EFFECT OF GOVERNANCE STRUCTURE ON E-PROCUREMENT IMPLEMENTATION BY STATE CORPORATIONS IN KENYA

Jeptoo Naomi
Master of Science Degree in Procurement and Logistics, Jomo Kenyatta University of Agriculture and Technology, Kenya

Dr. Kabare Karanja
Lecturer, Jomo Kenyatta University of Agriculture and Technology, Kenya

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ABSTRACT

Public institutions in Kenya have introduced e-procurement in the effort to replace offline versions of procurement functions. In the public sector adoption of e- procurement has been observed to result into the following benefits; increased efficiency and cost savings, faster and cheaper in government procurement, transparency and reduced corruption in government in public services. This study sought to investigate whether government structures influence the adoption of e-procurement in state corporations in Kenya. The study was grounded on the institutional theory. This theory was used to explain how the independent variables influenced adoption of e-procurement in state corporations in Kenya. The study adopted a descriptive research design. Questionnaire was the main tool for data collection which included both closed-ended and open-ended questions. The collected data included both qualitative and quantitative data. Qualitative data was analyzed by use of the content analysis. Quantitative data was analyzed was analyzed by use of the SPSS version 23 where both descriptive and inferential statistics were generated. The study findings revealed that the independent variables had a positive influence on adoption of e-procurement in state corporations in Kenya. The study recommended the Kenyan government to develop, implement and enforce policies to adequately guide the implementation of e-procurement in State Corporations in Kenya. This way, the individual corporations will be faced with a task of ensuring that it complies with the set government regulations. The individual State Corporations in Kenya to embark on training its staff members on issues of e-procurement and ICT and the State Corporations in Kenya to decentralize their procurement functions. In this regard, decentralization of the procurement function will mean that the procurement will not be done by just a single department but rather each department in the public institution will undertake its independent procurement.

Key Words: *governance structure, public procurement, e-procurement*

INTRODUCTION

The beginnings of E-Procurement were in the early 1980s with the development of electronic data interchange (EDI). This allowed customers and suppliers, most often in the fast moving consumer goods business (FMCG), to send and receive orders and invoices via secure store and call forward networks. These EDI systems allow companies to exchange and synchronize master data files on products, prices, specifications and information about each other's locations and trading practices. In the 1990's internet software started to become available, and software companies began to develop buyer managed electronic catalogs for use by vendors. Sometimes these proved to be too unwieldy due to failures in communication between customers and suppliers (salesman and buyers), technology is in place to enable the Government to take full advantage of internet commerce (PPOA, 2009). "e-procurement" means the process of

procurement using electronic medium such as the internet or other information and communication technologies; (PPOA 2015).

According to Wilson (2002), e-procurement is the amalgamation of sales and purchasing business models and calls for differentiation based on application and functions. Suppliers are also using e-procurement systems for management of all processes relating to purchase (Kinoti 2013). According to the Kenya government procurement 2014, the shift from manual to e-procurement is set to enhance transparency in the management of public finances and tendering process through the Integrated Financial Management Information System (IFMIS). The system that enables monitoring of all transactions during the procurement process provides functionalities such as the approval hierarchy, which is an end to end process that facilitates the procurement process from planning to payment.

According to Koorn *et al*., (2001), there are three types of e-procurement Systems: Buyer e-Procurement Systems, Seller e-Procurement Systems and Online Intermediaries. In a related study, Subramanian and Shaw (2004) defined e-procurement system as a Web-based client/ server application used to replace the manual procurement process. Procurement is the process of acquisition of favorable goods, services or works from an external source at the best possible cost to meet the needs of the purchaser in terms of quality, quantity, time and location. This process is always intended to promote fair and open competition for those involved while minimizing exposure to fraud and collusion (Lee, 2004).

According to Mutegi (2014), E-Procurement is an automated business process that includes procurement planning, management of suppliers, requisitions, quotations, contracts and receipts will be shifted to a more effective and cost-efficient online transaction. Organizations have introduced e- procurement to replace offline versions of tendering, the public sector organizations use e- procurement to achieve the following benefit; increased efficiency and cost savings, faster and cheaper in government procurement, transparency and to reduce corruption in government in public services. Knudson (2002) defines e-procurement as aspects of procurement supported by various forms of electronic communication and takes up forms such as electronic data interchange, enterprise resource planning, e-sourcing, e-tendering, and e-informing, among others.

