The Effect of Information and Communication Technology on Procurement Enhancement. A Case Study of Komfo Anokye Teaching Hospital – Kumasi.

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Abstract

The emergence of technology and its advancement has completely changed ways things are done in the business world. The proliferation of the internet and related technologies today have made it possible and simple for companies to do business over the internet and it's even easier and faster with both supplier as well as customers. With the advent of electronic business (e-business), most companies including the public sector have instituted various forms of applications such as e-procurement and many others. According to Chartered Institute of Purchasing and Supply (CIPS) manual, e-procurement is defined as using the internet to operate the transactional aspects of requisitioning, authorizing, ordering, receiving and payment processes for the required goods, works and services. This study assesses the effect of ICT on procurement enhancement functions and its strategic operating resources for Komfo Anokye Teaching Hospital's (KATH) procurement processes. A non-probability sampling method (purposive) was used with both primary and secondary sources to obtain data and was analysed using Statistical Package for Social Sciences (SPSS) and adoption of Microsoft Excel 2007 for creation of the charts and figures. From the study, it was found out that KATH was using e-procurement system alongside the traditional system of purchasing items. Also the introduction of e-procurement has brought some changes in KATH's procurement system even though e-procurement is not hundred percent utilized in KATH procurement processes. It is therefore recommended that KATH reduce manual paper-based purchases to reduce errors and use electronic purchase orders in order to eliminate repetitive work and certain corrupt practices associated with manual tendering.

Keywords: Supply Chain management, e-procurement, Information and Communication Technology (ICT), Traditional Method, Komfo Anokye Teaching Hospital's (KATH)

1. Introduction

As organizations and institutions increasingly automated and outsource many activities, funds spent on external purchases increased compared to those spent on labour (Grant *et al*, 2006). In order for government to regulate it's spending on activities of its organizations and institutions, purchasing has now shifted its attention to procurement which on the other hand extends beyond the traditional purchasing activities.

According Lysons *et al* (2006) as cited in Chartered Institute of Purchasing and Supply (CIPS) manual, e-procurement is defined as using the internet to operate the transactional aspects of requisitioning, authorizing, ordering, receiving and payment processes for the required goods, works and services. It deals with the processes of obtaining goods and services in any way including borrowing, leasing electronically. E-procurement uses software like Electronic Data Interchange (EDI) and Electronic Point of Sale (EPOS) in procurement activities. E-procurement ensures the use of six e-procurement applications; e-sourcing, e-tending, e-informing, e-reverse auctions, e-maintenance repair operation (e-MROs) and web-based enterprise resource planning. Therefore e-procurement deals with the processes of obtaining goods and services in any way including borrowing, leasing electronically.

As a matter of necessity, organizations that want to sustain their operations in such an environment must adapt their operational strategies to meet the demands of the day and be able to take advantage of the benefits of doing business electronically. Many of such benefits have been cited as reduction in costs, better communication among supply chain players and increased levels of productivity (Puschmann *et al*. 2005).

KATH is a public service and governmental institution established to provide healthcare services to the public. For clients to be satisfied about services rendered by this institution there is the need for KATH to procure a large variety of goods, works and services in order to provide these services. Procurement in this sense goes beyond the traditional purchasing which involves simply the sourcing and buying of materials and those activities related to the buying process.

Efficient management of procurement is a fundamental activity along a sector value chain which is quite complex and fragmented. Information and Communication Technology (ICT) is one of the valuable resources to increase KATH growth and customer satisfaction. It has a potential to influence the structure of this institution and improve the quality of the institution's performance significantly.

The application of technology is usually focused on a business's core profit generating activities such as timely acquisition of material and components which are critical as far as organisation's efficiencies and

effectivenss are concerned (Puschmann *et al*., 2005). However, the costs of many activities, in support of an organisation's primary business can often reduced by the introduction of appropriate technology. In particular, our own experience and that of other literatures show conclusively that processes and cycles in certain organisations harbour substantial inefficiencies such as alteration of information, more times in travelling in search of suppliers, delay in receiving some tenders and above all, time wasting of the whole processes (Presutti, 2002). These and many things call for the introduction of network-based electronic procurement (e-procurement) system and this study is trying to find out its effect on procurement enhancement. The main objective for undertaking this study is to; examine the effects of ICT on KATH's Procurement Process.

2. Methodology
The population for the study was the employees of KATH specifically, the Supply Chain Department. The Supply Chain Department includes the Procurement Unit, Contract Management Unit as well as Inventory/Stores. The IT Department was included because of its knowledge in information technology and networking system. Due to the unique nature of the study, a non-probability sampling technique specifically purposive sampling technique was used to obtain information from the respondents. In all twenty (20) employees were used. This include three (3) the sectional heads and seventeen (17) other employees in the departments mentioned above. Data was collected through the use of primary and secondary sources. Primary data was collected through interviews and questionnaire administration. Data was analyzed qualitatively using statistical analysis software like SPSS and MS Excel in order to quantify the data gathered.

