

The Extent of Electronic Procurement Management Practices among Public Hospitals in the Southwestern Nigeria

O. O. Olasanmi¹, Y. K. Kazeem² & G. O. Akinola³

^{1,3} Obafemi Awolowo University, Ile Ife, Osun State

² Adekunle Ajasin University, Akungba-Akoko, Ondo State

2. Corresponding Author

Abstract

This research investigated the extent of electronic procurement management practices among public hospitals in southwestern Nigeria. The study employed descriptive cross-sectional research design. Primary data were gathered through administration of questionnaire and interview guide. 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. First stage used a census survey to select 30 public hospitals comprising Federal Medical Centers, Specialist Hospitals and University Teaching Hospitals in the six states of the Southwestern Nigeria. In the second stage, 21 hospitals from 4 states of Lagos, Ogun, Ondo and Ekiti were purposively selected. These States were selected because of 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. Data obtained were analysed using mean and standard deviation. The study's findings showed that majority of the selected public hospitals in southwestern Nigeria embraced e-procurement modules investigated in this study on average, as indicated by their mean values and standard deviation in order of their rank: e-payment, e-ordering, cataloging, e-tendering, e-sourcing on a scale of 5.0. The study concluded that public hospitals in the southwestern Nigeria had deployed e-procurement but; to a small proportion, nonetheless creating more awareness among users would bring a better deployment of the modules.

Key words: E-procurement Management, e-tendering, e-payment, e-sourcing, e-ordering, e-cataloging.

1. Introduction

The Nigerian Public Procurement Act 2007 as amended in 2019 provided for the institution of e-procurement model through the deployment of information communication technology in order to curtail personal interface in the procurement system in line with practices around globe (PPA, 2019). The Act covers all procurement of goods and services undertaken by Federal Ministries and Agencies including hospitals and other health institutions in Nigeria (PPA, 2019). Existing studies in Nigeria on extent of e-procurement management practices revealed low application of its use but were mostly not conducted in the health sector. Studies such as Oyediran & Akintola, (2011); Adebayo and Evans (2015); Oguntona (2017) Aduwo, Ibem, Ayo-Vaughan, Nwakoye and Owolabi, (2017); Zadawa,

Hussin and Osmadi (2017); Mustapha and Ibrahim, (2021), were done in the construction and education sectors. The only available study conducted in the health sector after the e-procurement enactment law in 2019 according to literature was on the determination of e-procurement practice among Federal Public hospitals in Edo state by Omoregbe and Osifo (2020) with a revelation of low application did not show which of the e-procurement solutions were in use, hence this study.

2. Literature Review

2.1 E-Procurement Management Practices

Review of literature has shown that E-procurement management has various elements depending on the level an organization is involved in procurement activities and these could include e-Tendering, e-Marketplace, e-Auction/Reverse Auction, and e-Catalogue/Purchasing. Although, scholars in the literature are yet to conclude on the specific number of elements electronic procurement captures and it seems that the list is not exhaustive. In a study, Koorn *et al.* (2001) said that there were three types of e-Procurement Systems: Buyer e-Procurement Systems, Seller e-Procurement Systems and Online Intermediaries. Meanwhile, Baily (2008) classifies e-procurement into seven categories: these include Web-based Enterprise Resource Planning, Electronic-Maintenance, Repair and Operations; sourcing; tendering; reverse auctioning; informing and market sites.

