



PROSPECTS OF E-PROCUREMENT IMPLEMENTATION IN THE FEDERAL CAPITAL TERRITORY ADMINISTRATION ABUJA, NIGERIA

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Abstract:

Governments around the world had set very ambitious goals and are running programmes for the implementation of electronic service delivery in the public sector. The FCTA project like other public sector projects suffers setbacks in procurements innovation and the implementation of e-procurement technology. This study, thus, examined the prospects of e-procurement in public building construction projects. The study adopted a survey design approach. A total of 145 questionnaires were administered using stratified sampling method of which 143 questionnaires were returned and valid for analysis. The collected data were analysed using Percentages, Mean Item Score (MIS), and Kruskal Wallis test. It was found that Kruskal-Wallis test shows that there is no significant difference in the views of the respondents group regarding the variables. Based on this findings, it can be concluded that e-procurement poses important prospects which could enhance transparency in public sector projects. It was recommended that appropriate legislations should be put in place by the government to encourage the uptake and adoption of e-procurement.

Keywords: *E-procurement, Public construction projects, Internet facilities, and Prospects of e-procurement.*

INTRODUCTION

The building construction sector is faced with complex challenges, which call for the most efficient use of available resources. Consequently, the organisations involved in the procurement of building services, products and materials are constantly seeking ways of improving efficiency and effectiveness in their procurement activities. Among the different strategies considered to offer fresh opportunities for organisations in the building sector to improve

communication and integration of task from different project team members and encourage teamwork in their procurement endeavours is the adoption of information and communication technology (ICT), such as the Internet procurement system(Ajibike, 2019).

The basic principle of any government over the world is to ensure straight forward procurement, which is to acquire the right item at the right time within the right price (Neupane *et al.*, 2012).

According to Fayomi (2013), Nigeria can be described as a country of irony as the socio-economic performance over the years remained superficial and unimpressive. This was largely attributed to high level of corruption or mismanagement of public resources closely linked up with the public sector procurement systems (Fayomi, 2013). Unfortunately, the Nigerian Public Procurement Act has not been able to achieve the primary objectives of transparency, accountability and value for money.

Over past few decades, e-procurement had been widely believed to be an avenue for integrating communities and countries into a global market economy. Thus, governments around the world set very ambitious goals and also running programmes with considerable financial volume for the implementation of electronic service delivery in the public sector (Georg, 2010; Agnes and kwarwa, 2018).

The recent economic downturn in Nigeria has necessitated the adoption of more prudent methods of delivering construction projects. Thus, procuring entities of the government are faced with the challenge of effectively procuring projects within the meagre budget of the government (Osanyinro and Aghimien, 2017).The traditional procurement system widely practiced in the Nigerian public sector, which involves the normal advertisement process, bidding, selection to the award process is heavily challenged with so many setbacks, including selective tendering process, sole source contracting, advertisement challenges, limited and ineffective public bidding, among others. These setbacks necessitated procurement reforms in Nigeria through the implementation of the e-procurement systems (Afolayan, 2015;Ajibike, 2019). The Federal Capital Territory Administration (FCTA) Abuja, Nigeria suffers a lot of public procurement setbacks for non-implementation of e-procurement system, to which the issue of transparency and accountability, political control and auditing, and many more are challenges affecting the traditional

procurement processes (Ajibike, 2019). Therefore, implementation of the e-procurement system in the public sectors of Nigeria can play an important role in minimising corrupt practices by promoting good governance and enhancing relationships between government employees and citizens tracking through monitoring and controlling and thereby reducing potentiality of corrupt behaviours (Organisation for Economic Co-operation Development) (OECD, 2009).

The E-procurement system has been known as a web technology-based purchasing solutions aimed at simplifying commercial transactions within and between organisations and information technology solutions for ordering, logistics and handling systems as well as for payment systems (Gunasekaran *et al.*, 2009). Various business concerns had found it appropriate to embrace the use of internet facilities to enhance the performance of tasks (Akintola and Oyediran, 2011; Mauti-Mose and Magutu, 2013).