3. E-business
The advent of technology and the internet has completely changed the way business is being conducted as companies continually seek for ways of serving their customers efficiently and effectively in order to provide sustainable value. According to Zhao (2005), the e-phenomena have led to the creation of different ideas and business models in order to enhance how organizations are conducting their businesses. Business words such as e-business, e-commerce and e-procurement are common in modern times as they are adopted to streamline the traditional way of conducting business.

E-business ensures that buyers and sellers have a new and effective way of communication and gives them an opportunity to have new market places. According to Zhao (2005), e-business has been seen as a key driver of the new economy and it has been accompanied with the meeting of technology and products, less predictable customer demand, shortened product life cycles and price transparency.

3.1 E-Procurement
E-business has played a very important role in highlighting the importance of procurement as a strategic issue. By introducing electronic procurement (e-procurement), many benefits can be realized such as cost savings which can have a direct impact on organizations as well as the customer. (Turban, 2002)

E-procurement was among the first business application areas to make use of the internet and the www in a user friendly way. Many companies started to implement B2B strategies that would make them be part of this new business environment and be able to get some advantages of being early movers. As expected, many of them could not sustain themselves as they rushed into the e-procurement bandwagon with immature applications and without proper strategies. However, the excitement and dust over e-procurement has now settled and the value of e-procurement has increased enormously over the past decade (Aberdeen Group 2006).
E-procurement has been defined by different authors and writers as:
- e-procurement is essentially an Internet\Intranet based purchasing application or hosted service that streamlines buying trading partners, maximizes trade efficiency across the entire supply chain, and provide strategic e-commerce capabilities in Internet time (Info-Tech Research Group (ITRG), (2002).
- Brunnelli (1999), and Carabello (2001), define it as a technology designed to facilitate the acquisition of goods by commercial or a government organization over the internet.
- According to Presutti (2002), e-procurement is a technology solution that facilitates corporate buying using the Internet. It has the power to transform the purchasing process because it pervades all of the steps identified by the supply manager.

An Aberdeen report divides e-procurement technologies into three categories as follows (Hawking, Stein, 2004):
- Indirect Procurement - This includes the procurement of non-production goods and   services such as office supplies, printing, advertising and casual labour.
- Direct Procurement - This includes the procurement of raw materials, parts and assemblies (ie. Organization and management of raw materials, parts and assemblies).
- Sourcing - identification, evaluation, negotiation of products and supplies for both the indirect and direct supply chain.

According to Neef (2001), the emergence of e-procurement is not just as an improvement of EDI technologies,

but it is a way of conducting purchasing transactions over the Internet. It is not just an addition of technological aspects to traditional procurement but thus, mirror the procurement process through the provision of two discrete, but connected infrastructures, internal processing (corporate intranet) and external communication processing (internet based plat form) (Croom and Johnston, 2003).

The growing importance of e-procurement was highlighted by a Transmits (1999) report that showed that around 90% of companies said that they planned to implement an electronic management system within the next five years, with the majority identifying cost savings as their primary goal (Bocij, et al, 1999). The adoption of electronic procurement systems is necessitated by the need to reduce costs and encourage purchases in large quantities, thereby limiting the number of contracts.

3.2   Benefits of e-procurement

Before the introduction of e-procurement, buyer frequently had to deal with individual transactions. They had negotiated with suppliers, convert purchase request into purchase orders, handle queries and ensure the correct allocation of the invoices, received. In the operational workload, strategic aspects were neglected and buyers had little influence over the choice of suppliers and the purchased products. Their negotiation power was limited as the purchasing decision was made by the requester or the authorizer and not by the purchasing department. The requester was the centre, with all activities emanating from him or her. According to Puschmann *et al*. (2005), e-procurement enables organizations to decentralize operational procurement processes and centralize strategic procurement processes as a result of the higher supply chain transparency provided by e-procurement systems.

Buyers and sellers share information in real time to build specification that add value to resulting product and build strong relation. The larger the base of participants (buyers from the point of view of a sellers and sellers from the point of view of buyers) the greater will be the business value of e-procurement solution. Clear guidelines are established which helps share information across different departments within the organization. (Presutti, 2002)

The internet, via e-procurement, has made procurement more effective and efficient in the sense that purchasing of goods and services by organizations is made easier, faster and cheaper. The purpose of e-procurement is to allow the purchasing function to focus on more value adding activities such as serving customers rather than on operational issues.

According to Info-Tech Research Group (ITRG) (2002), an e-procurement solution provides access to, and easy purchasing from, catalogues of many different suppliers while eliminating paperwork, automating the approval process and enforcing the purchase policies that apply to each buyer's suppliers. The potential of e-procurement is so great that it has turned the formerly looked down upon traditional function into a competitive weapon (Presutti, 2003).

