Harnessing Electronic Procurement to Support Efficient Supply Chain in Ghana’s Health Sector: A Position Paper

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ABSTRACT

Public procurement is a central instrument to assist the efficient management of public resources. It supports the works and services of the government and can cover all acquisitions, including stationery, furniture, and temporary office staff as complex and high cost areas such as construction projects, aircraft carriers, and other private financial initiative projects. Similarly to many other processes of ICT-enabled innovation, the introduction of e-procurement involves significant changes at the organizational level, arouses power struggles, challenges well-established supply networks, and implies modifications in culture and habits. This review critically reviews the intricate issues involved electronic procurement system adoption, antecedents, prospects and challenges. A position is then presented on how these benefits can be harnessed and optimised efficiently to support healthcare supply chain management in Ghana.

Keywords: Healthcare, E-procurement system adoption, Prospects, Supply Chain and Challenges

INTRODUCTION

Public procurement is a central instrument to assist the efficient management of public resources. It supports the works and services of the government and can cover all acquisitions, including stationery, furniture, and temporary office staff as complex and high cost areas such as construction projects, aircraft carriers, and other private financial initiative projects (hospitals). A United Nation reports, argued that public procurement is a government business system which is concerned about the government procurement process such as preparing project specification, requesting, receiving and evaluating bids, awarding contract and payment (UN, 1999).

This review will examine published literature with respect to e-procurement by exploring the definitions of relevant concepts to gain full understanding of the available empirical literature on the subject matter. The review examines how the benefits of electronic procurement can be harnessed and optimised efficiently to support healthcare supply chain management in Ghana.

Electronic Procurement Defined

Yen and Ng (2003) found out that e-procurement includes sourcing, negotiations with suppliers, and R&D co-ordination taking place on the internet and electronic market. E-procurement is defined as the use of information technologies to facilitate business-to-business (B2B) purchase transactions for materials and services (Wu, Zsidisin, & Ross, 2007). Timmers (1998) referred e-procurement to as an electronic tendering and procurement of goods and services. E-Procurement refers to the use of internet-based system used to carry out individual or all stages of procurement process, including search, sourcing, negotiation, ordering, receipt, and post-purchase review (Barngetuny & Kimutai, 2015). Morris, Stahl, and Herbert (2000) considers that “e-procurement is a series of steps from the formulation of the purchasing corporate strategy to the actual...
implementation of an Internet-based purchasing system. Lederer, Mirchandani, and Sims (2001) suggested that an organization can use E-procurement to create strategic advantage through improved customer relationships resulting from greater business efficiency and better information access and flexibility. The role of purchasing in corporate success has changed considerably due to the advances in information technologies and information systems. Eprocurement has thus gained strategic visibility in its role in enhancing inter-functional and inter-organizational relationships and has emerged as the driving force behind several supply chain practices (Nzuve, 2013).

Bayles (2002) argued that electronic procurement, is more than just a system for making purchases online. A properly implemented system can connect companies and their business processes directly with suppliers while managing all interactions between them. This includes management of correspondence, bids, questions and answers, previous pricing, and multiple emails sent to multiple participants. EProcurement is the set of internet applications by which buyers and sellers find each other and transact according to some pre-specified protocols and involves private or and public marketplaces (Lee H, 2002). E-procurement companies try to provide a wide range of products and services to healthcare organizations in a more cost efficient manner and try to automate the purchasing process through internet technology and informational connectivity (Goldstein, 2000). According to (Liao, Wang, & Tserng, 2002) the electronic procurement system is basically a digitalized format of the conventional procurement process and works in a more open and more efficient fashion. An e-procurement technology is defined as any technology designed to facilitate the acquisition of goods by commercial or a government organization (hospital) over the internet (Gunasekaran & Ngai, 2008). Proponents of e-procurement argued that it helps governments save money and provides a more accountable, more effective, and faster way to manage procurement.


