of e-procurement management practices.

Keywords: E-procurement Management, Public Hospitals, IT infrastructure, Records Management, Legal Requirements, Budgetary Allocation

JEL Classification Code: 135*

1. Introduction

Studies have shown that innovations will not have meaningful impact in an organization until the essential supporting blocks are put in place (Greenhalgh, Robert & Bate, 2004). E-Procurement Management practices represents innovation and it is a departure from traditional procurement. Firms either private or public across sectors have started adopting e-procurement management practices to enhance operational efficiency. However, review of studies show that e-procurement adoption faces many challenges from within and outside the public sectors. Some studies reviewed such as Kabando, Pitso and Kapepo (2019); Yano and Nondi (2018); Tsuma and Kanda (2017); Daodu and Ibrahim (2017); indicated that employees' competence, inadequate legal provisions, poor technological infrastructure, security issues over e-procurement transaction, internal ethical issues, organizational support, poor suppliers' readiness, effective communication jointly or individually affect e-procurement solution in the public sectors.

In Nigeria, the available studies according to literature such as (Ibem, Aduwo, Tunji-Olayemi, Ayo-Vanghan, & Uwakoye, 2016; Afolabi, Ibem, Aduwo, Tunji-Olayemi & Olawumi, 2019; Yahaya, Onukwube & Hamid-Mosaku, 2019; Abdullahi, Oyewubi, Ganiyu & Shitu, 2021) corroborated the findings of the existing literature from the foreign nations about factors militating against e-procurement deployment but these studies were mostly carried out in the construction firms. Since approach to procurement in the health sector is distinct from the construction industry, the factors hindering procurement management in the health sector may differ in degree from those which affect the construction sector, hence the need for its investigation in Nigeria.

2. Literature Review

2.1 Conceptual Review

2.1.1 Electronic-Procurement Management Practices

Scholars (Gunasekaran & Ngai, 2008) in the field of management agree that electronic procurement is a new occurrence in business community demanding for a thorough explanation having posited that there is no unanimity among scholars and practitioners regarding the definition for e-procurement. However, because of this study, some of the definitions given by previous scholars in the literature revealed that electronic Procurement was information technology compliant purchasing platform covering supply chain (Davila, Gupta & Palmer 2003; Croom and Brandon-Jones, 2004; Ibem, et al., 2016; Smart, 2010). Having gone through all these definitions in the literature and because of this study, the definition given by Ibem, Aduwo, Tunji-Olayemi, Ayo-vaughan and Uwakonye (2016) was adopted with modification for this study and defined it as the application of web-based platforms designed to undertake individual or organizational procurement processes including but not limited to sourcing, negotiation, ordering, receipt, payment and post-purchase review in the supply chain of a going concern.

Furthermore, literature indicates that e-procurement covers procurement software, such as Business to business (B2B) auctions, Business to Business (B2B) market exchanges and purchasing from combinations of firms that are designed to digitalize inflow and outflow and obtain a direct effect on organizational purchasing ability. (Davila, Gupta & Palmer, 2006). As a corollary to this, future development is expected to extend this information communication technology platform to establish mutual supply chain management (Cagliano, et al., 2005; Folinas, et al., 2007). Conventionally, e-procurement integrates variety of communication media to enhance procurement processes among different parties in a going concern such as the use of, phone, fax, Electronic Data Information (EDI) and in the recent, email and the internet have been added to it. Hawking, et al., 2004) argue that e-procurement makes use of some of these electronic technologies to enhance efficiency and effectiveness in an organization's procurement activities

2.2 Theoretical Review

Rogers (1995) proposed the Diffusion of Innovations Theory (DOI) to evaluate an innovation. In the evaluation, Rogers (1995) used five elements referred to as innovation characteristics such as: relative advantage, compatibility, complexity, observability, and trialability to broaden its understanding. The theory of Innovation diffusion originated and became popular in business community around 1940's when scholars in social science conceptualized it (Parasuraman, 2010). Diffusion is an arrangement through which an innovation is aired via an identified platforms among members of a social class.