E-procurement has proved to be an important application area for B2B and a lot of research work has been directed towards it. Most literature alludes to the fact that many organizations have found a lot of benefits from their e-procurement projects which include the following (ITRG, 2002):

- Process efficiencies amounting to annual savings.
- Ability to link directly into existing systems, such as Enterprise Resource Planning (ERP).
- Reductions seen in lead times within the procure-to-pay cycle, in some cases by 50%.
- Self-invoicing on behalf of clients can add to the bottom line.
- Month-end reconciliation can end the problem of the wrong items being ordered or the wrong price being offered as business processes have been streamlined and all are working off the same catalog.
- The buyer is engaged in more strategic product management, leading to better contracts being negotiated.
- Maverick spending is reduced.
- Reductions in stock levels can lead to savings of millions of dollars.

An effective e-procurement strategy for example, is the use of extranets which link the system of buyers and suppliers over the internet in order to assist real time exchange of the information in the buyer's production schedule and develops capabilities that allow a degree of flexibility with suppliers (Presutti, 2002).

3.3 Challenges/Barriers

It has been proven most organizations faced difficulties in launching into e-procurement. Innovation & Information Consultants, Inc Concord, MA (2004) has noted the following challenges of e-procurement especially in most of government organizations

- Technological barriers represent obstacles to the adoption of e-procurement due to technological factors such as lack of high-speed connections, security, trust and reliability as well as software incompatibility, for example. Some of most frequently cited technological barriers include problems of integrating e-procurement with internal solutions and difficulties encountered in obtaining high speed access and

download capabilities. Whereas some companies maintain dedicated high-speed (broadband) Internet access, other firms use much slower dial-up connections to the Internet. This can have a profound effect on a firm's ability to search for various business and contracting opportunities as well as downloading in a timely manner, all available information about a potential procurement.

- Market barriers include barriers that are external to the firm, and are driven by market forces (supply and demand) as opposed to other entities such as the government. One example could be the down turn in economic activity meaning that there would be less money to spend for the adoption of e-procurement. Organizations such as government institutions view the potential benefits relative to the cost of investing in this technology as being modest, and in difficult economic times, the expected economic payout may not justify this investment. Another example of a market driven barrier would be high entry barriers in certain markets especially when competing with the government for e-procurement business.

- Regulatory barriers include barriers created by governmental action or intervention in the market or action directly affecting electronic commerce including procurement.

According to Huber *et al.* (2004), the following are perceived to be barriers to electronic procurement:

- a "wait-and-see" attitude among firms in selecting e-marketplaces and procurement service providers;
- concerns over security and confidentiality of the data needed to be exchanged in electronic environments;
- reluctance to share data with trading partners;
- the "non-feasibility of custom-made products" for pooling initiatives;
- lack of standardization; and uncertainty over trust and commitment among trading partners.

3.4 Risks of E-Procurement

Although e-procurement has a number of benefits yet its expected growth rate has been revised downward. Current market observation indicates that the adoption of e-procurement technology into the business mainstream is occurring at a much slower rate than expected (Davila *et al.,* 2002).The perceived challenges that are holding back organizations from investing in e-procurement technologies are numerous. In addition to technology-related challenges, there are those associated with the integration of these technologies with existing information systems, with the business model that these technologies impose on supplier-customer relations and with the security and control mechanisms required to ensure their appropriate use. (Davila *et al*., 2002). Certain risks are linked with the adoption of e-procurement and this need to be addressed before these technologies are widely accepted. These are as follows:

- Internal business risks: Organizations are uncertain about having the appropriate resources to successfully implement an e-procurement solution or not. Implementing an e-procurement solution requires not only that the system itself successfully performs the purchasing process, but most important, integrates the existing information infrastructure (Davila *et al*., 2002).

- External business risks: E-procurement solutions need to not only 'talk' with internal information systems, but also need to cooperate with external constituencies – mainly customers and suppliers. For e-procurement technologies to succeed, suppliers must be accessible via the internet and must provide sufficient catalogue choices to satisfy the requirements of their customers. Suppliers, especially in low margin industries, may be hesitant or even unable to meet such demands without guarantees of future revenue streams. Also, since the business models associated with e-procurement technologies (e.g. auctions, consortia, and exchanges) clearly envision the use of suppliers with whom the buyer has not previously transacted business, companies need to develop mechanisms that provide the buyer with assurances that the supplier meets or exceeds recognizable and industry enforced standards relating to supplier quality, service, and delivery capabilities (Davila et al., 2002).

- Technology risks: Organizations also fear the lack of a widely accepted standard and a clear understanding of which e-procurement technologies best suits the needs of each organization. The significance of this risk factor seems to suggest the need for clear and open standards that would facilitate inter-organization e-procurement technologies. Without widely accepted standards for coding technical, and process specifications, e-procurement technology adoption will be slow and will fail to delivery many of the benefits expected (Davila et al., 2002).