Dameri, Benevolo, Rossignoli, Ricciardi, and De Marco (2012) found out that, the performances of procurement processes in the public sector are becoming increasingly perceived as a critical aspect of government activities or hospitals. From one perspective, in fact, public spending budgets are shrinking in many countries because of the economic crisis; conversely, the public administration (PA) must be prepared to meet a growing demand of services, both for structural reasons (e.g. population aging) and for emerging expectations due to increasing information flow and global competition. In this scenario of very rapid and in-depth change of socio-economic conditions, eProcurement cannot be considered just a technical issue, of course. Similar to many other processes of ICT-enabled innovation, the introduction of e-procurement involves significant changes at the organizational level, arouses power struggles, challenges of well-established supply networks, and implies modifications in culture and habits. Moreover, since in the public sector it is the money of citizens that is to be spent, normative, ethical and participation issues are also strongly involved, and eprocurement proves to be, first of all, a political choice. E-procurement which is one of the major instruments of e-business is still very new to many businesses around the world, however it is now catching up in the race as many business managers and practitioners are beginning to realize its importance (Shale, 2014).

Subramani (2004), observed that, the e-business paradigm has created an immense opportunity for firms to consolidate their buying processes. E-procurement opened new horizons for managing and operating businesses and it has given the stakeholders continuous options to make appropriate decisions on procurement of feedstock, engineering items, utilities or services.

**Public Procurement Overview**

While the word “Procurement” can be simply viewed as the activity to buy goods, works and services, the definition gains more significance when the activity is performed by a public body or is for a public body, the general public or using public funds or non-public funds meant for the public, thus termed, “Public Procurement”. Public Procurement is a comprehensive process stretching from procurement planning, budget allocation, bids invitation, bids evaluation, contract award, contract management, performance evaluation, auditing and reporting. It is an activity that must support the delivery of a public
body’s strategic objectives at the same time live up to the expectations of the targeted public and taxpayers at large. With procurement accounting for about 20% of government expenditure in most developing countries, proper management of the activity is of paramount importance (Mamiro, 2010). Procurement is a function of considerable importance to both public and private sectors. Such an importance can be attributed to the fact that procurement accounts for the majority of the organizational spending across all types of organizations worldwide. The hospital purchasing environment is highly dynamic. This is reflected in the considerable media attention given to growing health costs and the associated ongoing professionalization of the procurement functions (Llewellyn, Eden, & Lay, 1999; Puschmann, 2005).

Global procurement of service activities has received an increasing amount of managerial attention in recent years (Kotabe & Murray, 2004). Standing, Stockdale, and Love (2010) suggested that, in the era of the internet and, more specifically electronic commerce (e-commerce), globalization has become a ubiquitous term with a wide range of definitions across many disciplinary areas. Global competition has forced companies towards commitment to excellence in all areas. Attention to the quality of products and processes, inventory levels, and workforce improvement has provided a competitive edge for insightful companies that are striving to become world class, and therefore information sharing, communication, and trust has provided a major role in improving the performance of virtual enterprises and integrated supply chains (Gunasekaran, Williams, & McGaughey, 2005).

World view of E-Procurement
In today’s dynamic global competitive business environment, technology based service is no longer an afterthought; rather it is a must for public and private organizations. It has become necessary for companies to provide their customers with cost effective total solution and better customer satisfaction with innovative ideas and methods (Barngetuny & Kimutai, 2015). Agboyi and Ackah (2005) found out that with ever increasing competitive pressures, growing numbers of firms use electronic procurement (eProcurement) in an attempt to reduce costs and increase profitability. Academicians and practitioners alike agree that one of the most important benefits of eProcurement is its ability to facilitate integration within the firm and across the supply chain. Min and Galle (2003) posited that for firms, eProcurement means the integration of technological tools into purchasing activities taking place within supply chains while performing their operations. In other words procurement is a deriving benefit attained from technological enhancements rather than using traditional paper based method in procurement operations. In a more detailed explanation, eProcurement gains the advantage of E-Commerce to determine potential supply alternatives, to purchase goods and services, to transfer the prices of these goods and services and to interact with suppliers.