It can be generally understood that most of the referred methods in government establishments could include: electronic-Tendering, e-Request for Quotation, electronic-auctions, electronic-cataloguing, and electronic-invoicing. These online methodologies were suggested and expanded by major actors in the digital-Procurement engagement to satisfy every business partner (NePP, 2005). The development has led to a plethora of electronic procurement categorizations but central to every organization is the understanding that electronic-procurement could compose of five distinct technologies (Presutti (2003). These are explained as follows:

2.1.1 Electronic Catalogs:

An electronic catalogue (E-Catalogs) is an essential part of any electronic-procurement process and could be explained as electronic representation of processed data detailing an organization's products and services (Baron, Shaw & Bailey, 2000). In a similar fashion, traditional procurement mail order catalogs give a comprehensive data disclosing the availability of products and services for sale. The information is thereafter imputed into databank and combined via e-procurement web-pages and services such as: changing the data on catalog into a common language and style generating aggregated data from many suppliers into one catalog, publishing, repairing and updating the product variants at regular interval are efficiently and effectively given by content providers in the e-catalogs.

2.1.2 Electronic Sourcing.

Electronic sourcing provides information on new entrants in the supply chain purchasing for a clearly stated conditions through electronic means. Simply put, electronic sourcing application is based on internet which allows collaborative efforts in technology application to complete procurement cycle between demand and supply and by detailing how an organization spends its finances on essential items including identification and selection of opportunities to lower cost (Kock, 2005). Electronic sourcing significantly carries out electronically some of the processes such as quotation and bidding from identified vendors in the general information bank for ease of business (Lysons & Farrington, 2015). Generally, e-sourcing solution performs two main functions and they include: online demand for quotations

(RFQ) and digital auctions

2.1.3 Electronic Tendering

This connotes placing to suppliers to provide information about prices of goods and services and obtain reply digitally (McConnell, 2009; and Heywood et al., 2002; Neef, 2001; Henry, 2000). It is an electronic-procurement generation that allows tenderers e-access and e-submission stages without any hitch. This tenderers' participation becomes possible because of electronic advertisements where invitation for tenders and contract details are given. Practically, any organization adopting this method would advertise via e-requests, by taking bids and offers from suppliers with the assistance of digitalized data interchange. Data-exchange supported by e-tendering gives more concern about product and services than others because evaluation and selection of suppliers are done via the e-platform.

2.1.4 Electronic Ordering (E-Ordering)

E-ordering embraces application of digital services to make it easier for operational buying process, such as order requisition, processing, approval, transmission and its acceptance by suppliers (Croom & Brandon, 2005). First generation electronic procurement platform solutions gave attention to e-procurement as was identified for maximization of efficiencies (Heywood et al., 2002; Neef, 2001 and Henry, 2000). The major benefit e-ordering gives to supplier is its ability to receive electronically the purchase order and upload the order directly into management system. It also avoids re-inputting raw information regarding sales operations by staff or reduce possible blunders in the order. As remarked by (Afande, 2015; Doherty, McConnell & Ellis-Chadwick, 2013; Croom & Brandon, 2005) electronic ordering ensures that the order information format is kept throughout the business circles by reducing mistakes and providing thoroughbred management and record of change in files.

2.1.5 Electronic Payments (E-Payments)

The definition of a "e-payment system" is the use of electronic communication to demonstrate a financial commitment between a buyer and a supplier (Dennis, 2009). The supply chain's e-payment module enables buyers and sellers to conduct transactions via e-cards, PC Banking, internet payments, mobile payments, and more (Malhotra & Galletta, 2013). Electronic payments had received attention in Management Science literature spanning over two decades. E-payment platform according to literature had been put to use by various organizations (Kabir et al., 2015). Correspondingly, the world payment system has witnessed tremendous increase in the promotion of cashless policy among developed economies (Odi & Richard, 2013).

2.2 Theoretical Review

The Technology Acceptance Model developed and validated by Davis (1986; 1989; 1993) was an extension of Ajzen and Fishbein's (1975). Technology Acceptance Model (TAM) is among the models that have received wider attention in many areas and applications from researchers and practitioners to comprehend user's psychological reason to buy into innovation (Yi & Hwang, 2003; Armitage & Conner, 2001). According to Technology Acceptance Model, the two prominent variables that underline inner stimuli to use information technology are decided by thought out uses and simplicity of use (Igarria, Parasuraman & Baroudi, 1996).