- E-procurement process risks: Another set of risks has to do with the security and control of the e-procurement process itself. Organizations must be confident, for example, that unauthorized actions will not disrupt production or other supply chain activities when committing to e-procurement technologies (Davila *et al*., 2002).

Other risks are limitation from geographical, cultural and organizational limitation of the underlying business they serve. Also the biggest expenses associated with implementing e-procurement are the software and license

(Wase, 2002).

Some users are reluctant to be subjected to significant changes in business processes as a major barrier to the implementation of e-procurement systems.

According to Saeed et al. (2003), examined buyers' perceptions of e-procurement risks and arrived at three dimensions:

1. Transaction risks resulting from wrong products purchased due to incomplete or misleading information;

2. Security risks resulting from unauthorized penetration of trading platforms and failure to protect transaction-related data while being transmitted or stored; and

3. Privacy risks arising from inappropriate information collection and information transparency.

3.5 E-Procurement Strategies

E-procurement is an area of procurement that is developing and changing at an extremely rapid rate giving way to development of technologies and new strategies to serve the needs of the market. As a result, various strategies have been adopted by firms towards e-procurement technologies in order to meet up with the pace. More and more organizations continue to undertake the wait and see approach (strategy) by not committing up to 70% of their resources into the business but await for the best model of e-procurement. These organizations are future-oriented as they look forward to seeing the current state of development and assess whether there is need to shift their established procurement processes to the e-world.   According to Davila *et al*. (2002), this type of strategy reflects active experimentation but no sizeable investment until the best e-procurement model is defined.

Fewer firms take the passive strategy (4%), which connotes more observation without experimentation. This implies that the capabilities and risk solely depends on how efficient and quickly an organizational learning can be easily absorbed without creating absorptive capacities. Other modest firms adopt the aggressive strategy (27%) which is however defined as riskier in the absence of any well defined solution and firms may likely end up by betting on the wrong technology (Davila et al., 2002). This strategy as proposed by (Cohen and Levinthal, 1990) declares the adoption of e-procurement strategy by investing significantly up to 3% in order to gain a competitive lead or moving fast into e-procurement solutions (24%).

Firms adopt these strategies mainly to ensure that costs are properly managed and margins are improved.

4.0 Findings and Discussion
4.1 Suppliers' access to organization's information and activities
For suppliers accessibility to the KATH activities and information, seven (7) representing 35% respondents said the external customers/suppliers have access to KATH procurement information where as the thirteen (13) representing 65% indicated otherwise as indicated in Table 4.1 below.

Table 4.1 Suppliers Accessibility to Organisation Information

Variables		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	7	35.0	35.0	35.0
	NO	13	65.0	65.0	100.0
	Total	**20**	**100.0**	**100.0**	

Source: *Field Survey 2015*

From the above data, it means that major of the suppliers do not have access to KATH procurement activities.

4.2 Procurement Practice and Involvement of E-procurement
One of the major objectives of this study was to examine the effect of ICT on KATHs procurement practice.The procurement processes include supplier selection, receiving and sending requisition, issuance of purchase order (PO), material tracking and delivery, issuance of payment.

4.2.1 Requisitions received from other departments
All twenty (20) respondents said that, they prepare and send requisition from their department to the procurement unit using paper. This method is categorized as traditional.
This is shown in Table 4.2

Table 4.2 Means of Receiving Requisition from Other Departments

Item		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	PAPER BASED	20	100.0	100.0	100.0