Studies done on eProcurement by (Chandrasekar Subramaniam, 2002; Kinya, 2013; Wangui, 2013) indicated that there is a close relationship between eProcurement and supply chain performance. There was much hype and hope regarding e-business during the late 1990s and the early 2000s (Sheng, 2002; Wu, Mahajan, & Balasubramanian, 2003) which promised to revolutionize working practices, threatening existing business model. Neupane, Soar, Vaidya, and Yong (2012) studied that, most developing and developed countries, governments would like to implement public eProcurement technology in such a way, as to enhance transparency and accountability in government procurement processes. As a way in helping public hospitals to deliver effectively and efficiently to achieve their set goals towards achieving performance. Recently many least developed countries have focused on eProcurement systems as a key tool to reduce the corruption in government procurement process to the public (Neupane et al., 2012). The use of eProcurement is inevitable in services following the increased use of internet and electronic data interchange according to (Gunasekaran & Ngai, 2008).

E-PROCUREMENT PROCESSES

Current public procurement practice in Ghana
Public procurement, or the governmental purchases of goods and services from the private sector, has grown substantially in recent decades. Gershon (1999) defines procurement as ‘the whole process of acquisition from third parties and covers goods, services and construction (works) projects. This process spans the whole life cycle from the initial concept and definition of business needs through to the end of the useful life of an asset or end of services contract (Act, 2003; Gershon, 1999). The key and broadly accepted principle underlying a modern public procurement system is open competition unrestricted, universal access to the procurement market. In addition, the procurement process the selection of bidders, tendering procedures,
and the award of contracts should be open to public examination and review, thus making it a transparent process.

**Diffusion of Public Procurement on the Web**

The E-procurement process involves several activities described below. The purchasing department in the buyer’s internal marketplace defines the scope of the products to buy and invites vendors to bid or negotiate prices. The agreed upon prices (contract prices) are stored in the buyer’s internal electronic catalogue/databases. The final buyer or end user can compare the various alternatives either on the e-catalogue which is a web page with information on goods and services offered supporting online ordering and payment using the internet or on the internal databases (Kothari, C. Hu, & W.S.Roehl, 2004). An organizational purchasing decision would tightly follow the internal workflow management system where business and purchase rules are pre-defined. Supplier selection is extremely important in purchasing management to enhance quality, reduce delivery time, and minimize purchasing costs. The information on the internal databases or the electronic catalogues can be updated manually using software agents. These systems not only allow end-users to order products and services online without intervention by the purchasing department, but also enable automatic fulfilment by the supplier organization and payment via electronic funds transfer or purchasing (credit) cards (Kothari et al., 2004).

E-auctions which are web based markets for B2B and B2C are part of the e-procurement procedures. Suppliers offer goods to consumers on the internet with a systematic method of determining the price. The auctions may follow the English bid process (where the highest bidder prevails), the Dutch bid process (where the sellers starts with the highest prices moving downwards until a price is set) or the sealed bid process where a buyer issues request for bids in a prescribed manner similar to tendering (Lysons & Gillingham, 2003).

![E-procurement Consortium adapted from Lysons and Gillingham (2003)](image)

**Electronic Procurement Systems**

Sambasivan, Patrick Wemyss, and Che Rose (2010) reiterated that EPS has converted traditional manual procurement processes in the government machinery to electronic procurement on the internet. EPS allows suppliers to present their products and services on the World Wide Web, receive, manage, process purchase orders, and receive payment from government agencies via the internet. The supplier’s products or services catalog is converted into the form of an electronic catalog (ecatalogue) that can be viewed from any desktop with a web browser. E-procurement systems can be defined as the web-based systems building at the buying organizations (Kim & Shunk, 2004). Web-page B2B procurement as specific procurement activities done through the internet (Chandrasekar Subramanian, 2002). There are different types of e-procurement systems in the market place as cited in (De Boer, Harink, & Heijboer, 2002) by (Neupane et al., 2012) in their work. The commonly e-procurement systems available are explained below.