E-solutions in procurement are designed to result in efficiency and productivity improvement this should result in quantifiable cost savings. Among the projected efficiency areas are: better time management in the entire process, transparent and dependable process among others. However, efficiency achievement also comes with challenges; lack of system integration and standardization issues, immaturity of e-procurement services, lack of supplier preparation and resistance of solutions end users; difficulty of changing purchasing-related behavior among companies' employees (Brammer & Walker, 2011).

E- Procurement in the public sector is emerging internationally; hence, initiatives have been implemented in Singapore, UK, USA, Malaysia, Australia and European Union. e- Procurement projects are often part of a country's larger e- Government efforts to better serve its citizen and businesses in the digital economy. Despite undisputable benefits, the EU is lagging behind as international e-procurement is still used in only 5-10% of procurement procedures carried out despite ambitious political target, Korea has already adopted a full online procurement market which generates savings of US % 4.5 billion (EU law 2014/2015) about 8% of total annual procurement expenditure). In Brazil 80% of public procurement is carried out electronically. The EU should start using e- procurement to be in a proper position of enjoying the benefits and avoid losing competitiveness (EU law 2014/2015).

In Pay Stream Advisor's upcoming 2014 e-Procurement Report, the various aspects of electronic procurement are dissected, analyzed, and then reassembled to illustrate how effectively a solution can be in transforming an organization's entire P2P process. The strength of an e procurement software lies not only in its dynamic components, but also in the innovation and strategy of its users. Do not only utilize, but to optimize an e-Procurement system, best practices must be employed if they are, the benefits of visibility, control, and connectivity will spread throughout the functions of an organization to create a brilliant e procurement and P2P success story.

Kenya is the first African country to incorporate an e-procurement system into a devolved government. The system will monitor all transactions through the purchasing life cycle and will provide features that include approval hierarchy and an item master to standardize and manage the use and price inflation of elements within government departments. A supplier portal will also be initiated, meaning all government suppliers will be duly registered with the Registrar of Companies, bringing greater tax compliance and certification accuracy, as well as enabling productive collaboration with suppliers, (web admin, and 2014).

According to Will Green 2014, "E-procurement will to a large extent assist in ensuring that public financial resources are used prudently and for the intended purposes," he said. "Over the years, we have heard complaints from Kenyans that the government is being overcharged for goods and services that it purchases. By introducing transparency and accountability through e-procurement, we expect more or less to eliminate the abuse of our procurement system." Indeed, given the fact that purchase of goods and services constitute about 50 percent of our annual budget, implementation of e-procurement will, therefore, save the government substantial financial resources procurement process from planning to payment.

It is government policy to allow open competition for procurement without discrimination in a transparent, fair and accountable manner to ensure achievement of value for money in all procurement. Government also expects public procurement to contribute to the national economic growth and poverty reduction in line with the national development goals. Public procurement plays an important role in the Kenyan economy. The total volume of public

procurement in 2003-2004 was established at 3.64 billion USD or 9% of the GDP (Independent procurement review Kenya May 2005). Government policy, among other things, seeks to achieve economic growth and poverty reduction and also show tangible improvements in the delivery of services to the people of Kenya. Public procurement in Kenya is largely done by state corporations under the guidance of the Public Procurement Oversight Authority in the confines of the 2005 Public Procurement and Disposal Act.

They are state corporations in Kenya that are formed to undertake all business activities by the government, during the past years they have been doing tendering offline but with the introduction of e- procurement, the procurement and payment module would replace the current uncoordinated accounting and budgeting system that makes it easy for dishonest officers collude with suspected cartels in defrauding the government, business daily (2015).The automated system procures to pay would link up all government pay points and involve identification of users through passwords, meaning each action could be traced back to the initiator Business daily (2015).

PROBLEM STATEMENT

The need to adopt e-procurement cannot be underscored given the fact that public sector procurement is large and complex, accounting for between twenty and thirty percent of gross domestic product (Thai & Grimm, 2000). According to Kamotho (2014), 80 percent of public corporations in the world have adopted e-procurement. According to IKEA, (2013) the most salient matter in the state corporations in Kenya is the enormity of their budgets and the number of institutions. These institutions cover a full breadth of the economy and social sectors. State corporations performance has been mixed, characterized by notable successes, but also significant failures, some of these government parastatals are also source of revenue to the government of Kenya. All state corporations in ministry of agriculture have a basic role on implementation of E-procurement, to promote the goals of transparency and accountability.