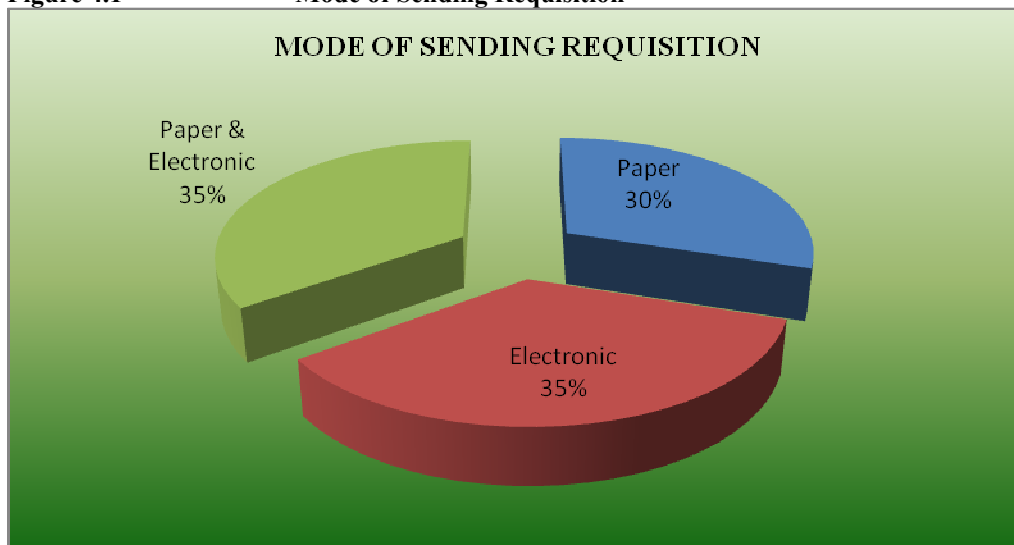**Source:** *Field Survey, 2015*

The traditional method does not call for visibility as chances of making mistakes increases when there is more paper work meaning that chances of passing on mistakes to others within the organisation also increases. For organisation that has common software, it makes it easier for the departments like inventroy or stores not only to give accurate information to the procurement department but also to make decisions about products in advance. This also helps the procurement department to make decisions on time. Another benefit of e-procurement is that once requisitions are prepared and once approved every staff in organization will be able to have access to information concerning requisitions. This in effect prevents alterations.

4.2.2 Sending requisition to external customers or suppliers
From the literature review, doing business electronically is obviously faster than manual systems.

For instance, the first few minutes of a telephone conversation would involve greetings and formalities, and a fax sent may not be received immediately by a supplier and it could also be an emergency. Such time wastage is reduced where transactions are being done electronically. From the figure 4.1, it is clearly shows that respondents representing 35% used combination of electronic and paper based as mean of sending requisiton to suppliers, 30% respondents said requisition to suppliers are done using paper based whereas 35% said they used email and procurement software to send requisitions. This is indicated in figure 4.1

Figure 4.1   Mode of Sending Requisition
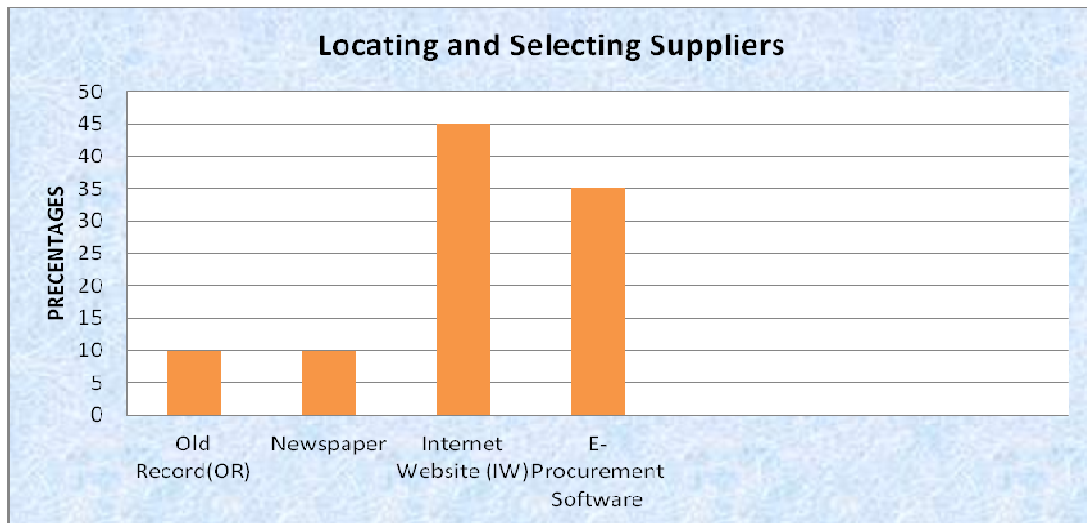

Source: *Field Survey 2015*

Even though paper-based is considered as traditional practice of procurement, electronic based is gradually gaining grounds. The main reason for the electronic based is to enforce faster way of exchanging information between procurement unit and that of external customers or suppliers.

4.2.3 Selection of Supplier
Info-Tech Research Group (ITRG) (2002), reports that an e-procurement solution provides access to, and easy purchasing from, catalogues of many different suppliers while eliminating paperwork, automating the approval process and enforcing the purchase policies that apply to each buyer's suppliers. From the results, it's clear that suppliers are located and selected using methods like; record, newspapers which is categorized as traditional form of procurement. The involvement of KATH in the e-procurement is relatively higher, that is 45% of respondents said the instituition searches through the web whereas 35% of the respondents uses procurement software to locate and select suppliers. Most of the respondents said they wished procurement activities would have been done using the electronic means. However, the public procurement law demands, says otherwise. This means using the electronic means solely might not help those who have no access to computer left alone internet. This is indicated in figure 4.2
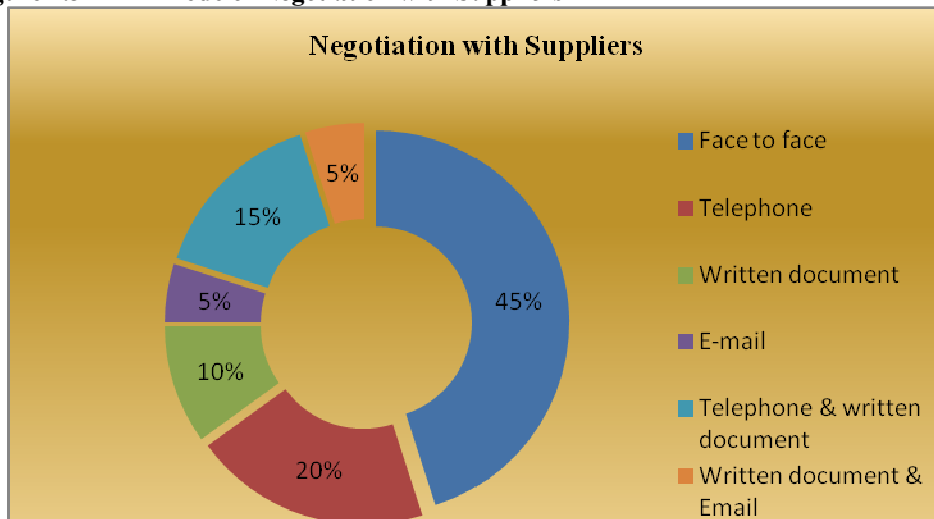
Source: *Field Survey, 2015*