**E-MRO and Web based ERP**

It is the process of creating and approving purchasing requisitions, placing purchase orders and receiving the goods or service ordered via a software system based on internet technology e-MRO deals with indirect items(MRO), web-based ERP deals with product-related items(Bruno, Esposito, Mastroianni, and Vellutino (2005); De Boer et al., 2002; Gunasekaran, Putnik, & Fink, 2006).

**E-Sourcing**

It is about the identification of new suppliers for a specific categories of purchasing requirements using internet technology (De Boer et al., 2002; Fuks, Kawa, & Wieczerzycki, 2008).

**E-Ordering**

It involves the use of internet to facilitate operational purchasing process, including ordering, order approval, order receipt and payment process.

**E-Contract Management**

It entails the use of information technology for improving the efficiency and effectiveness of contracting processes of companies (Angelov & Grefen, 2008; Yang & Zhang, 2009).

**E-Informing**

Essig and Arnold (2001) defined e-informing as the gathering and distributing purchasing information both from and to internal and external parties using internet technology.

**E-Reverse Auctioning**

In a reverse auction several suppliers compete for the business to supply products or services and
succeed the prices down (V. A. Mabert & Skeels, 2002).

**Making a business case for e-Procurement**

William D Presutti (2003) proposed that in making a business case for e-procurement requires that the supply manager demonstrate the link between an eprocurement strategy and the firm’s (hospital) financial performance. The supply chain management literature indicates that many corporatelevel executives hold a traditional view of supply chain management and do not fully recognize its impact on all areas of financial performance and that many supply chain professionals do not speak the language of finance, thus failing to articulate the real value of their solutions at the corporate level. Citing a report from Deloitte Consulting,(Corini, 2000) claimed that the business case for e-procurement is clear as companies can expect to achieve a return on investment (ROI) of 30 per cent in the first two or three years.

**DRIVERS OF E-PROCUREMENT Organizational Factors**

Harland (2007) emphasized that the main organizational factors that appear to impact on the likely adoption of e-procurement are size and type of operation. E-Procurement is more evident in bigger organizations than smaller enterprises. Small to medium enterprises (SMEs) often lag behind larger organizations in e-procurement adoption (ISM/Forrester Research, 2003). Reasons for this include owners’ attitude, resource poverty, limited IT infrastructure, limited knowledge and expertise with information systems.

**Facilitating the internet in Business-to-business transactions**

The internet is perceived as the dominant facilitating technology for e-commerce by many academics and practitioners (Bartocci, 2001; Carabello, 2001). However, the internet is only one of several IT-related technologies by which e-commerce is and will be conducted. For example, wireless transmissions (such as Bluetooth), interactive TV, and smart card technologies are emerging as viable alternatives to pure internet interactions in both service and manufacturing industries. In fact, many industrial e-commerce applications rely on multiple technologies to fully implement a system. As people become increasingly dependent on data to do their jobs and as they increase the amount of work done outside the traditional office, a series of working models of data integration and automated data collection methods are needed in the strategic manufacturing IT literature.

**Policy Factors**

Public procurement can be used to support broader government policies, both through traditional and e-procurement processes. Electronic procurement in the public domain can be seen as a policy tool to support the delivery of public procurement policy, improving transparency and efficiency (Carayannis & Popescu, 2005; S. R. Croom & Brandon-Jones, 2005). E-procurement can assist a government in the way it does in the United Nations, 837 businesses were able to reduce their transaction cost through better decisions making and getting more value (Panayiotou, Gayialis, & Tatsiopoulos, 2004). E-Procurement adoption and usage in the EU and US public sector is being encouraged (Carayannis & Popescu, 2005; Reddick, 2004).