A number of studies have been carried out on e-procurement and public procurement. Ruth (2012) in her study of information technology and procurement process in Kenya found out that, information technology if used appropriately can offer: smoother and faster process flow, efficient distribution of information, decentralization of tasks and decisions, increased transparency and better control in public procurement. Her findings however fall short of focusing on e-procurement as the main ICT tool that radically enhances procurement performance in the public sector which was the domain of the current study.

According to Simon (2013), e-procurement has capabilities that affect the use of e-procurement of incompetent staff in basic information communication technology, insufficient in-house skilled IT personnel, unavailability of IT skills in Kenya which is making the firm to take time before implementing e-procurement. Kangongo & Gakure (2013) conducted a study on factors affecting electronic procurement implementation in Automobile industry of Kenya. The study

established that e-procurement adoption is commonly affected by low awareness, understanding and skill in relation to evolving technologies in management. Mose, Njihia, & Magutu, (2013) conducted a study on the Critical Success Factors and Challenges of E-procurement Adoption among Large Scale Manufacturers in Nairobi Kenya. However, these studies did not specifically address factors affecting the implementation of e-procurement by state corporations in Kenya with regard to governance structure. This study therefore sought to establish how governance structure affects implementation of e-procurement in State Corporation in Kenya.

GENERAL OBJECTIVE

The main objective of the study was to analyze the effect of governance structure on e-procurement implementation by state corporations in Kenya.

LITERATURE REVIEW

Institutional Theory

The institutional theory is the traditional approach that is used to examine elements of public Procurement (Obanda, 2010). Scott (2004) identifies three pillars of institutions as regulatory, normative and cultural cognitive. The regulatory pillar emphasizes the use of rules, laws and sanctions as enforcement mechanism, with expedience as basis for compliance. The normative pillar refers to norms (how things should be done) and values (the preferred or desirable), social obligation being the basis of compliance (Preuss, 2013). The cultural-cognitive pillar rests on shared understanding (common beliefs, symbols, shared understanding).

Several recent studies have taken an institutional approach to e-procurement or EDI diffusion and assimilation (Purvi *et al*. 2001, Chatterjee *et al*. 2002, Teo et *al*. 2003). Institutionalism allows the identification of self-formed purchasers and suppliers to separate the network of economic actors' public and private sectors, groups and organizations. Institutional theory argues that all organizations take the shape they do because they draw from the culture around them value-based notions of how things should be organized, (Tolpert & Zucker, 1996).

According to an independent economic institutionalism theory direction, the public procurement process can be understood as a set of institutions with an exceptional inter-relationship between purchasers and suppliers, as well as affecting the economic development of the country Scott, W.R. (2008). The institute in the procurement process consists of: 1) the formal rules governing public procurement procedures, and informal relations between contracting authorities and suppliers, affecting both their mutual relations and their common agreements and economic development activities, 2) the coercive measures imposed to ensure public procurement procedure norms, sanctions and violence in defiance of state of the Republic of Lithuania procurement legislation (DiMaggio & Powell, 1991).

Institutional factors that would exertion influence over the behavior of all governmental departments and agencies, irrespective of their own particular circumstances. Any public sector

organization contemplating the adoption of e-procurement technology would be greatly influenced by the behavior and experiences of its peers, as well as by governmental policy and initiatives possible to use (DiMaggio & Powell, 1991). The institutional structure formed in economic circumstances reflects the situation in the procurement process, the state authorities of the contracting authority must be interested in a cost-effective and/or efficient purchasing, while suppliers (business organizations)–the maximum profit possible after the procurement (DiMaggio & Powell, 1991).

The case organizations are all experiencing significant problems with their manual procurement processes, and can clearly see the benefits to be realized from the implementation of a more complete e-procurement infrastructure. However, there are a number of significant factors that are impeding their plans, particularly in terms of resistance to change, the lack of appropriate skills and capabilities, and reluctance to tamper with established ways of working. Such inhibitors may be particularly apparent in public sector organizations, in which the presence of a physical paper trail is often perceived as being the best way of ensuring the accountability of processes, due to their strong bureaucratic cultures (Olsen, 2006). This theory is therefore tries to explain the effects of Governance structure on implementation of E-procurement.

Governance Structure and E-Procurement

The term 'e-procurement' has to date been employed in a rather generic manner. It is useful, therefore, to develop a means of classification that helps to relate the form of e-procurement to the resulting governance structure. Good governance is measured around four key pillars: accountability, transparency, predictability, and participation. None of the four pillars and their constituent components can stand alone without the other because the public sector operates like a system. A mistake or weakness in one part of the public sector is felt by other components of the public sector (PPOA 2009).