DOI according to Rogers (2010) is a theory of which method, reason, and when new methods and technology are embraced among cultures. In this situation, a brand procedure is transferred across individual in a social system. Therefore, the interest of this

model is methodology in innovations adoption and the major underlining factors of variation in its acceptance. In a work, Makau (2014) described the stage of e-procurement's practice among public sectors in Developing countries as very low. Providing further information about this, Rogers (2010) found that the key determinants encouraging acceptability of a modern technology, were the reengineering itself, transmission windows, acquisition period and pattern of network of relationship

These determinants directly influence e-tendering approval by buyers and bidders since they require wireless advertisement of tendering to the generality of people and electronically transmitted tender paper to tenderers to complete submission of electronically submitted documents. This theory, therefore, provides a framework upon which prediction could be made for the period necessary for a technology acceptance. Therefore, DOI establishes the theoretical base for the construction of our research model on the relationship between two groups (bidders and the procuring entity)

Empirical Review

Ibem, et al. (2016) conducted research in Nigeria on the elements impacting e-Procurement adoption in the country's building sector. A quantitative study using a survey approach was used. Factor and categorical regression analyses, as well as descriptive statistics, were used to analyze the data. According to the findings, the advantages of e-Procurement in enhancing project delivery efficiency, the removal of geographical demarcation, and robust communication among project team palyers were the three most important supporting factors that participants considered when deciding whether to adopt e-Procurement.

In 2017, Dakwang and Muripshaka looked into the elements affecting Nigerian public procurement regulations compliance. The research took into account Kaduna Polytechnic, a government-run facility governed by the Public Procurement Act of 2007. 100 people made up the study's population, and 80 people were chosen as the sample using a purposive sampling technique. The study used a structured questionnaire using a four-point Likert scale to collect information from participants. The regression analysis was used to analyze the data. The study found that Kaduna Polytechnic had a poor compliance level with the Nigerian public procurement Act while institutional characteristics had an impact on compliance with the public procurement Act, 2007. The report suggested that Kaduna Polytechnic's procurement officers receive more instruction on public procurement legislation.

In their 2017 study, Zadawa, Hussin, and Osmadi looked at the difficulties encountered when public universities in Nigeria tried to apply the procurement handbook for construction projects. Data were gathered from nine randomly chosen public universities in Nigeria's using a standardized survey questionnaire. The mediation study and the outcome demonstrated the mediation impacts of the enforcement mechanism on the conflict-of-interest elements that impacted the cost performance of building projects. Enforcement action was the mediating variable. In order to promote adherence to the procurement manuals, the study placed focus on the requirement for the creation and empowerment of the national procurement regulatory commission.

Afolabi, et al. (2019) assessed the key elements influencing the utilization of e-Procurement in Nigeria's construction sector. The research was conducted across the geographical zones of Nigeria employed a survey research design. Key players in the Construction industry were purposively and randomly used for the study. Distribution of questionnaire to 1092 respondents was done to gather data primarily. However, the data received from were analyzed descriptively. Analysis of period since users had exposed to e-Procurement showed that most Quantity Surveyors had come across of its technologies

spanning 10 years period. However, a significant portion of the players in the construction sector only recently began to employ the technology. According to stakeholders in the construction industry, the research said availability and cost of internet access were the most important determining factors for e-Procurement technologies practices.

Yahaya, Onukwube and Hamid-Mosaku (2019) investigated Nigeria's public procurement Act 2007 put in place to discourage misappropriation of financial resources in government treasury. Questionnaire administration was used to gather data from 143 federal contractors and services providers randomly selected from the Bureau of Public Procurement. The list of the federal contractors and service providers was generated from the database of Nigerian Northwestern states. Mediating effect was analysed using Advance Analysis of Covariance. The research findings provided that mediation effects of proactive and reactive mechanism on eligibility documents costs influenced construction firms' activity. The study re-emphasized effective training for procurement personnel in all public organizations for a healthy competition among Nigerian construction firms.