**Maverick –Buying**

According to (Tatsis, Mena, Van Wassenhove, & Whicker, 2006; Wen, 2007) e-Procurement prevents single users or buyers from purchasing outside the negotiated contracts and from different sources. Maverick buying is considered a relevant cause of internal inefficiency and increase in the total cost of ownership of the purchased goods and services. It can also hurt the organization in ways such as, the purchase price off-contract purchases usually is higher, because corporate contracts are based on leveraging the total spend volume to obtain discounts from preferred suppliers. It is however worthy of note, such discounts do not necessarily accrue to the unit which makes the purchase, but may be appropriated at the corporate level (Karjalainen, Kemppainen, & Van Raaij, 2009).

**Authority above Procurement Policy**

The implementation of e-procurement requires substantial managerial coordination between the procurement office and other state agencies. When a central state procurement office exercises a high level of authority over procurement policy, it may be much easier for the state government to initiate a procurement innovation. Strong leadership will more readily build a policy consensus among different officers and agencies (Moon, 2005).

**Absence of Enough User Skill**

Vassilakis, Lepouras, Rouvas, and Georgiadis (2004) found out that two of the identified e-service goals for example e-procurement are to develop e-services that are efficient for the government, that improves responsiveness to citizen needs as well hospitals. Achieving these goals is highly dependent on knowledge about how to streamline internal processes and public authorities back-end information systems.
PROCUREMENT PERFORMANCE

Procurement performance is a measure of identifying the extent to which the procurement function is able to reach the objectives and goals with minimum costs (Wheel, 2000). Knudsen (1999) suggested that procurement performance starts from purchasing efficiency and effectiveness in the procurement function in order to change from being reactive to being proactive to attain set performance levels in an entity. Wheel (2000) noted that there are two main aspects of the procurement performance: effectiveness and efficiency. Procurement effectiveness as defined by (Wheel, 2000) as the extent to which the previously stated goals and objectives are being met. It refers to the relationship between actual and planned performance of any human activity. Additionally, he explains that procurement efficiency is the relationship between planned and actual resources required to realize the established goals and objectives and their related activities, referring to the planned and actual costs. What is more, Martínez-Martínez and Campus (2008) emphasized that procurement performance is the extent to which operational procurement outcomes demonstrate high levels of improved performance in lead time, cost, labour-productivity, and capacity utilization (Martínez-Martínez & Campus, 2008). Whereas the strategic dimension of procurement performance considers innovation in the purchasing process (Chemjor, 2015). Chemjor (2015) further reiterated that, aside efficiency and effectiveness there are other indicators of procurement performance which includes transparency, openness, workforce, professionalism, and well trained workforce all plays a role in the performance of the procurement function. To evaluate procurement performance using time one would seek to know the timing of supplier’s actual delivery performance against promised, time taken to process requisitions and time taken up with remedial action (Karani, 2014). Studies conducted by these authors (Kakwezi & Nyeko, 2010; McConnell, 2009) reveals that it is difficult to realize value for money in the manual procurement system due to myriad of reasons, including; slow transaction processing; increased handling errors; large volume of paper generated; difficulties in expediting deliveries; complicated procedures. Excessive state intervention; bureaucratic processes; lack of centralized control; too many suppliers; lack of product standardization and lack of buyer influence. Nonetheless, electronic procurement is seen as a way to address many public sector procurement requirements (Kamotho, 2014).

EMPIRICAL REVIEW OF E-PROCUREMENT ADOPTION

Shale (2015) explored the role of e-procurement strategy in the performance of state corporations in Kenya. The findings indicates that there is a significant positive relationship between the components of e-procurement strategy namely customer service level strategy, procurement cost reduction strategy, inventory level optimization, buyer supplier collaboration strategy and auditability and compliance strategy of the procurement process with the procurement performance. Gunasekaran and Ngai (2008) investigated that, e-procurement adoption indicates to what extent a company has advanced in technology and hence streamlined its supply chain process in order to assure flexible and responsive products and services in a cost-effective manner. Procurement not only results in process efficiency but also provides higher leverage opportunities in areas such as reduced cost, increased utilization of resources for productive purposes, new technology, new products and new markets. Their studies further reiterated that is important to consider the key organizational performance in order to justify the investment in e-procurement technology or systems.