On one side, they may increase the tendency towards market transactions as the barriers to participate in electronic transactions diminish. Malone *et al.* (1989) argue that inter-organizational electronic networks improve co-ordination between firms to reduce the costs of searching for appropriate goods and services - "electronic brokerage effects". Consequently, they claim that one of the major effects of inter-organizational networks would be a shift from hierarchical to market relationships. Barratt and Rosdahl (2002) argue that ease of search and transparency acts as an advantage to the buyer but may be a disadvantage for the seller, which further reinforces market-based relationships under e-procurement.

The influence of improved information transmission and user access to the procurement process through the adoption of e-procurement has a significant impact on the configuration and structure of supply chains. Croom (2001) notes that the literature posits two opposing schools of thought on the subject, on one side, they may increase the tendency towards market transactions

as the barriers to organizational systems enhance opportunities tend to create more effective customer-supplier relationships over time.

Public procurement is based on a set of guiding principles, which include Transparency, competitiveness, accountability, efficiency, legality, and integrity that ensure that the "best value for money" in public procurement is achieved (HM Treasury, 2000). The challenges of PPDA arise primarily because of the need on the organization to embrace and practice it, coming directly from the character of the PPDA policy. For instance, since the immediate influence emphasizes the role of perceived costs and benefits to engagement with the public sector it has been found that cost concerns are the major obstacles for taking the various factors laid out in the procurement policy into account in the purchasing process, especially when dealing with lack of product availability which may be associated with greater costs of sourcing.

Given the tight budget constraints and countervailing objectives faced by most public sector. Organizations, perceptions regarding the financial viability and cost-effectiveness of PPDA are expected to play a particularly important role; this limits the organizations in exercising the full policy as it is laid out in the PPDA, as most of the processes involved are expensive (Min and Galle, 2001). Evans and Wurster (2001) claimed that the low infrastructure and transaction costs of Internet-based systems allowed organizations to exploit the increased opportunities for complex information exchange with multiple partners, but also recognized the value to be gained through closer, hierarchical, relationships between regular trading partners ('affiliation'). Amit and Zott (2001) likewise discussed the importance of close relationships ('lock-in') between trading partners as a key source of advantage to both buyer and seller.

Governments worldwide have received a lot of attention as providers of essential services including health, education, defense, infrastructure, etc. To provide these critical services, governments purchase goods and services from the marketplace through public procurement (PPOA 2009). A weak public procurement system is a breeding ground for inefficiency in service delivery. This is because government procurement is directly related to economic growth, development, poverty reduction strategies, and overall service delivery. There is no sector of government that is not affected by public procurement. Because each industry needs goods, services, and works of varying magnitude to adequately perform its function (PPOA 2009).

Neilson et al. (2010) state that instead of bureaucratic, hierarchical structure, organizations should form more flexible, decentralized team and alliance based networks that allow employees to react to market shifts. This research that assumes that e-procurement involves a network of actors that operate both inter and intra-organization processes. Through the public web, buyers have the opportunity to identify potential suppliers via standard search engines or specialist trading search engines. On line search and comparison of list prices are typically used for one of, specialist or low value purchases Subramanian& Shaw (2002). Depending on the nature of the supplier's web site facility, orders may be placed online, via email or through the more traditional route of Lin & Hsieh (2000) used a single case study to highlight the importance of

both web content management and content rationalization as significant issues for e-procurement operation.

According toLin& Hsieh (2000), constantly changing prices, specifications and account details across the (on-line) supply base caused major problems in the maintenance of supplier catalogues. In addition, item coding was being found to be a significant data management issue for e-procurement, and Lin & Hsieh (2000) also claim that material code proliferation within ERP systems has posed similar challenges for the management of the IS infrastructure. Room (2001), support the view that increased use of e-procurement and inter-organizational systems enhance opportunities to create more effective customer-supplier relationships over time.

RESEARCH METHODOLOGY

The study employed the use of descriptive survey research design. This implies that the study was able to collect data from more than one organization and thus making the study to cover a wider scope in terms of geographical location and respondents. The study targeted a total of 189, state corporations in Kenya. In this case, the researcher purposely sampled all the 21 corporations under the ministry of Agriculture constituted the sample size. Further, 3 respondents were randomly selected within the procurement department in each of the sampled corporations bringing to a total of 63 respondents.