Using a desktop research methodology, Abdullahi, Oyewobi, Ganiyu, and Shitu (2021) investigated the obstacles to e-procurement practices by Nigerian construction business. The strategy allowed the researcher the chance to gather fundamental data from the literature review that could serve as the foundation for further investigation. The study did, however, show that e-procurement implementation had started in Nigeria, but a clear framework for its adoption as anticipated was hampered by the lack of empirical evidence. It equally said that e-procurement techniques employed by Nigerian construction firms in their infancy stage. The study further found that a lack of services, investment costs, technological know-how, electrical supply, internet dissemination, and cyber-security are only a few of the factors that need to be addressed.

Summarily, studies reviewed so far have shown that e-procurement management implementation in Nigerian public sectors is of low adoption. A few studies had revealed factors influencing e-procurement adoption in the public sectors while just limited scholars had taken time to study such relationship in the public hospitals. It could be possible that the factors influencing electronic procurement adoption are yet to be settled in Nigeria in the literature which this study attempted to do with a focus on the public hospitals in the southwestern Nigeria.

3. Methodology

The study adopted a descriptive research design using primary data. The Population consisted of 30 public hospitals in Southwestern Nigeria. Multi-stage sampling technique was adopted. At the first stage, a census survey was used to select 30 public hospitals to include Federal Medical Centers, Specialist Hospitals and University Teaching Hospitals in the six states of the Southwestern Nigeria. The second stage involved the purposive selection of 21 hospitals from 4 states of Lagos, Ogun, Ondo and Ekiti. These states were selected because of having the presence of the three categories of hospitals purposively selected for this study. The third stage involved the selection of respondents from the units such as: account, internal audit, store, ICT, procurement office, general administration, pharmacy and procurement committee chair in each of the 21 hospitals purposively selected for this study totaling 168 respondents. These eight units were selected purposively because of their involvement and adequate knowledge of the subject matter. A structured questionnaire was used to gather information on electronic procurement management practice and its extent of usage among the selected hospitals. Data obtained were analysed using descriptive statistics.

4. Data Analyses and Discussion of Findings

4.1 Implementation Impediments of e-Procurement Management Practices among Public hospitals in Nigeria.

4.1.1 Top Hospital Management support

In respect of top Hospital Management support affecting the implementation of e-Procurement Management Practices among Public Hospitals in the Southwestern Nigeria, 87 respondents representing 59.8% agreed that it had great challenge to its implementation, 14 respondents representing 9.6% strongly agreed that it was a challenge to its implementation, 7 respondents representing 4.8% said that were undecided on the importance of top management support to e-procurement management practice among the selected public hospitals, 31 respondents representing 21.2% disagreed with the argument that top management was central to e-procurement management practices among hospitals in the Southwestern Nigeria while 4.8% of the respondents strongly disagreed with the suggestion that top management support was central to e-procurement management practices (see Table 1).

This high level of agreement by the majority (69.6%) of the respondents that poor top Hospital Management support affected the implementation of e-Procurement Management Practices among Public Hospitals in the Southwestern Nigeria was corroborated by a value of mean equal to 3.48 on a scale of 1-5 (see Table 1). This position was in tune with Alsaad et al. (2017); Omoregbe and Osifo (2020) studies who submitted that e-procurement implementation required that top management support was a prerequisite. It was equally in tandem with Ifinedo (2011) and Aduwo, et al (2017) that said technology acceptance could be derailed without top management commitment.