From the results it indicates that suppliers are located and selected using e-procurement along side the some traditional methods. This means through the use ICT in procurement the institution is able to reach a number of potential suppliers.

4.2.4 Negotiation with Suppliers

From the findings, it indicates that negotiations with suppliers are still done using the traditional forms of communication. Among these methods are face to face, telephone and written document.

Face to face contributes 45%, telephone 20%, written document 10%. The total of these methods is 75% of the whole negotiation process. The involvement of e-procurement was found to be the lowest that is the use of e-mail contributed 5% and even for this they rely solely on the Web Base Procurement Planning Software which belongs to the Public Procurement Board Ghana. Some respondents selected two of the methods being face to face and written document which is 15% whereas written document and email contribute to the other 5%. This is indicated in figure 4.3

**Figure 4.3   Mode of Negotiation with Suppliers**

Source: *Field Survey, 2015*

4.2.5 Issuance of Purchase Order

Concerning the means through which purchase orders were issued, face to face contributed 15%, telephone 10%, written documents 20%, e -mail 25%, electronic procurement software 5%, email and documents 15% whereas others like fax also gave the other 10%. This is indicated in figure 4.4

Figure 4.4   Issuance of Purchase Order

Issuance of Purchase Order
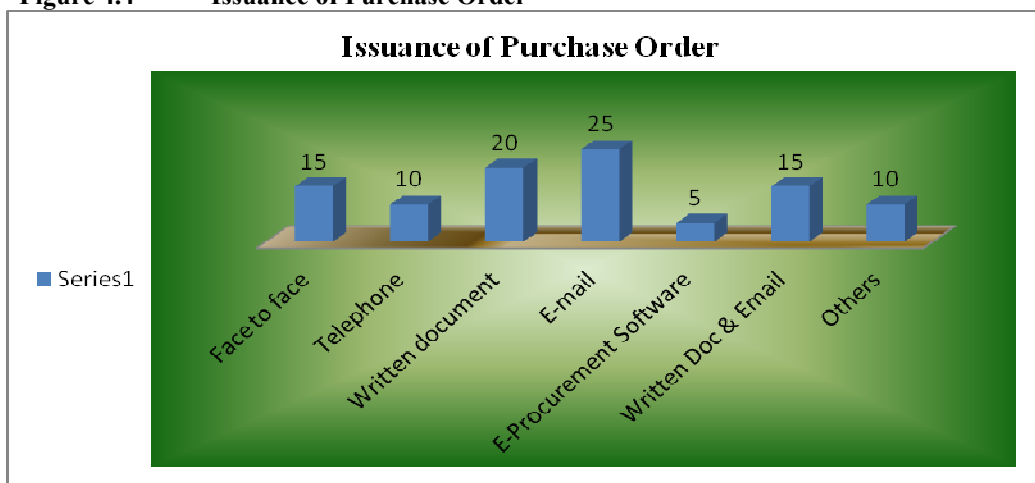
Source: *Field Survey, 2015*

From the findings, it indicates that though traditional methods like face to face, telephone and written documents were used in procurement as far as issuance of purchase orders are concerned,   the use of e-mail was currently taking over traditional method.   Most respondents felt that, with e-mail and introduction of procurement software by the Procurement Board, suppliers would be able to receive information faster and communicate easily without necessary travelling to KATH before purchase orders are received. Less paperwork reduces mistakes among employees thereby reducing the chances of passing on these mistakes to the suppliers. With less paper work, employees are also bound to be more efficient and effective in serving suppliers. This means the e-procurement was gradually overtaking traditional methods.