Perceived usefulness according to Davis (1989) refers to the degree someone believes that using a system might improve his/her performance while ease of use talks about the degree a person believes that using the system could be free of mental effort and that gains for using it surpassed sacrifice involved (Davis, 1993). According to Technology Acceptance

Model, perceived usefulness and Ease of Use jointly affect a person's attitude toward using the system which in turn leads to actual system use and this is consistent with Theory of Reasoned Action (TRA) of Ajzen and Fishbein (1975).

E-procurement's appreciation involves changes such as system reengineering within an organization that could eventually indicate how tasks are performed (Kaliannan, Awang, Roman & Dorasamy, 2008). Major procurement activities carried out in the health sector that might record significant improvement using e-procurement technology include ordering process communication of award to a chosen supplier. Studies such as: Gongalez, Gaso and Llopis, (2010) with focus on e-commerce and procurement performance adopted technology acceptance model to investigate digital procurement adoption. Therefore, this study believed in the assumption of this theory and in particular electronic ordering technology practice among public hospitals in the southwestern Nigerian.

Empirical Review

Oyediran and Akintola (2011) assessed the practice of e-tendering as a component of e-procurement among construction firms in Nigeria. A cross-sectional survey research design was employed. Data were obtained using questionnaire distributed to the contract administrators, designers, engineers and contractors drawn purposively from Abuja, Osun, Lagos and Ondo states comprising 109. Data analysis was done through Mean Quantity Score. The findings of the study indicated that Nigerian professionals in the selected industry had low knowledge of e-tendering.

Moreover, Adebayo and Evans (2015) assessed the e-procurement adoption among public and private organizations in Nigeria. The research arose from experiential studies which showed that electronic procurement platforms adoption by organizations in the non-private sectors of developing countries seemed to be underrated. Primary data were sourced through distribution of questionnaire to 174 interviewees working in the Nigerian public organizations. The study's findings reported that the greater number of the surveyed personnel had not received adequate seminar in electronic procurement application. The study equally identified that operationally, public organizations had not obtained full gain of e-procurement advantage.

Aduwo, Ibem, Ayo-Vaughan, Nwakoye and Owolabi (2017) investigated the extent of e-procurement use in the Nigerian building industry. The study used primary data; gathered through administration of 213 questionnaire to respondents selected from consulting and contracting firms. The collected data were analyzed using descriptive and inferential statistics. The results showed that major adopters of e-procurement modules included quantity surveyors and project managers. The study disclosed that firms that enjoyed support of top management and positive attitudes towards e-procurement use had higher likelihood to adopt it in the building industry.

Omoregbe and Osifo (2020) determined employees' understanding about electronic procurement in the Federal hospitals in Edo state, Nigeria. Rogers Diffusion of Innovation Theory was used to explain e-procurement system as new innovations. Convenience sampling technique was employed to select 45 management staff of procurement departments in the selected hospitals, Edo state. The study showed that the major challenge faced in e-procurement implementation was lack of e-procurement infrastructure occasioned by poor funding. The study further indicated e-procurement system implementation led to reduction in wastage and increased efficiency of business operations.

Mustapha and Ibrahim (2021) examined the prospects of e-procurement of building construction projects in the capital city of Nigeria. The study adopted a survey design approach and distributed 145 copies of questionnaire 12 procurement departments of FCT, covering Procurement, Secondary Education Board, Universal Basic Education Board,

Education Secretariat, Transport Secretariat, Agricultural Secretariat, Area Council Service Commission, Water board, Inland Revenue Services, Environmental Protection Agency, Health secretariat and Abuja Metropolitan Management council (AMMCI). It employed Stratified sampling method to select the respondents that included Procurement officers, Quantity Surveyors, Architectures, Builders, Services Engineers. The data collected were analysed using Percentages, Mean Item Score (MIS) and kruskal Wallis test. The study showed no significant difference in the views of the respondents about e-procurement variables that could enhance transparency in public projects.

