E-Procurement as an Alternate Paradigm to the Challenges of Procuring Goods and Services in the Public Sector - A Case Study of Ghana Cocoa Board

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Abstract

The main purpose of the research was to identify challenges that procurement officers encounter in their day to day activities of procuring goods and services for their organization. Ghana Cocoa Board was used as a case study and an extensive study conducted on e-procurement to assess if it would serve as a better alternative to the manual way of procuring items and services in public institutions. Scholarly articles were reviewed to provide an empirical insight into the impact of using e-procurement in institutions. Questionnaires and interviews were used to assess the views of the respondents. Upon collecting the data and analyzing the results, the findings of the study revealed that procurement officers were faced with challenges such as long lead-times in the procurement of goods and services, delay in the execution of task and lack of transparency in the procurement process. Also the procurement officers and the staff members interviewed were of the view that e-procurement would be better alternative to the manual procedure used for procuring goods and services. The researchers recommended that the Ghana Public Procurement Authority (PPA) should adopt pragmatic steps towards educating procurement officers on the value of e-procurement and subsequently (the PPA) should consider encouraging all procurement entities to adopt e-procurement for the purchasing of goods rather than the manual method of procurement.
Keywords: e-Procurement, Transparency, Public Procurement Authority (PPA).

1. Introduction

The procurement process is also called purchasing process or purchase-to-pay cycle. It includes all activities from the selection of suppliers and ordering until the process of accounts payable (Straesser, 2009). Emmett and Sood (2010) expanded the meaning of procurement to include buying, sourcing, or purchasing. Procurement is the process of identifying what is needed, determining who is the best person or organization to supply this need, ensuring what is needed is delivered to the right place, at the right time, for the best price, and that all of this is done in a fair, and open manner (OECD, 2006). The Ghanaian Public Procurement Act of 2003, Act 663 emphases the five basic pillars of public procurement (World Bank, 2003). These are: comprehensive transparent legal and institutional framework, clear and standardized procurement procedures and standard tender documents, independent control system, proficient procurement staff; and anti-corruption measures. In order to minimize fraud and other negative acts that have soiled the Public Procurement process, it is vital for procurement choices to be geared towards maximizing value.

Electronic procurement also known as e-procurement is the business-to-business purchase and sale of supplies and services over the internet. E-procurement is quickly emerging as the model procurement method in both the private and public sectors in most countries. With the advent of the internet, many businesses now sell only via computer technology. It is an excellent way for businesses to cut overhead costs and reach a larger customer base (Adebiyi et al. 2010). Thai (2004) asserts that in most countries, public procurement practitioners have and will always face many challenges. Each country has its own economic, social, cultural and political environment, and each country's public procurement practitioners face different types of challenges, or the same types of challenges but at different levels from their counterparts in other countries. This study seeks to explore the potential of information technology (e-procurement) to eliminating the challenges inherent in the current procurement system. The objectives of this study is to identify challenges associated with the current public sector procurement process as well as the benefits that could be accrued from adopting e-procurement as an alternative paradigm.

2. Review of Related Literature

Mitchell (2000) as cited by Andersen (2004) defines e-procurement as the process of electronically purchasing the goods and services needed for an organization's operation. It offers a real-time platform for conducting business while providing a significant opportunity to cut costs, increase organizational effectiveness and improve customer service. E-procurement deals with the linking and integration of inter-organizational business processes and systems and commences with the automation of the requisitioning, the approval of purchase order management and accounting processes through an internet-based protocol. Appreciating e-procurement requires a common understanding of terms such as purchasing process and buyer and supplier (Pani and Agrahari, 2007):

Purchasing process: This process is a narrowly defined process within the procurement process and refers to the actual buying of materials and those activities associated with the buying process (Kalakota and Robinson, 1999 as cited by Pani and Agrahari, 2007).

Buyer and Supplier: Are business partners in the e-procurement with cardinality of 1:n, which means that one buyer may have several suppliers (Shaw et al 2000 as cited by Pani and Agrahari, 2007). The e-procurement process is somewhat different from classical procurement.