The study collected both the primary and secondary data. Primary data was collected by use of a structured questionnaire where the different variables in the study were included in the different sections of the questionnaire. Drop and pick technique was used by the researcher in distributing the questionnaires. The data collected was analyzed qualitatively using brief explanations and quantitatively using descriptive statistics; percentages, mean and standard deviation and inferential statistics; regression analysis. Tables, bar graphs and pie charts were used to present the data. Ms- Excel and Statistical software SPSS Version 23 were the major tools for data analysis.

RESEARCH RESULTS

The study administered a total of 63 questionnaires to the sample population where 50 of the respondents filled the questionnaires making a response rate of 79.4%. When the respondents were asked for how long their organization had practiced e-procurement, majority of the respondents 27 (54%) indicated that their organization had practiced e-procurement for two years, 13 (26%) for three years, 5 (10%) less than one year and 5 (10%) for more than four years. Further, when the procurement officers were asked if they did train the subordinate staff and other workers on e-procurement systems, 42(84%) agreed while 8 (16%) were of a contrary opinion.

Majority of the respondents 31 (62%) agreed that governance structure had an effect on implementation of e-procurement while minority 19(38%) disagreed. From the study, 24% of the

respondents agreed that the company is facing a challenge when implementing E-procurement because the public web, buyers have the opportunity to identify potential suppliers via standard search engines or specialist trading search engines while 76% of the respondents disagreed. 70% of the respondents agreed that for the company to implement E-procurement it has to me measured around four key pillars: accountability, transparency, predictability, and participation while 30% disagreed with the statement. 48% of the respondents agreed that the company is forced to use all none of the four pillars and their constituent components can stand alone without the other, because the public sector operates like a system in implementation of e-procurement while 52% disagreed with the statement. 76% of the respondents further agreed that when the company makes a mistake or weakness in one part of the public sector is felt by other components of the public sector, in E-procurement while 24% of the respondents disagreed with the statement.

Also, 60% of the respondents agreed that the company is being influenced by improved information transmission and user access to the procurement process through the adoption of e-procurement while 40% disagreed. 48% of the respondents agreed that governments worldwide have received a lot of attention as providers of essential services including health, education, defense, and infrastructure and wish to use e-procurement to procure them while 52% disagreed with the statement. 46% of the respondents agreed that the company faces challenges from the changing prices, specifications and account details across the (on-line) supply base caused major problems in the maintenance of supplier catalogues by state corporations when using E-procurement while 54% of the respondents disagreed with the statement. 70% of the respondents agreed that a weak public procurement system is a breeding ground for inefficiency in service delivery, because government procurement is directly related to economic growth, development, poverty reduction strategies, and overall service delivery while 30% of the respondents disagreed. 78% of the respondents agreed that increased use of e-procurement and inter-organizational systems enhance opportunities tend to create more effective customer-supplier relationships over time while 22% of the respondents disagreed with the statement.

The study also established that governance structure had an effect on implementation of e-procurement in state corporations in Kenya. In this regard, majority of the respondents (62%) agreed that governance structure had an effect on implementation of e-procurement while minority (38%) disagreed. This was also supported by the inferential statistics later on in the study that statistically predicted existence of a positive relationship between governance structure and implementation of e-procurement. In this case, a unit increase in governance structure was observed to likely result to a 0.338 increase in e-procurement implementation. The p-value was 0.019 which is less than 0.05, an indication that the relationship was significant at 5 percent level of significance.

CONCLUSIONS

The study concludes that governance structure had a low positive effect on implementation of E-procurement by state corporations in Kenya. Majority of staffs who understand PPOA and have been in procurement for a long time agreed that a week public procurement system is a breeding ground for inefficiency in service delivery, the organization faces challenges from changing prices and specifications, ministry is being influenced by improved information and user access and four pillars must be taken in consideration when implementing E-procurement, while those who disagreed were not aware of PPOA. Majority of the respondents who understood PPOA and most learned disagreed that the ministry is facing a challenge when implementing E-procurement and Governments worldwide have received a lot of attention as providers of essential services, while new employees agreed.

RECOMMENDATIONS

The State Corporations in Kenya to decentralize their procurement functions. In this regard, decentralization of the procurement function will mean that the procurement will not be done by just a single department but rather each department in the public institution will undertake its independent procurement. This will not only boost accuracy but also the reduce work load and simplify the procurement process.

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