Moreover, the lack of detailed research findings on of e-procurement implementation in FCT Secretariat has resulted the government to be late to adopt the system in order to enjoy the fruits of this new technology to the public sector (Ajibike, 2019). It is against this backdrop the study seeks to explore the prospects of e-procurement implementation in the FCTA, Abuja, Nigeria.

PROSPECTS OF E-PROCUREMENT IMPLEMENTATION

Awareness about e-procurement is an essential factor in promoting widespread acceptance and usage of e-procurement as a better alternative to the traditional paper-based process (Oyediran and Akintola, 2011). Most developing and developed countries governments would like to implement public e-procurement technology in such a way, as to enhance transparency and accountability in government procurement processes. The basic principle of the government procurement is straightforward: to acquire the right item at the right time within the right price (Neupane *et al.*, 2012).

Kabaj (2009) contends that an efficient public procurement system is vital to the advancement of African countries economies and is a concrete expression of their national commitment to making the best possible use of public resources. Equally, Kakwezi and Nyeko (2010) argue that the procurement departments of public entities in Uganda are faced with the problem of not having enough information about the procurement procedure, its inputs,

outputs, resource consumption and results, and are therefore unable to determine their efficiency and effectiveness. This implies that such a problem requires establishment of clear procurement guidelines, procedures and performance standards.

An important issue in public sector management today is the increasing demand for transparency, efficiency and effectiveness in service quality (Ancarani, 2008).

Mohamed (2010) summarised the benefits of e-procurement by noting that (i) e-procurement is an effective communication channel for organising and communicating information, and improving interactivity among project participants (ii) it is also a transaction channel for streamlining transaction process, thereby reducing the complexity of task, paperwork and transaction cost; and (iii) a distribution channel for reducing delivery and operating cost and time.

Intended prospects for implementing e-procurement

Welsh (2009) noted that e-procurement can offer many benefit in the following five ways:

- i.** Capturing and reducing rogue spending
- ii.** By ‘rogue spending’, it means that those spending outside of its procurement contracts. The manager of the Shared Services Division pointed out that there are many people, particularly when they were not associated with a central group, are actually spending money outside of contracts. This problem has been addressed by implementing e-procurement (Welsh, 2009).
- iii.** Better analysis, better spending tracking, and better contracting prices
- iv.** The implementation of e-procurement can facilitate the collection and analysis of spending data. This can ensure better tracking of procurement spending. Thus, company can consolidate spending and leverage such aggregated purchase volume to get a better deal from the suppliers. This can enable the company to have more robust contracts. Therefore, the bottom line of the company can be improved by extracting much overheads out of its procured goods and services through e-procurement (Welsh, 2009).

- v. Cutting out distributors to drive down prices
- vi. Another benefit from implementing e-procurement is to low prices of goods purchased by cutting out some of distributors and the middle men. E-procurement provides opportunities for companies to go straight to the source of manufacture. Currently, it is unable to do that and many of the suppliers force it to go through an agent who typically “puts on his 10% or his 15%”. Because e-procurement doesn’t recognise any international boundaries, it enables the company to go right back to the source of the manufacturer and to negotiate better prices by cutting out some of the middle people (Welsh, 2009).
- vii. Optimising logistics to reduce transportation costs
Before implementing e-procurement, organisations were able to rely upon a network that funnelled everything through to its distribution depot. Because of implementation of e-procurement, a layer of middlemen or distributor has been taken out. Hence its distribution channel could become wider. This seems to create challenges for the organisations to coordinate its procurement activities. However, the logistics aggregation can be made within the terms (Welsh, 2009).

Benefits of practicing e-procurement

Adopting E-procurement system has brought great benefits to governments and it has been noted as a way by which governments can save management cost and become more efficient in procurement of goods online (Chang and Wong, 2010). The main advantage that e-procurement can deliver include cost reduction, process reorganisation, improved contract fulfilment, among other benefits (Gamal, 2010). The significant cost saving of e-procurement to the government is in the reduction of cost and efforts of processing the purchase order which can be manipulated electronically and reduction in inventory costs and decrease in order fulfilment. Eeiet *al.*(2012) identified four types of cost saving from using e-procurement system. These include, order cost, administrative cost, lead-time order cost and opportunity cost of capital.