4.1.2 Lack of a business relationship with suppliers

On the lack of a business relationship with suppliers leading to poor e-procurement application as a challenge to e-procurement implementation among public hospitals in the southwestern Nigeria, 94 respondents representing 64.4% agreed that it posed great challenge to it, 44 respondents representing 30.1% strongly agreed that it constituted a great obstacle to e-procurement implementation among public hospitals in Nigeria. The results indicated that lack of a business relationship with suppliers leading to poor e-procurement application was a great challenge to e-procurement implementation among public hospitals in the southwestern Nigeria as this level of agreement among the majority (90.4%) of the respondents was alluded to by a high mean value of 4.25 on a scale of 5 (see Table 1). This was in support of Eadie (2007); Hawking et al (2004) studies whose claim was that lack of business relationship with suppliers could hinder e-procurement management of an organization

4.1.3 Funding/ Budgetary Allocation

In the case of whether Funding/ Budgetary Allocation contributes greatly to the poor performance of e-procurement Management Practice and by extension its implementation at the public hospitals in the Southwestern Nigeria, 82 respondents representing 56.2% agreed that it had great challenge to its implementation, 57 respondents representing 39% strongly agreed that it was a challenge to its implementation, 7 respondents representing 4.8% strongly disagreed that it was an obstacle to e-procurement implementation in Nigeria. This high level of agreement by the majority (85%) of the respondents that Funding/ Budgetary Allocation contributed greatly to the poor performance of e-procurement Management Practices at the public hospital in the Southwestern Nigeria was validated by a mean mark of 4.25 over scale 5 (see Table 1). These findings agreed in verbatim with the work of Ikponmwosa and Omoregbe (2018); Aduwo, et al (2017); Dobler (2006); Carter and Prince (2003) who disclosed that Funds were determining factor in

Procurement Technique selection among public organizations including Nigerian hospitals.

4.1.4 Organizational Readiness

Regarding Organizational Readiness in adopting new technology to have posed a challenge to e-procurement implementation in our hospital, 93 respondents representing 63.7% agreed that it was a great challenge to e-procurement management practice, 30 respondents representing 20.5% said they strongly agreed that it was a challenge to e-procurement management implementation 23 respondents disclosed that they could not decide how organizational readiness in adopting new technology to have posed a challenge to e-procurement implementation in our hospitals. The agreement among the majority (81%) of the respondents with that argument that Organizational Readiness in adopting new technology was a challenge to e-procurement implementation in our hospitals was confirmed by mean score of 4.05 over scale of 5 as shown in Table 1. These findings corroborated the studies of Aduwo, et al (2017) and Omoregbe and Osifo (2020) who suggested that organizational readiness and favorable attitude were a challenge to e-procurement management practice among public organizations in Nigeria.

4.1.5 Inadequate Legal Requirements

In respect of inadequate legal requirements as an impediment to e-procurement management practices among public hospitals in the southwestern Nigeria, 82 respondents representing 56.2% disclosed it had great effect, 31 respondents representing 23.5% agreed that it was a challenge to its implementation, 36 respondents representing 24% disagreed with the suggestion that inadequate legal requirements were responsible for the low practice of e-procurement management among public hospitals in the southwestern Nigeria while 12 respondents representing 9.6% were undecided on the inadequacy of legal requirements as obstacle to e-procurement management practice. Inadequate legal requirement as identified by majority (78.2%) of the respondents in this study to be an obstacle to e-procurement management practice among public hospitals in the Southwestern Nigeria was confirmed with value of mean 3.91 on scale of 5 (see Table 1). The findings strengthen the research of Hameed and Counsel (2012) who showed in a study that rules and regulations would enhance applications of innovation like e-procurement modules among public organizations.