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 appropriate descriptive statistics.

4. Data Analysis and Discussion of Findings

The data collected from the research study in relation to the replies received through the administration of the questionnaire are analysed here. The collected and usable questionnaire served as the foundation for the data that were presented, analyzed, and interpreted.

4.1. E-Sourcing Platform Practice among Public Hospitals in Southwestern Nigeria

In the case of e-sourcing as an e-procurement management practice among hospitals in Nigeria, the analysis showed that majority (48.2%) of the respondents revealed that their hospitals practiced it to a moderate extent. Specifically, 45% of the respondents from the selected hospitals disclosed low practice of e-sourcing for identifying new suppliers for a specific category of purchasing requirements, 25% affirmed moderate use while 19.2% indicated great extent of use. On the use of e-sourcing for cost reduction and improve efficiency in procurement process among the selected Nigerian hospitals, majority 56.2% said it was to low extent, 19.9% showed moderate extent while 19.2% replied with great extent. In the case of hospital accepting online requests for quotation in reducing lead time, 45.9% of the respondents opined that, they used e-sourcing module to a low extent, 25.3% suggested moderate practice while 19.2% revealed great extent in its use (see Table 1).

On the use of e-sourcing by the selected hospitals to evaluate suppliers via internet, findings showed that majority representing 61% of the respondents gave low use of the module, 24% said it was applied to a moderate extent, and 10.3% gave non application at all. In respect of hospital application of e-sourcing as an online platform that works together with its suppliers, 50% of the respondents disclosed less extent, 30.1% said it was applied to a

moderate use while 15.1% revealed non application of it. The position of the respondents suggesting low extent of e-sourcing practice among the selected Nigerian hospitals validated low mean value of 2.41 on a scale of 1-5 (see Table 1).

Table 1: The extent of e- Sourcing Platform Practice among Nigerian public Hospitals

Electric Procurement Management Practices Constructs	Scale					Mean	Std. Dev
	Poor Extent	Low Extent	Moderate Extent	Great Extent	Very Great Extent		
The hospital uses E-sourcing for identifying new suppliers for a specific category of purchasing requirements.	14 (9.6%)	67 (45.9%)	37 (25.3%)	28 (19.2%)	0 (0%)		
The hospital uses e sourcing for cost reduction and improve efficiency in procurement process	7 (4.8%)	82 (56.2%)	29 (19.9%)	28 (19.2%)	0 (0%)	2.41	0.828
The hospital accepts online requests for quotation thereby reducing lead time	14 (9.6%)	67 (45.9%)	37 (25.3%)	0 (0%)	28 (19.2%)		
The hospital does the evaluation of suppliers via internet	15 (10.3%)	89 (61%)	35 (24%)	7 (4.8%)	0 (0%)		
The hospital has online platform where it together works with its suppliers	22 (15.1%)	73 (50%)	44 (30.1%)	7 (4.8%)	0 (0%)		

Source: Field Survey, 2022.

4.2 e-Tendering Platform Practice among Public Hospitals in Southwestern Nigeria

Analysis in Table 2 showed that respondents in their majority indicated that the extent of e-tendering module as a component of e-procurement management practice was fair among the selected Nigerian hospitals. The selected hospitals as revealed by the respondents showed that majority (50.28%) of the respondents revealed that their hospitals employed it to a moderate extent. Specifically, 55.5%% of the respondents from the selected hospitals said for the purpose of enhancing operational performance, hospital has migrated from a low-quality e-sourcing method to automated platform for a pool of trustworthy suppliers to respond to real-time requests and 34.2% disclosed moderate extent of its use. On whether hospital had an online platform to send requests for information and prices and receive the responses through the support of internet technology, majority of the respondents representing 45.9% disclosed less extent, 39.7% showed moderate extent and 14.4% gave great extent among the selected hospitals (see Table 2).