E-procurement system offers more effective and efficient procurement process in line with the country’s transformation to the knowledge based economy (K-economy). It is a way for the government to promote the widespread adoption

of e-Business in the country. E-procurement helps provide latest product information and pricing to the government which is available online. The system is supposed to be up to date with the latest information that will help the buyer to make a more accurate procurement decision (Layne and Lee, 2010). Main benefits of the e-procurement are: Cost savings and subsequent increase in return-on-investment; upgrade of store network productivity by giving ongoing information with respect to item accessibility, stock level, shipment status, generation prerequisites; assistance of collective arranging among store network accomplices by sharing information on request figures and generation plans that direct production network exercises; intense linkage of customer demand information to upstream SCM (stock system organisation) limits, while in like manner empowering compel SCM operations (Eadie *et al.*, 2011).

RESEARCH METHODOLOGY

This study adopted a survey design approach using the quantitative method by administering well-structured questionnaires. The population for this research constitute the procurement units of the 12 branches of the FCTA secretariat, comprising of a total of 187 procurement staff.

The sample frame for this study include the procurement units of the following: FCT Procurement, FCT Secondary Education Board, FCT Universal Basic Education Board, FCT Education Secretariat, FCT Transport Secretariat, FCT Agricultural Secretariat, FCT Area Council Service Commission, FCT Water board, FCT Inland Revenue Services, FCT Environmental Protection Agency, FCT Health secretariat, Abuja Metropolitan Management council (AMMCI). The group of respondents include: Procurement officers, Quantity Surveyors, Architectures, Builders, Services Engineers. These are the professionals working directly in the procurement units of the stated organisations.

Sample size denotes the number of individual pieces of data collected in a survey. It measures the number of individual sample observations used in the survey. Sample size is important in determining the accuracy and reliability of a survey's finding (Zamboni, 2017).

The samples size for this research was developed from a population of 187 procurement staff members of the population as shown in Table 3.1. The value was subjected to Krejcie and Morgan Table for determining sample size at 5% limit of error and at 95% confidence level. The value of 187 was reduced to 123

which is the minimum sample of questionnaire to be administered. Therefore 123 represents the sample size for the study.

Table 1: Sample size for the study

S/N	Organisations	Procurement	Quantity Surveyors	Architects	Builders	Engineers	Population Size	Sample Size
1	FCT Procurement	12	2	0	0	0	14	
2	FCT Secondary Education Board	5	5	6	4	6	26	
3	FCT Universal Basic Education Board	4	5	5	4	5	23	
4	FCT Education Secretariat	7	7	7	2	15	38	
5	FCT Transport Secretariat	4	0	0	0	0	4	
6	FCT Agricultural Secretariat	4	2	2	1	2	11	
7	FCT Area Council Service Commission	4	2	1	0	0	7	
8	FCT Water board	5	2	0	0	2	9	
9	FCT Inland Revenue Services	2	1	0	0	0	3	
10	FCT Environmental Protection Agency	5	1	0	0	0	6	
11	FCT Health secretariat	2	2	2	1	1	8	
12	Abuja Metropolitan Management Council (AMMCI)	8	9	10	5	6	38	
	Total	62	38	33	17	37	187	123

For the purpose of this study, stratified random sampling procedure was adopted that is by grouping each set of respondents (procurement officers, Quantity

Surveyors, Architects, Builders and Engineers) and subsequently selecting members in each group at random to enable every respondent have equal chances of selection within the population.

The research commenced with the reviews of the related literature, in order to determine the theoretical background of the research, and what sorts of primary data to be sought for.

A structured questionnaire was then designed and administered to determine the prospect of e-procurement implementation in the FCTA.

The questionnaire was designed in two sections. Section 'A' comprising the general information of the respondents and section 'B' comprised structured questions on a 5-Point Likert scale on the prospects of e-procurement.