4.1.6 Staff proficiency in ICT skills

In the case of Staff proficiency in ICT skills as a challenge to e-procurement management practice implementation among public hospitals in the southwestern Nigeria 86 respondents representing 58.9% disclosed with an agreement that was a challenge, 37 respondents representing 25.3% strongly agreed that it was a challenge to its implementation. 15 respondents representing 10.3% were undecided on the argument that staff proficiency in ICT skills was a challenge to e-procurement management practice among public hospitals in the southwestern Nigeria. 8 respondents representing 5.5% disagreed. Staff proficiency in ICT skills revelation as a challenge to e-procurement management practice by the majority (80.8%) of the respondents of this study was corroborated a high mean mark of 4.04 scale 5 (see Table 1). This was in agreement with the work of Victoria (2014); Aduwo, et al (2017) Ikponmwosa and Omoregbe (2018) who argued that managers skills must be up to date and savvy to achieve success deployment of innovative techniques such as e-procurement management technique.

4.1.7 Lack of a Systematic Approach to Managing Records

On the view of respondents on lack of a systematic approach to managing records as an obstacle to e-procurement management practice among public hospitals in the southwestern Nigeria, as shown in Table 4.5, 75 respondents representing 51.4% agreed that it posed a challenge to its implementation, 35 respondents representing 24% strongly agreed

that it was a challenge to its implementation. 29 respondents representing 19.9% were neutral while 7 respondents representing 4.8% disagreed that lack of a system approach to managing records was an impediment to e-procurement management practice among public hospitals in the southwestern Nigeria. The majority (73%) of the respondents agreed that Lack of a systematic approach to managing records was important to e-procurement management practice among public hospitals in the southwestern Nigeria and was validated by a high mean point of 3.95 on scale of 5 (see Table 1). This was in agreement with the work of Ambrose (2008); Alfresco (2009) who indicated in studies that proper records management control had been identified as an integral part of achieving success in procurement management.

4.1.8 Lack of Adequate Security Measures to Protect Data

On the responses of respondents about lack of adequate security measures to protect data as a challenge to e-procurement management practice among public hospitals in the southwestern Nigeria 109 respondents representing 74.7% agreed with the argument that it was a challenge, 23 respondents representing 15.8% strongly agreed that lack of adequate security measures to protect data was a challenge to e-procurement management practice, while 7 respondents representing 4.8% disagreed with the position that lack of adequate security measures to protect data was an obstacle to e-procurement implementation among public hospitals in the southwestern Nigeria. The admission of the majority (79.4%) of the respondents to the importance of this factor was reiterated by a mean point of 3.97 on a scale of 5 as indicated in Table 1. This was in tandem with the studies of Huber et al (2004); Rankin (2006) that said internet fraud, data hacking, virus and cyber vandalism had become barriers to e-procurement implementation.

4.1.9 Inadequacy in Government Policies

In the case of inadequate Government Policies as a challenge to e-procurement management practice among public hospitals in the southwestern Nigeria, 66 respondents representing 45.2% agreed with the argument that it was a challenge, 44 respondents representing 30.1% strongly agreed that inadequate Government Policies was a challenge to e-procurement management practice among public hospitals in the southwestern Nigeria, while 36 respondents representing 24.7% could not decide on this factor. The agreement of the majority (81%) of the respondents in respect of the inadequacies in Government Policies was verified by a mean point of 4.05 on a scale 5 as indicated in Table 1. This was in agreement with the work of Ikponmwosa and Omoregbe (2018); Ekwewkwuo (2016); Jacob (2010) who said that weaknesses in the existing procurement system legislation were contributing to the nagging issue of corruption in Nigeria.

4.1.10 Lack of IT infrastructure/ Software Facility

On lack of information technology infrastructure or software facility as a challenge militating against the implementation of e-procurement management practice among public hospitals in the southwestern Nigeria, 59 respondents representing 40.4% agreed with the position that the factor was a challenge to e-procurement implementation, 51 respondents representing 34.9% strongly agreed while 36 respondents representing 24.7% were undecided. The agreement of the majority (80.2%) of the respondents in respect of lack of information technology infrastructure or software facility as obstacle to e-procurement management practice was supported by a mean mark of 4.10 on a scale of 5 as indicated in Table 1. This was in submission to the studies in Sloan (2004); Eadie et al (2007); Ikponmwosa and Omoregbe (2018) and Omoregbe and Osifo (2020) suggesting that lack of information technology infrastructure or software facility was a challenge to e-procurement management practice among organization including Nigerian hospitals.