On how the selected hospital received and evaluated offers from suppliers through the application of internet-based program, majority (56.2%) said it was to less extent, 24% showed moderate extent while 10.3% said it was not used. On whether hospital employs digital system while bidding, 55.5% of the respondents said it was practiced to a less extent, 19.9% indicated moderate use and 14.4% revealed great use among the selected hospitals. On how hospital manages time through e-tendering during bidding process, 49.3% of the respondents disclosed less extent, 26.0% indicated moderate use and 19.9% showed great use (see Table 2). The position of the respondents suggesting moderate extent of e-tendering

practice as a component of e-procurement management practice among the selected Nigerian hospitals was further established using a mean value of 2.5 on scale of 1 to 5 (see Table 2)

Table 2: e-Tendering Platform Practice among Public Hospitals in Southwestern Nigeria

Electric Management Constructs	Procurement Practices	Scale					Mean	St. Dev
E-Tendering Module		Poor Extent	Low Extent	Moderate Extent	Great Extent	Very Great Extent		
For enhancing operational performance, the hospital has an automated platform for a pool of reliable suppliers to respond to requests in real time.		8 (5.5%)	81 (55.5%)	50 (34.2%)	7 (4.8%)	0 (0%)		
The hospital has a online platform to send requests for information and prices and receive the responses through the support of internet technology		0(0%)	67 (45.9%)	58 (39.2%)	21 (14.4%)	0 (0%)	2.514	0.789
The hospital receives and evaluates offers from suppliers through the application of internet-based program		15 (10.3%)	82 (56.2%)	35 (24%)	14 (9.6%)	0 (0%)		
The hospital uses an online system, and suppliers only react once to bids		15 (10.3%)	81 (55.5%)	29 (19.9%)	21 (14.4%)	0 (0%)		
The hospital spends a range of 30 minutes to 60 minutes during bidding process		0 (0%)	72 (49.3%)	38 (26%)	29 (19.9%)	7 (4.8%)		

Source: Field Survey, 2022.

4.3 E-Ordering Platform Practice among Public Hospitals in Southwestern Nigeria

Table 3 indicates the extent of the use of e-ordering as a component of electronic procurement was investigated among Nigerian hospitals, from the respondents it was revealed by the majority 52.4% of the respondents said that their hospitals it to a moderate extent. In particular, 60.3% of those surveyed stated that their hospitals used e-ordering to a lesser extent to facilitate operational purchasing processes like requisitioning order processing approval, transmission, and confirmation, 25.3% indicated moderate use, while 9.6% disclosed very great extent. Further analysis of the collected data revealed that 40.4% of the respondents said their hospital capacity to identify medications that were of low quantity and where to get supply was done to a lesser level using electronic means, 25.3% said it moderately used it while 19.9% said it did not use it at all. The finding according to the majority (45.2%) of the respondents said that their hospital had an electronic based platform where it exchanged and accessed information with suppliers, 35.6% said it was employed moderately while 19.2% of the respondents disclosed Great extent.

Again, the analysis in Table 3 shows that the selected Nigerian hospitals to a less extent according to 61% of the respondents controlled the production and expiry date of products through the pharmacy department and ordered for the replacement of the existing ones that were almost lapsing using e-ordering module, while 19.2% said it was to a great and very great extent. Moreover, 60.3% of the respondents said that hospital to a less extent used

e-ordering in personnel training, 25.3% showed moderate extent while 9.6% suggested great extent. 56.2% of the respondents said that to a less extent their hospitals had an online platform to reduce mistakes in audit trail, 14.4% said great extent. The position of the respondents suggesting moderate extent of e-ordering module as a component of e-procurement management practice among the selected Nigerian hospitals was corroborated by a mean score of 2.618 on 1 to 5 scale (see Table 3)

Table 3: The extent of e-Ordering Module Practice among Nigerian Public Hospitals