4.2.6 Means of Stock/Inventory Keeping

E-procurement enables employees other than those who are directly in charge of stock within KATH to get more accurate information about what is available in stock. This makes planning easier and they can also be able to give more accurate information to procurement unit as to what to be purchased.   Though the traditional method has not completely lost its importance, the use of electronic means has gradually overtaken the traditional method.   KATH's store keeps all goods and materials in both soft and hard copies. The percentage of respondents who selected the following methods is as follows; the paper-based method is 15%, electronic-based 45%, whereas 40% represented both methods. This is shown in table 4.3 below.

From the table, it is observed that e-procurement has improved considerably as compared to the traditional method which is the paper based.

Table 4.3   Stock/ Inventory Keeping

Item	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Paper Based	3	15.0	15.0	15.0
Electronic Based	9	45.0	45.0	60.0
Paper & Electronic Based	8	40.0	40.0	100.0
Total	**20**	**100.0**	**100.0**	

Source: *Field Survey, 2015*

4.2.7 Means of Payment

E-procurement encourages the use of e-payment systems like electronic fund transfer thus e-banking, credit cards system to pay for items purchased online. About 85% respondents said the organisation uses cheque as means of payment whereas 15% of the respondents said cash is used for paying for material purchased. This is shown in table 4.4.

Table 4.4   **Means of Payment**

Item		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Cash	3	15.0	15.0	15.0
	Cheque	17	85.0	85.0	100.0
	Total	**20**	**100.0**	**100.0**	

Source: *Field Survey, 2015*

The above result indicates that, the use of e-payement does not exist in KATH. This is because most

companies have certain limits of which they would allow customers to pay online. Also because of internet fraud most companies would not want payment to be done online.

4.2.8 Tracking of Materials

Although one of the benefits of e-procurement according to the literature review is the ability to track goods wherever it might be, findings from KATH indicated that, 25% of the respondents still rely on the use of telephone, 5% used fax, 45% of the respondents used e-mail to track materials to be delivered. For multiple means, e-mail and fax constituted 5%, e-mail, fax and telephone said 15% and email, fax, telephone and others (Procurement software) 5%. This is shown in table 4.5

Table 4.5 Tracking of Material

Variables	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Phone	5	25.0	25.0	25.0
Fax	1	5.0	5.0	30.0
Email	9	45.0	45.0	75.0
E-Mail & Fax	1	5.0	5.0	80.0
E-Mail, Fax & Telephone	3	15.0	15.0	95.0
E-Mail, Fax, Telephone & Procurement Software	1	5.0	5.0	100.0
Total	**20**	**100.0**	**100.0**	

Source: *Field Survey, 2015*

This means that at this stage of material procurement, e-mail is the most widely used as compared to the traditional method hence e-procurement at this stage has increased because it delivers timely information at the click of the button.

4.2.9 Communication Channel

Respondents were asked to indicate the importance of a few communication methods in the study based on the five-point Likert scale system. The results indicated that email, written document, electronic procurement software, and fax and face to face are the most important communication methods in procurement activities. This is shown in table 4.6

Table 4.6 Level Of Importance Based On Method Of Communication

Variables	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Written Document	5	25.0	25.0	25.0
Face To Face	2	10.0	10.0	35.0
Fax	2	10.0	10.0	45.0
E-Mail	7	35.0	35.0	80.0
Electronic Procurement Software	4	20.0	20.0	100.0
Total	**20**	**100.0**	**100.0**	

Source: *Field Survey, 2015*

This shows that e-procurement tools like email and electronic procurement software were the preferred choice for KATH procurement activities, followed by written document, face to face and fax respectively under the traditional method.

This is indicated in figure 4.5

4.3.4 Factors hindering E-procurement implementation

Results gathered has shown that factors such as on-going operating and maintenance cost, lack of flexibility in the procurement process, scarcely use of e-business by suppliers are the important factors hindering the implementation of e-procurement followed by time consuming in setting up and integration into the organistion and lack of government policy and guidelines in that order.

This is represented in figure 4.9

Figure 4.5: Factors Hindering E-procurement Implementation
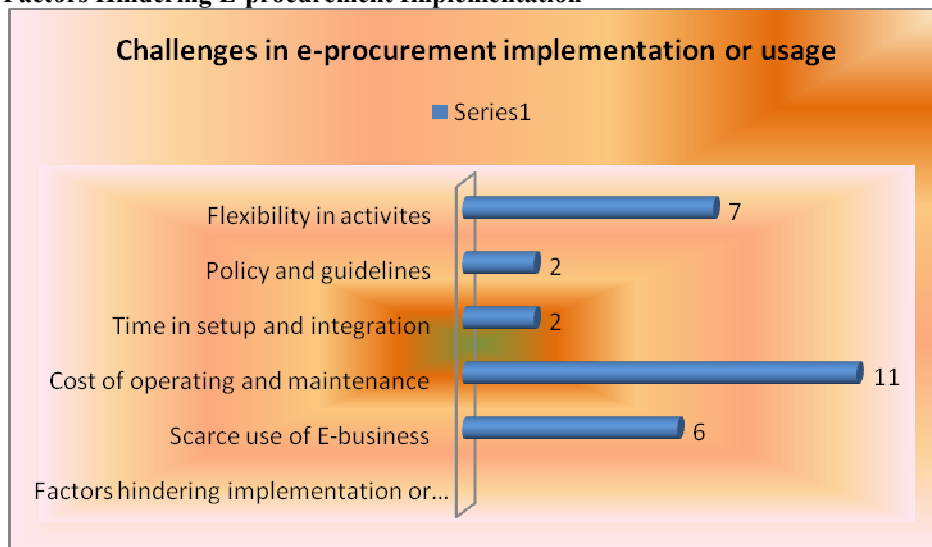
5.0 Summary of findings