Akibate (2015) investigated acceptance of e-procurement among key holders in the construction industry in Ghana and from the findings of the study revealed that e-procurement strategies enhances procurement performance by reducing transaction costs and cycle times; allowing possibility of developing vendor managed inventory and improvements in just in time deliveries; facilitating more accurate deliveries due to reduced input order errors by suppliers; shared performance measurement data which encourages improved supplier performance: potential for less expediting by the buyer as the supplier acknowledges orders by exception which automatically updates the buyer’s system; reduced stock due to shared sales / forecast information; possibility of using self-billing. Hanfield, Peter, and Cousins (2008) investigated an organisational entrepreneurship model of supply management integration and performance outcomes. Findings of the study revealed that there are a number of reasons for measuring procurement and supply chain activity and performance; support better decision making due to making performance and results visible thus creating a track record of purchasing performance over time, support better communication between departments, within purchasing, with suppliers and with executive
management; provide performance feedback which supports the privation or correction of problems identified during the performance measurement process and motivate and direct behaviour towards the desired end results.

Makabira and Waiganjo (2014) explored the role of procurement practices on the performance of corporate organisations in Kenya. Findings of the study revealed that an organisation has benefited from adopting procurement controls practices in a number of ways: among them is the attainment of value for money, proper use of funds, prevention of unnecessary losses and stocking of items, improved service provision, quality supplies, correction of supplier compliance errors and improved efficiency and resource allocation.

**ELECTRONIC PROCUREMENT BENEFITS**

**Lower Administrative Costs**

Ordanini and Rubera (2008) found out that process efficiency and process integration capabilities of a procurement process provide a significant contribution to firm performance. The main benefits of e-procurement are an increase in firms competitiveness through cost reduction and/or boosted efficiency with inbound logistics (Palma-dos-Reis, 2008). These benefits can materialize in a reduction of purchasing transactions costs, order fulfillment and cycle time, a reduction of the number of suppliers or even a reduction in the price paid, and the number of staff to support purchase transactions (Davila, Gupta, & Palmer, 2003). Church (1998) observed in the United States that e-procurement reduced the cost of transactions from US$ 20 and reduced delay from 40 days to less than 5 days. The main benefit of E-procurement reported by several researchers is reduced costs through various ways, including the followings: improved internal efficiency, cut supplier costs, reduce order error rate, minimized maverick buying etc (S. Croom & Brandon-Jones, 2007). A well-conceived cost reduction strategy enables managers to capture maximum value in the form of direct savings (Salkute, 2013).

**Strengthening Supplier Relations**

Toktas-Palut, Baylav, Teoman, and Altunbey (2014) encouraged and made provision for buyers to locate suppliers with the best prices and quality, and streamline the negotiation and contracting processes through enhance transparency and communication. E-procurement allows sections of electronic documentation to flow through the supply chain. As it improves the speed of returns and makes it easy to communicate requirements in a quicker and more accessible manner, it will result in a better understanding of requirements and compliance. (Cooper, Lambert, & Pagh, 1997; V. Mabert, Soni, A. and Venkataraman, M., 2003) integration of information across firms within supply chains is a requirement for efficient, responsive operations. Child, Faulkner, and Tallman (2005) reiterated that integrated information has been described as the glue that holds supply chains together.