Electric Management Constructs	Procurement Practices	Scale					Mean	Std. Dev
		Poor Extent	Low Extent	Moderate Extent	Great Extent	Very Great Extent		
E-Ordering Module								
E-ordering is used by the hospital to streamline its operational purchasing procedures, including the processing, approval, transmission, and acceptance of requisitions.		0 (0%)	88 (60.3%)	37 (25.3%)	7 (4.8%)	14 (9.6%)		
The hospital has resource to know the medications requiring reorder at a specific moment and monitor its distribution.		29 (19.9%)	59 (40.4%)	37 (25.3%)	7 (4.8%)	14 (9.6%)		
The hospital has an electronic based platform where it exchanges and accesses information from suppliers about the effectiveness of the medications they purchase from the company.		0 (0%)	66(45%)	52 (35.6%)	14 (9.6%)	14 (9.6%)	2.618	1.008
Hospital controls the production and expiry date of products through the pharmacy department and order for the replacement of the existing ones that are almost lapsing		7 (4.8%)	89 (61%)	22 (15.1%)	21 (14.4%)	7 (4.8%)		
Hospital employees receive training and expertise development in e-ordering.		7 (4.8%)	88 (60.3%)	37 (25.3%)	0(0%)	14 (9.6%)		
The hospital offers a platform online that helps to decrease errors and offer a transparent governance and audit trail.		0(0%)	82 (56%)	29 (19.9%)	21 (14.4%)	14 (9.6%)		

Source: Field Survey, 2022.

4.1.4 e-Payment Module Practice among Public Hospitals in Southwestern Nigeria

Table 4 indicates e-payment practice investigated among government owned hospitals in the Southwestern Nigeria. It was suggested by the majority of the respondents representing 55.4% that it used it to a less extent. 50.7% of the respondents said to a less extent that their hospitals used e-payment to show financial commitment involving hospital procuring officer and suppliers of hospital needs such as drugs while 19.9% said they did that through e-payment to a moderate extent. Less hospitals used e-procurement modules to

execute electronic payments to suppliers via a Bank Automated Clearing System according to 45.9% of the respondents, 34.9% indicated moderate extent. According to the majority of respondents (36.3%), the chosen hospitals had a platform to conduct transactions such as mobile banking, electronic cards and E-cash in chain of supply to a moderate extent, 29.5% expressed less extent among the selected hospitals while 19.2% indicated great extent.

According to the majority (45.9%) of the respondents, it was also discovered that Nigerian hospitals employed a platform that permitted internet payment in a transparent and effective manner to guarantee security and audit trail to a moderate extent, 30.1% indicated less extent, and 14.4% of the respondents revealed great extent in use. According to 50% of the respondents, Nigerian hospitals offered a less convenient, quicker, and more secure method of processing payments between individuals and organizations, according to further investigation, 25.3% showed moderate extent of it while 14.4% expressed great extent of its practice. The position of the respondents indicating less extent of e-payment practice as a component of e-procurement management practice among the selected Nigerian hospitals was supported by a mean of 2.77 of 1-5 scale (see Table 4)

Table 4: The extent of e-Payment Platform Practice among Nigerian Public Hospitals

Electric Management Constructs	Procurement Practices	Scale					Mean	Std. Dev
		Poor Extent	Low Extent	Moderate Extent	Great Extent	Very Great Extent		
E-Payment Platform	The hospital uses e-payment to show financial commitment involving hospital procuring officer and suppliers of hospital needs such as drugs	8 (5.5%)	74 (50.7%)	29 (19.9%)	14 (9.6%)	21 (14.4%)	2.77	0.993
	Through a Bank Automated Clearing System, hospital operations pay vendors electronically.	7 (4.8%)	67 (45.9%)	51 (34.9%)	14 (9.6%)	7 (4.8%)		
	The hospital has a platform to conduct supply chain activities such electronically.	15 (10.3%)	43 (29.5%)	53 (36.3%)	28 (19.2%)	7 (4.8%)		
	The hospital makes use of a software that facilitates rapid and transparent online payments, ensuring security and an audit trail.	0 (0%)	44 (30.1%)	67 (45.9%)	21 (14.4%)	14 (9.6%)		
	The hospital offers faster, more streamlined, and secure methods for individuals and groups to make payments.	8 (5.5%)	73 (50%)	37 (25.3%)	21 (14.4%)	7 (4.8%)		

Source: Field Survey, 2022.