2.1 Benefits of E-Procurement

E-Procurement which includes electronic invoicing, electronic ordering and electronic payments, is becoming more and more popular, with benefits including faster delivery and quicker payment. Walker and Rowlinson (2008) encapsulated the benefits of e-procurement as follows:

Improved Process efficiencies: Manual procurement is labour intensive and time consuming process. Switching to e-procurement helps companies to reduce employees' cost, paper and redundancy and cycle times. Time saved of employee in procurement can be utilized in more productive work. Similarly reduction in procurement lead lime helps in reducing inventory levels.

Reduction in errors: Manual processes are always prone to errors. In manual processes as and when the information is transferred at many occasions it is re-written or re-typed at various stages. Since many people are involved in various stages of procurement approval processes. This can further increase the chances of errors at multiple data entry points. In case of e-procurement data is transferred automatically with inbuilt securities.

Better compliance: Non-compliance or maverick spending occurs when goods and services are procured from the suppliers, who are not evaluated or selected by procurement department. This is also called off-contract buying as procurement happens outside the existing contracts. E-Procurement systems facilitate purchasing from the preferred suppliers thereby reducing the non-compliance and maverick spend. Reduction in maverick buying in turn leads to lower transaction costs and greater leverage and pricing discounts with approved suppliers.

Enhanced Leverage: A good e-procurement system helps the buyer to source the material strategically by leveraging the spend via consolidation. Consolidation can be in the form of orders or the quantities of categories from around the company to get the leverage with the supplier. Additionally e-procurement reduces off-contract buying by enforcing contracts thereby increasing the leverage of spend.

Improved Sourcing: In manual procurement, it becomes difficult to search and select a supplier for an MRO (indirect) material or specialized direct material in the supplier base. E-Procurement system helps the buyer to search for suppliers from supplier base or through online. Walker and Rowlinson (2008) argues that the main driver for e-procurement is cost reduction which is achievable through process automation, reduced inventories, identification of and procurement at lowest prices for commodities and the better use of economies of scale and other effects.

2.2 Disadvantages of E-Procurement

Walker and Rowlinson (2008) argue that e-business affords firms the opportunity to hack into systems, manipulate transactions and commit other fraudulent acts. It is this reason and the widening vulnerability of individuals and organizations through electronically linked devices, systems and data bases that behooves on us to ensure that procurement systems design-in and enact appropriate security and protection measures; these go beyond what is legally required to what is sensible and prudent. They summarize the disadvantages associated with e-procurement as follows: significant increase in IT maintenance cost, ongoing management and updates, standardization of processes between differing systems and general interoperability issues. Significant upfront cost for enablement, IT security risk and likely increase in prices paid for goods is possible, especially for small order volumes.

2.3 Models of E-Procurement

There is wide range of e-procurement models in use by firms. Each method is chosen by the discretion of the firm. The decision to use a particular model is often a matter of which model fits best with the objectives and operational models of the firm. Three of the major models are discussed by (Walker and Rowlinson 2008) are:

E-sourcing: Strategic sourcing is a systematic process for reducing the total cost of externally purchased goods or services, at a defined quality level. E-sourcing is the automation of this process. It allows identification of new suppliers for a specific category of purchasing requirements using internet technology across spatial boundaries. E-sourcing includes increased decision-making, flexibility and (potentially) lower prices.

Web-based Enterprise Resource Planning (ERP): This module uses a software system that is based on internet technology to create and approve purchasing requisitions, place purchase orders and record the receipt of goods and services. Typically transactions are facilitated through electronic data interchange. In order to effectively and efficiently use web-based ERP, functioning ERP systems must be in place, clear buyer—supplier processes (workflows) have to be defined and implemented and a high-volume interaction between the buyer and long-term suppliers is meaningful, to recover implementation cost and realise efficiency gains. Project organizations, which meet these criteria will benefit from web-based ERP.

E-informing: It describes the gathering and distributing of purchasing information from both internal and

external parties using web technology. In this context, channels like email, brochure-ware web sites, permission marketing, online newsletters, listserv discussion groups, online chat rooms are used. Typical problems of e-informing includes reliability and relevance of information found. E-informing is critical for the project procurement process as it enables inexpensive and immediate access to information about business partners.