The collected data was analysed using both descriptive and inferential methods. The descriptive methods include percentages and frequency distributions for analysing the demographic information of the respondents and the preliminary questions.

Mean Item Score (MIS) was used to rank on average the important factors of the prospects of e-procurement in the FCTA. The inferential analytical tool (Kruskal Wallis Test) was used to test the difference in respondents' views.

The formula for Mean Item Score (MIS) is written as:

$$\text{Mean Item Score (MIS)} = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{n_5 + n_4 + n_3 + n_2 + n_1} \quad (1)$$

RESULTS AND DISCUSSION

Table 2 shows the result of the analysis of the respondents' general information. The analysis established that most (76.0%) of the respondents sampled are males while 24.00% are females.

In terms of professionals' representation/responsibility, the result revealed that procurement officers were more with 40.60%, followed by Quantity Surveyors with 27.07%, then Engineers with 12.03%, then Architects with 10.53%, and lastly the Builders with 9.77%. This implies that majority of the respondents were predominantly procurement officers and Quantity Surveyors.

A look at the year of work experience of the respondents shows that only 15% of the respondents have their year of working experience to fall within less than 5 years range, while 28% and 33% falls between the range of 5 to 10 and 11 to

20 years respectively. Also 18.0% and 6.0% of the population falls between the ranges of 21 to 30 years and above 30 years respectively. However, the average years of working experience of the respondents is calculated as approximately 10.82 years. This implies that they are experienced enough to give a valid response.

In terms of academic qualification, the highest is BSc/MTech (49.0%), followed by HND (22.0%), then MSc/MTech (21.0%), and others are 8.0%.

Based on the result on the respondents' background information, it was concluded that the respondents are well equipped professionally and in terms of experience to give reasonable insight in the subject under consideration.

Table 2: Respondents general information

	Variables	Frequency	percent
Gender	Male	101	76.00%
	Female	32	24.00%
	Total	133	100%
Profession/Responsibility	Architect	14	10.53%
	Builder	13	9.77%
	Engineer	16	12.03%
	Quantity Surveyor	36	27.07%
	Procurement officers	54	40.60%
	Total	133	100%
	Years of Experience	Less than 5years	15
5-10years		28	28.00%
11-20years		33	33.00%
21-30years		18	18.00%
Above 30		6	6.00%
Total		100	100%
Academic qualification	ND	0	0.00%
	HND	22	22.00%
	BSc/BTech	49	49.00%

	MSc/MTech	21	21.00%
	Others	8	8.00%
	Total	100	100%

Prospects of E-Procurement Implementation in the FCTA

Table 3 shows the result of the analysis of the data collected on the prospects of e-procurement implementation. It can be seen that the leading prospects according to the respondents are; Good governance in Reduction of collusion among the bidders (MIS=4.65), Transparency and openness of information in public procurement (MIS=4.54), Good governance in pre-qualifying process (MIS=4.43), Cost and time savings in Sending Tender Evaluation Report to Approving authority for approval (MIS=4.42), Transparency in secrecy of bidders information (MIS=4.17), Cost and time savings in issuance of Notification of Award & communicate with renderer (MIS=4.13), Transparency in Public accessibility to the information of tender process (MIS=4.02), Cost and time savings of pre-tender meeting (MIS=3.96), Improvement of the entire tendering process (MIS=3.96), and Efficiency in Reduction of errors (MIS=3.93). These findings are in line with those of Akintola and Oyediran (2011) Neupaneet *al.* (2012) on the prospects of e-procurement implementation in the public sector. The results are also in line with the findings of Welsh (2009) on the prospects of e-procurement as highlight in the literature section of this study.