4.5 E-Cataloging Module Practice among Public Hospitals in Southwestern Nigeria

Table 5 represents the use of cataloging as a module of electronic procurement management practice among Nigerian hospitals. It was argued by the majority of the respondents the selected hospitals employed it to moderate extent as its practice was in the neighborhood of 51.6%. Majority 50% said the selected hospitals use e-cataloging to a moderate extent as an electronic presentation of information about the required products/

services, 30.1% indicated less extent of its practice, while 9.6% indicated great extent. The selected hospital as revealed by the respondents practiced to a less extent provision of a platform where Information about the products and services available for sale is given electronically as 51.4% of them put it, 43.5% said it was practiced to a moderate extent.

Further examination of the practice of e-cataloguing showed that the selected hospitals had to a less extent as 50.7% of the respondents put a system where Content and updates with total compliance to negotiated pricing is disclosed without human intervention, 39.7% showed moderate practice of e-cataloging. Moreover, 43.8% of respondents said that the selected hospitals employed e-cataloging moderately to Gather and aggregate data from multiple suppliers into one catalog electronically, 41.1% indicated less extent of its practice while 4.8% expressed great extent. The position of the majority of respondents indicating less extent of e-cataloging practice as a component of e-procurement management practice among the selected Nigerian hospitals was strengthened by a mean score of 2.58 scale of 1-5 (see Table 5). The results of this study corroborate the findings in the studies of Oyediran and Akintola (2011), Adebayo and Evans (2015), Aduwo *et al* (2017) and Mustapha and Ibrahim (2021) conducted in other sectors of Nigeria that disclosed low application of modern e-procurement application. It also supported the studies of Omoregbe and Osifo (2020) who reported low knowledge of e-procurement practices among Nigerian Federal Hospitals in Edo state.

Table 5: The extent of e-cataloging Module Practice among Nigerian Hospitals

Electric Management Constructs	Procurement Practices	Scale					Mean	Std. Dev
		Poor Extent	Low Extent	Moderate Extent	Great Extent	Very Great Extent		
E-Cataloging Module								
The hospital uses e-cataloging as an electronic presentation of information about the required products/ services.		8 (5.5%)	44 (30.1%)	73 (50%)	14 (9.6%)	7 (4.8%)		
The hospital has a platform where Information about the products and services available for sale is given electronically		0 (0%)	75 (51%)	64 (43.8%)	7 (4.8%)	0 (0%)	2.58	0.717
The hospital has a system where Content and updates with total compliance to negotiated pricing is disclosed without human intervention		0 (0%)	74 (50.7%)	58 (39.7%)	14 (9.6%)	0 (0%)		
The hospital Gathers and aggregates data from multiple suppliers into one catalog electronically		15 (10.3%)	60 (41.1%)	64 (43.8%)	7 (4.8%)	0 (0%)		

Source: Field Survey, 2022.

5. Conclusion

The study concluded that majority of the selected public hospitals in southwest Nigeria embraced e-procurement modules including e-ordering, e-cataloging, e-sourcing, e-payment, and e-tendering on average nevertheless, creating more awareness about its use would lead to its greater acceptability among public hospitals in Nigeria. The study therefore recommended that Nigeria government must take steps as a matter of urgency to deploy e-

procurement programs into the policy direction of all public hospitals in Nigeria.

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