2.4 Implementing an E-Procurement System

Pani and Agrahari (2007) contend that e-procurement begins with the automation of the requisition, the approval purchase order management, and accounting processes through an internet-based protocol. Pani and Agrahari (2007) further explain that the key elements of this automation include the following: a web based user interface, utilization of standard internet communication and security protocols and lastly, a software that supports the requisition process, including approval, workflow, and product catalog maintenances such as ERP. Organizations can be competitive only by very-well organized internal and external processes with all business partners. It is important to have, on one side, buyers that are able to create orders online and, on the other side, suppliers that are able to deliver goods in a timely manner in cooperation with external logistics partners that are able to deliver ordered goods on time at the right place (Lesnicar, 2002; Poirer and Bauer, 2001). It is very necessary to ensure that all processes involved in e-procurement are kept under strict control. According to Pani and Agrahari (2007) for e-procurement to be implemented successfully, an ERP of one organization has to be connected with the ERPs of other business partners. E-procurement cannot be limited to only one organization. By using open, reliable web-based information infrastructure of ERPs, which support business processes.

3. Methodology

3.1 Population used for the study

Blaikie (2009) defines a population as an aggregate of all cases that conform to some designated set of criteria. Population elements are single members or units of a population; they can be such things as people, social actions, social situations, events, places, time or things. The population used for the study includes the staff of procurement department of Ghana Cocoa Board as well as its Management.

3.2 Sample Size

All the staff of the procurement department formed part of the sample size of sample frame. In all the staff at the procurement department were 20 and the researchers included 70 staff from other departments. In all 90 personnel of Ghana Cocoa Board were involved in the study.

3.3 Data Collection

Data was collected from the sample size that was calculated. The data collection procedure comprised of two forms: primary data and secondary data. The primary data was collected by using questionnaires and interviews. The questionnaires were administered to the procurement and IT divisions whilst the Heads of the Procurement and IT divisions were interviewed. Some of the area explored included the means and processes that Ghana Cocoa Board goes through to procure products and services.

3.4 Structured Questionnaires

Questionnaires were issued to elicit information from the Procurement and IT divisions of Ghana Cocoa Board. Closed ended questions were used in the questionnaire. Open ended questions were not used because open ended questions can lead to irrelevant and redundant information and that they may be too open ended for the respondents to know what kind of information is required of them.

3.5 Interviews

Apart from the questionnaires that were administered, interviews were also conducted for the Procurement Manager, IT manager and Director of Finance. The interview allowed the researchers to gain an extensive understanding of the procurement processes and challenges of Ghana Cocoa Board. Open ended questions were asked to allow the interviewee the opportunity to express his/her views and give explanations as to the reasons why things are done the way they are done in Ghana Cocoa Board.

3.6 Archival Information

The procurement manager provided documents of relevance to study. This information helped the researchers to comprehend the process that Ghana Cocoa Board goes through to procure goods and services. Also in order to supplement the data gathered, books, and Journal articles were also consulted during the research process.

3.7 Methods of Data Analysis

The collected data was coded and analyzed using the SPSS. The SPSS software was used to generate frequency tables as well as bar charts illustrating responses from the samples. Upon collecting the questionnaires, the researchers coded the questionnaire, entered and analysed the data using SPSS.

4. Empirical Results

In all 90 respondents were involved in the study. 68 respondents representing 75.6% were males whilst 22 respondents representing 24.4% were females. The researchers sought to analyze the demand pattern of Ghana Cocoa Board. In response to the question "our demand for products and services fluctuates often" 16

respondents representing 17.8% disagreed with the assertion. According to them the demand pattern in Ghana Cocoa Board is relatively stable. However, 66 respondents representing 73.3% agreed to the assertion and 8 respondents representing 8.9% strongly agreed that the demand pattern of Cocobod frequently changes. With 82.2% of the respondents agreeing that the demand pattern of Cocobod frequently changes, it can therefore be accepted that Cocobod demand pattern changes frequently. In this case Ghana Cocoa Board will need suppliers who are up to the task to always meet their demands.

52 personnel representing 57.8% disagreed to the assertion that "suppliers supply quality products and services" According to them the procurement process is not so transparent, and subsequently some of the products that are procured are of inferior quality. 16 personnel representing 17.8% agreed that their suppliers supply quality products and services. Also 22 respondents 24.4% also strongly agreed that suppliers supply quality products and services. 42.2% personnel that agreed that suppliers supply quality products and services did not have peculiar reason for the choice. According to them, they did not find anything wrong with the products that were procured.