KATH as a public enterprise adopting electronic procurement should be seen as having significant performance improvement as a result of the electronic procurement initiative. Public sector companies like KATH typically display higher spending under management, higher maverick spending and higher transaction cycles than all enterprises. One therefore expect KATH after creating a modern Supply Chain Department to lower their transaction costs by leveraging technology enablers such as electronic purchase orders and supplier networks while structuring a centre-led procurement department. From the analysis it can be recognized that the department adopt balance usage of both traditional and electronic systems in its upstream activities. Although respondents admit that departments are networked, have access to computers and their activities directly affect the activities of the procurement department, there is no enterprise-wide system handling their procurement issues.

5.1 Current Practice of Procurement

The study is to determine the effect of ICT on KATH's procurement processes and this can be seen from the current practice of procurement in KATH. Through the questionnaire, it was identified that the current procurement practices in KATH has improved significantly from the use of traditional methods such as telephone, fax, written document to electronic methods such as the use of internet, e-mail and the use of electronic procurement software thus Web Based Procurement Planning Software which is provided by Ghana Procurement Board to enhance procurement activities like location and selection of suppliers, issuance of purchase order, keeping of stock/inventory, as well as material tracking and delivery as given by most of the respondents. Electronic procurement activities in this procurement process have improved considerablly though not in its advance stages looking at an organisation like KATH. According to the respondents, the use of traditional methods in certain procurement activities is still in existence. For instance, requisitions from other departments like Pharmacy, Laundry are mostly paper-based. Electronic techniques are not adopted in negotiation since cheques and cash are the means of payment. Even where electronic processes are admitted to have been used to run of the mill means like facsimileing, telephoning and other automated means are used e.g. keeping stock, tracking materials; etc Table 5.2 below describes the process and methods used in the procurement process.

Table 5.1 Current Practice of Procurement Process

Procurement Process	Results from Respondents
a. Requisition from other departments	Traditional Means
b. Requisition to Suppliers	Electronic and Traditional Means
c. Supplier Location and Selection	Tradtional and Electronic Means
d. Negotiation	Traditional Means
e. Keeping Stock/ Inventory	Electronic and Traditonal Means
f. Issuance of Purchase Order	Electronic and Traditional Means
g. Tracking of Material Delivery	Electronic and Tradtional Means
h. Issuance of Payment	Traditional Means

E-procurement at KATH is experiencing a snail-pace implementation due to significantly scarce use of e-

business, flexibility in activities and cost of operation and maintenance which is seen as the ultimate problem.

5.2. Conclusion

KATH in spite of the threatening unfavourable operation and maintenance cost can still enjoy efficient requisition-to-pay process; lower transaction cost; reduction in maverick spending and controlled spend under management; through the adoption of a system which will facilitate visibility and control of indirect goods, improve supplier relationships, electronic invoicing and empowerment of employees to make faster, better and more informed decisions.

An important part of any organisation's upstream activities is managing its spending through increased visibility and control of indirect goods throughout the organization. A key component of purchasing electronically, is helping many organizations achieve the objective of making their procurement processes more efficient and leveraging their supply base to their competitive advantage.

5.3 Recommendations

Latest e-business technologies create opportunities as well as challenges for doing business faster, cheaper and more efficient. This demands the use of new e-business technologies to support business processes in an innovative way.

- It is important that managers at KATH take more strategic approaches towards the identifying factors that need to be simplified through e-procurement process.
- It is recommended that, KATH should also consider integrating e-procurement with its legacy applications and even extending it to outsiders through extranet.
- KATH should also have a structured procurement set-up headed by an executive or top management staff. Since e-procurement touches every aspect of an enterprise and requires significant change management across all business units, a centre-led structure would leverage the capabilities and interests of business partners and stakeholders. Prior to applying any automated solutions, KATH must ensure that the process is efficient.
- It is suggested that, KATH should reduce manual paper-based purchases to reduce errors and eliminate repetitive work by sending electronic purchase orders, XML format (suppliers should be made to use the same format for synchronisation).
- The researchers recommend that KATH should encourage the use of on-line payment through inter-banks so that the threat of fraudsters is eliminated.

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