Kruskal-Walis test carried out at 95% confidence level shows that there is no significant difference in the ranking of the 75.86% of the variables. There seem to be consistencies in the perception of the various respondents group regarding the variables. These risks factors recorded a significant p-value of above 0.05, thus are ‘accepted’. 24.14% of the variables show a significant difference in the perception. These prospects recorded a significant p-value of less than 0.05, thus are ‘rejected’. It can be concluded that there is consistency in the ranking and views of the respondents regarding the prospects of e-procurement implementation in FCTA Abuja

Table 3: Prospects of e-procurement implementation in FCTA Abuja

S/ N	Prospects of e-procurement implementation	M IS	S.D nk	Ra
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					P-value	Decision
1	Good governance in Reduction of collusion among the bidders	4.65	0.702	1	0.695	Accept
2	Transparency and openness of information in public procurement	4.54	1.123	2	0.504	Accept
3	Good governance in pre-qualifying process	4.43	1.085	3	0.663	Accept
4	Cost and time savings in Sending Tender Evaluation Report to Approving authority for approval	4.42	1.084	4	0.702	Accept
5	Transparency in secrecy of bidders information	4.17	1.223	5	0.929	Accept
6	Cost and time savings in issuance of Notification of Award & communicate with renderer	4.13	0.981	6	0.921	Accept
7	Transparency in Public accessibility to the information of tender process	4.02	1.189	7	0.721	Accept
8	Cost and time savings of pre-tender meeting	3.96	0.816	8	0.225	Accept
9	Improvement of the entire tendering process	3.96	0.816	8	0.225	Accept
10	Efficiency in Reduction of errors	3.93	1.373	10	0.903	Accept
11	Transparency in scope of online vigilance and monitoring	3.92	1.169	11	0.654	Accept
12	Cost and time savings in Contract agreement	3.88	1.274	12	0.135	Accept
13	Process improvement in Managing capacity of large number of bidders	3.86	1.164	13	0.135	Accept
14	Transparency in real time access of information and bidding	3.85	1.132	14	1.929	Accept

15	Efficiency in positive change of staff concentration	3.85	1.321	14	0.628	Accept
16	Process improvement in e-contract management system	3.83	1.303	16	0.000*	Reject
17	Cost and time savings in advertisement of tender notice	3.76	1.357	17	0.000*	Reject
18	Process improvement in Automatic generation of necessary report	3.72	1.341	18	0.000*	Reject
19	Guaranteeing of best quality with little price	3.62	1.369	19	0.000	Reject
20	Cost and time savings intender collection from multiple locations	3.52	1.049	20	0.861	Accept
21	Efficient selection criteria of bidders	3.52	1.049	20	0.861	Accept
22	Process improvement in Accuracy of purchase decisions	3.52	1.329	20	0.000*	Reject
23	Cost and time savings in preparation of tender documents	3.45	1.321	23	0.172	Accept
24	Process improvement in workflow management	3.43	1.444	24	0.000*	Reject
25	Cost and time savings in tender Evaluation Report process	3.42	1.249	25	0.760	Accept
26	Good governance in competition among the bidders	3.42	1.249	25	0.760	Accept
27	Process improvement in Automation of procurement process	3.26	1.307	27	0.116	Accept
28	Efficient and flexible Procurement process	3.11	1.325	28	0.102	Accept
29	Efficiency in cash flow improvement compared to manual	3.02	1.239	29	0.003*	Reject

*P-value <0.05.

CONCLUSION AND RECOMMENDATIONS

The study was set out to explore the prospects of implementation of e-procurement system in the public sector of the FCTA, Abuja with a view to mitigating procurement fraud in Nigeria.

The study concludes that the leading prospects of e-procurement implementation are: good governance in reduction of collusion among the bidders, transparency and openness of information in public procurement, good governance in pre-qualifying process, cost and time savings in sending tender evaluation report to approving authority for approval, and transparency in secrecy of bidder's information. cost and time savings in issuance of notification of award and communicate with tenderer, transparency in public accessibility to the information of tender process, cost and time savings of pre-tender meeting, improvement of the entire tendering process, and efficiency in reduction of errors. The study also concludes that there was no significant difference in the views of the respondents group regarding the variables. Based on this findings, it can be concluded that e-procurement poses important prospects which could enhance transparency and minimising procurement fraud in the FCTA. It was recommended that appropriate legislations should be put in place by the government to encourage the adoption and uptake of e-procurement in the FCTA Abuja.

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