8 personnel representing 8.9% strongly disagreed that they have been able to lower cost through their current procurement procedures. 60 personnel representing 66.7% strongly disagreed that they have been able to lower cost through their current procurement practice. 15 personnel representing 16.7% agree that they have lowered cost. 7 personnel representing 7.8% strongly agreed that Cocobod has lowered cost. In all 75.6% of the respondents disagree that Cocobod has been able to lower cost through their current procurement practices.

23 respondents representing 25.6% disagreed that Ghana Cocoa Board is continually on the lookout for new suppliers. 69 respondents representing 65.6% however agreed that Ghana Cocoa Board is always seeking for new suppliers. Also 8 respondents representing 8.9% strongly agreed that Ghana Cocoa Board is continually looking for new suppliers. According to those who agree with the assertion, they explain that the procurement process always involves suppliers to tender in their bids and as such, irrespective of the performance of a supplier, Ghana Cocoa Board always publicizes its intentions to suppliers whenever they are in need of a service.

Respondents were queried as to whether they agree if procurement process is decentralized in Cocobod. 8 respondents representing 8.9% strongly disagreed, 74 respondents representing 82.2% disagreed, and 8 respondents representing 8.9% strongly agreed. An assessment of the responses indicates that the procurement process in Ghana Cocoa Board is centralized.

Respondents were again asked if they agree that it takes a longer time for items to be procured in Ghana Cocoa Board. 8 respondents representing 8.9% strongly disagreed, 7 respondents representing 7.8% agreed, and 75 respondents representing 83.8% strongly agreed. An assessment of the responses indicates that the procurement process in Ghana Cocoa Board takes a longer time for items to be delivered.

Respondents were then asked as to whether they agree if procurement process delays the execution of task in Ghana Cocoa Board. 8 respondents representing 8.9% disagreed, 38 respondents representing 42.2% agreed, and 44 respondents representing 48.9% strongly agreed. An assessment of the responses indicates that the procurement process in Ghana Cocoa Board delays the execution of task. If this trend continues, it will not augur well for the organization.

Respondents were asked as to whether they agree if there is the need to change procurement procedures in Ghana Cocoa Board. 8 respondents representing 8.9% strongly disagreed, 53 respondents representing 58.9% agreed, and 29 respondents representing 32.2% strongly agreed. An assessment of the responses indicates that the there is the need to change the processes through which goods are procured in Ghana Cocoa Board.

Respondents were gain asked whether they agree if they had any knowledge concerning e-procurement and whether it would be a good alternative to the current manual procurement process in Ghana Cocoa Board. 8 respondents representing 8.9% strongly disagreed, 8 respondents representing 8.9% disagreed, 31 respondents representing 34.4% agreed. 43 respondents representing 47.8% strongly agreed. An assessment of the responses indicates that e-procurement would be a good alternative to the current manual procurement process in Ghana Cocoa Board.

5. Conclusion

The current Public Procurement Act of 2003, Act 663 which governs all public sector procurement in Ghana is said to has inherent challenges that need to be addressed. E-procurement is an alternative way of procuring goods and services to the manual way that institutions currently use. Results from this study indicate that e-procurement can help eliminate most of the challenges that are currently facing the procurement divisions of public institutions. The benefits of e-procurement as against the manual procurement as shown.

Table 1. Benefits of E-Procurement against Manual Procurement

E-Procurement Benefits	Manual Procurement demerits
Transparency in procurement process	Lack of transparency in procurement process
Early delivery of goods	Delay in delivery of goods
Early execution of task	Delay in execution of task
Cost cutting	High cost involved

6. Recommendation

The current Public Procurement Act 663 (2003) is said to be inherent with numerous challenges such as delay in the procurement of goods and services, and subsequently delays in the execution of task. There is therefore the need for an integrated effort to curb these challenges from all stakeholders involved in the procurement process. Better still, it is about time the Public Procurement Authority encourages procurement divisions of public companies to adopt e-procurement as a tool for purchasing.

However, before that, it may be advisable for the Public Procurement Authority to carry out a massive educational programme on e-procurement among all procurement stakeholders.

Finally, the researchers suggests that, the government should provide the Public Procurement Authority with the necessary support and backing to successfully implement this e-procurement package.

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