Table 1: Implementation Impediments of e-Procurement Management Practices among Public hospitals in Nigeria.

Challenges to implementation e-procurement Management Practice	Frequencies					Mean	ST D.
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree		
Top Hospital Management support	7 (4.8%)	31 (21.3%)	7 (4.8%)	87 (59.8%)	14 (9.6%)	3.48	1.078
Lack of a business relationship with suppliers	0 (0%)	0(0%)	8 (5.5%)	94 (64.4%)	44 (30.1%)	4.25	0.545
Funding/ Budgetary Allocation	6 (4.1%)	0 (0%)	0 (0%)	82 (56.2%)	58 (39.7%)	4.27	0.875
Organizational Readiness	0 (0%)	0 (0%)	23 (15.8%)	93 (63.7%)	30 (20.5%)	4.05	0.603
Inadequate Legal Requirements	7 (4.8%)	7 (4.8%)	14 (9.6%)	82 (56.2%)	36 (24.7%)	3.91	0.982
Staff skills / Staff proficiency in ICT skills	0 (0%)	8 (5.5%)	15 (10.3%)	86 (58.9%)	37 (25.3%)	4.04	0.760
Lack of a systematic approach to managing records	0 (0%)	7 (4.8%)	29 (19.9%)	75 (51.4%)	35 (24%)	3.95	0.795
Lack of adequate security measures to protect data	0 (0%)	7 (4.8%)	7 (4.8%)	109 (74.7%)	23 (15.8%)	3.97	0.800
Inadequacies in Government Policies and Legislation	0 (0%)	0 (0%)	36 (24.7%)	66 (45.2%)	44 (30.1%)	4.05	0.741
Lack of IT infrastructure/ software facility	0 (0%)	0 (0%)	36 (24.7%)	59 (40.4%)	51 (34.9%)	4.10	0.768

Source: Authors' Computation (2023)

5. Conclusion and Recommendations

The study concluded that for e-procurement management practices to be effective among Nigerian Public hospitals these essential supporting blocks must be put in place and therefore recommended that Nigeria should allocate substantial amount of resources to training of procurement managers in ICT skills, increase budgetary funding to e-procurement practices, provide legal framework and invest in e-procurement software in order to enhance the deployment of e-procurement modules so that procurement performance could be improved upon.

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Appendix Questionnaire

The set of statements is prepared to request the respondents to indicate their agreement to which the given range of the challenges experienced in the implementation of electronic management practices among public hospitals in Nigeria . *Please tick as 5 = strongly Agree (SA), 4 = Agree (A), 3 = Undecided (U), 2 = Disagree (D), 1 = Strongly Disagree (SD).*

Challenges Experienced in the Implementation of Electronic Procurement Management Practices

	Challenges Experienced in the Implementation of Electronic Procurement Management Practices	SA	A	U	D	SD
1	Poor top Hospital Management support has done a serious set-back for the smooth operation of e-procurement at the public hospital					
2	Lack of a business relationship with suppliers leading to poor e-procurement application at the public hospital					
3	Funding/ Budgetary Allocation contributes greatly to the poor performance of e-procurement at the public hospital					
4	Organizational Readiness in adopting new technology has done a great obstacle to e-procurement implementation in our hospital.					
5	Inadequate Legal Requirements make e-procurement implementation difficult					
6	Staff skills / Staff proficiency in ICT skills have been a major hindrance to e-procurement implementation in our hospital					
7	Lack of a systematic approach to managing records contribute negatively to e-procurement implementation					
8	Lack of adequate security measures to protect data has been a source of worry to e-procurement practice in our hospital					
9	Inadequacies in Government Policies and Legislation make e-procurement implementation difficult					
10	Lack of IT infrastructure/ software facility reduces collaboration among partners in procurement process					