**Reducing Purchase Cycle Time**

Prier and McCue (2007) observed that e-procurement is also expected to improve overall purchasing efficiency, streamline the purchasing process, and reduce purchasing processing times. Demonstrate that ecommerce adoption can lead to the reduction of purchasing prices, transaction and process costs and can increase transaction speed, thus contributing to the overall operational efficiencies (De Boer et al., 2002). W. D. Presutti (2003) found out that Aberdeen Group identified the benefits that accrue to a firm from an e-sourcing strategy. In addition to the 5–20% reductions in material costs, benefits include reducing sourcing cycle times by 25–30% and time-to-market by 10–15%. Cutting those cycle times has a significant impact on the revenue generation potential for the firm because products get to market faster, allowing the firm to position itself to capture market share from a first-to-market position (Azadegan & Ashenbaum, 2008; Gamal Aboelmaged (2010)) also observed that e-procurement has cut down the time and cost required to generate a purchase order, place the order, determine the nature of contracts, select the right supplier, track shipment status, manage payments, and follow up with supplier. It could also assess through shorter order cycles (Neef, 2001; Roch., 2001).

**CRITICISM OF ELECTRONIC PROCUREMENT ADOPTION**

Rahim and As-Saber (2011) as cited in the (Tanner, Wölfle, Schubert, & Quade, 2008) found out that longitudinal study involving 68 large Swiss companies indicated that despite the existing hype and interests surrounding IT-enabled service provisions and apparent prospect of achieving better performance through e-procurement initiatives, organizations fail to completely achieve expected outcomes. Mose, Njihia, and Peterson (2013) argued...
that many suppliers, especially smaller ones, do not have the technological capability to integrate with e-Procurement platforms. They may lack the IT infrastructure and capital necessary to provide e-Procurement and fear that e-Procurement will enable buyers to leverage price (Singer, 2003). The actual benefits and risks of e-procurement technologies and managers’ involving perceptions about these benefits and risks will determine the speed at which the technology moves from its developmental infancy to the adoption and maturity stages. However, the perceived risks that are holding back companies from investing in e-procurement technologies are numerous. In addition to technology-related risks, there are risks 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 insure their appropriate use (Davila et al., 2003). Despite many benefits that organizations may experience from the implementation of e-procurement initiative they are not without criticisms (As-Saber et al., 2014). As other authors have argued that e-procurement is costly, inflexible and not obviously transparent (Devaraj, Vaidyanathan, & Mishra, 2012; Raymond, 2008) howbeit, Ghanaian public hospitals stands a better chance in deriving a lot from e-procurement technologies from the vast benefits that awaits the healthcare industry.

CONCLUSIONS
As stated in earlier sections of the paper, the objective of the review was to critically, examine the intricate issues involved in electronic procurement system adoption, antecedents, prospects and challenges. We have established that global competition has forced companies towards commitment to excellence in all areas. To this end, attention to the quality of products and processes, inventory levels, and workforce improvement has provided a competitive edge for insightful companies that are striving to become world class, and therefore information sharing, communication, and trust has provided a major role in improving the performance of virtual enterprises and integrated supply chains. To date, the main drivers of e-procurement includes organizational factors, facilitating the internet in business-to-business transactions, policy factors, maverick-buying, authority above procurement policy, absence of enough user skill. Further the review shows that the adoption of e-procurement processes is not achieved overnight but through a well-crafted process. These includes an understanding of the current public procurement practice in Ghana, diffusion of public procurement on the Web, Electronic Procurement Systems, e-MRO and Web based ERP. Yet e-procurement is not without its own challenges. We note from the extant literature that e-procurement is costly, inflexible and not obviously transparent (Devaraj, Vaidyanathan, & Mishra, 2012; Raymond, 2008). Howbeit, Ghanaian public hospitals stands a better chance in deriving a lot from e-procurement technologies from the vast benefits that awaits the healthcare industry.

ACKNOWLEDGEMENT
‘‘This work was supported in part by the National Science Foundation of China under grants71471076, 71171099, 71373818 and 71201071, and by the National Research Foundation of Korea Grant funded bytheKoreanGovernment(NRF2014S1A2A027622) and by the Joint Research of the NSFC-NRF Scientific Cooperation Program under grant 71411170250 supported. This work was also sponsored by the Qing Lan Project of Jiangsu Province and Jiangsu University Top Talents Training Project.’’

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