Concatenating E-Procurement Processes and Health Supply Systems in Ghana to Promote Efficiency: A Critical Review

Patrick Boateng Sarpong, Du Jianguo, Kingsley Appiah, Thomas Bilaliib Udimal

School of Management, Jiangsu University, 301 Xuefu Road, Zhenjiang, Jiangsu, P.R. China

Corresponding author: Prof Du Jianguo (jgdu2005@163.com)

ABSTRACT

The last decade has witnessed a lot of development in the Healthcare sector in Ghana in many respects. Healthcare now ranks among the top sectors in terms of revenue and continues to generate a lot of employment. The healthcare industry is one of the fastest growing industries in Ghana and estimates suggest that the overall market is around GHC 6.5 billion. Yet Ghana’s healthcare industry faces a lot of challenges at the moment. Be it the exponential growth in demand for safe treatments at an economical price or escalating cost of running healthcare services, the sector needs to gear up to support growth that matches the domestic and international demand. This review explores the extent to which e-procurement can help to eliminate some of the core challenges confronting the healthcare sector in Ghana. It explores the roles of all players involved in procurement such as hospitals, pharmaceuticals, medical equipment suppliers, diagnostics providers, government and regulatory agencies to support the effective deployment and sustainability of e-procurement in the Ghanaian healthcare sector.

Keywords: Ghana, Healthcare Supply Systems, Efficiency, Challenges and E-procurement

INTRODUCTION

The last decade has witnessed a lot of development in the Healthcare sector in Ghana in many respects. Healthcare now ranks among the top sectors in terms of revenue and continues to generate a lot of employment. The healthcare industry is one of the fastest growing industries in Ghana and estimates suggest that the overall market is around GHC 6.5 billion. According to the data provided by the Institute of Statistical and Economic Research, Ghana’s healthcare expenditure is 4.5% of the GDP. With a population of more than 25 million, Ghana’s per-capita healthcare expenditure has augmented with the growing population and the country is determined to achieve Universal Health Coverage for all within the next foreseeable future. This would provide comprehensive health security to every citizen of the country. As nearly 65% of Ghanaian live in rural areas and there is a lot of scope to enhance healthcare services in these rural areas. As the sector continues to grow, e-Tendering and online procurement solutions will drive efficient execution of growth plans. It will enable reduction in the administrative cost and turnaround time to procure equipment’s. Yet Ghana’s healthcare industry faces a lot of challenges at the moment. Be it the exponential growth in demand for safe treatments at an economical price or escalating cost of running healthcare services, the sector needs to gear up to support growth that matches the domestic and international demand. According to a report by McKinsey, though the total bed density has witnessed an increase, it still remains below the WHO guidelines of 3.5 beds per 1000. Lack of adequate paramedical manpower remains a major challenge just as scarcity of medical practitioners to meet the healthcare problems of the country. The demand demographics and available infrastructure has huge gaps. Existing infrastructure resources remain largely underutilized. There is a lot of out of pocket spending. This review explores the extent to which e-procurement can help to eliminate some of the core challenges confronting the healthcare sector.
in Ghana. It explores the roles of all players involved in procurement such as hospitals, pharmaceuticals, medical equipment suppliers, diagnosticians, government and regulatory agencies to support the effective deployment and sustainability of e-procurement in the Ghanaian healthcare sector.

HEALTHCARE IN GHANA

Ghana, since her independence from the British on 6th March 1957 has made great strides towards improving its health care facilities and the services offered in them. The Ghana Health Service, the health policy implementer of the Ministry of Health, has over the years developed the health care services offered to Ghanaians in all the ten (10) administrative regions of the country. Abehaka-Nkrumah and Ayimbillah Atinga (2013) found out that healthcare in Ghana is provided largely by the government through tertiary referral hospitals, district hospitals, community health centres and clinics but mission hospitals and clinics also plays an important role. There are also private for profit hospitals but they provide less than 2% of health services in the country. The Ghana Health Service (GHS) regulates the activities of public hospitals. The Ministry of Health (MOH) is the governing body with the mandate to formulate policies for the health sector, determine priorities for resource allocation, monitor the performances of health sector agencies (GHS, teaching hospitals, regulatory bodies and privately owned health institutions) and engages in mobilisation of funds for the health sector. The regional hospitals serves as tertiary referral centres for district health facilities.

PROCUREMENT LAW IN GHANA

In 2003 the Government of Ghana passed the Public Procurement Act in a move towards improving transparency and ethics in public procurement as well as obtaining better value for money. The Act established the Public Procurement Authority tasked with providing procurement oversight, establishing regulatory control measures and training procurement practitioners. The Act was enacted on the premise that efficient public procurement systems are essential to the achievement of developmental goals. Public procurement mechanisms are key elements to the overall efficiency of public sector management because they can contribute to a better allocation of resources towards development objectives and improved governance in the public sector(Makabira D.K, 2014).

These suggest that any improvement in reduction of corruption in the public procurement system will have direct and substantial impact on the overall economic situation of the country and result in budgetary savings and efficiency in public expenditures. Weak and corrupted procurement systems often lead to a waste of public financial resources and higher transaction costs and therefore, undermine development efforts. However, with conceptual planning, process organization, implementation, controlling and evaluation and system improvement performance within cost on time will be achieved (Makabira D.K, 2014; Mawenya, 2007). Government specifies a desired output by permitting the resourcefulness of private organisations because public procurement being a paramount policy tool in innovation yields the best effective and efficient knowhow.(Aschhoff & Sofka, 2009). Batenburg (2007) claimed that technology usage ratios in procurement activities has come to play a pivotal role in determining the performance of firms, since the emergence of online purchasing has become an interesting and special performance indicator.

Mose, Njihia, and Peterson (2013) found out that for e-procurement adoption to be successful, it should allow employees to focus on their day to day jobs without sacrificing the visibility and management needs to effectively control organizational spending. Equally the management should provide all the financial support that is necessary for the development of e-procurement infrastructure for easy adoption. The public procurement law has introduced several relevant modern procurement principles that is expected to correct the irregularities associated with public procurement (Dagaba 2013). Similarly, the benefits of e-procurement include reduced purchasing cycle time and cost, enhanced budgetary control, elimination of administrative errors, increasing buyers’ productivity, lowering prices through product standardization and consolidation of buys, improving the payment process, and improving information management.

Implementing web-based e-procurement system not only could make the operational processes of the buyer organization more effective but also could make the order fulfilment process of the supplier organization more efficient and improve partner relationship management (Chaffey, 2007). E-procurement offers hospitals and ambulatory facilities with several notable advantages, such as convenience, efficiency, broad selection, favourable pricing, and information on new products and so on. Hospitals have plenty of reasons to use online procurement. The internet is rapidly becoming a standard office procurement tool for many medical practices. Just about anything can be purchased.
online, from large medical equipment to rubber gloves and pharmaceuticals. Online ordering gives the purchaser real time information on any given product and the process can be completed in minutes(Ketikidis, Kontogeorgis, Stalidis, & Kaggelides, 2010). Addison (2016) further suggested that another area where the introduction of internet and ICT tools has made significant is speed and efficiency which is a cardinal principle of any procurement organisations.

The impact of internet on the business world has occurred with astounding speed(Akibate, 2015). From a service perspective e-procurement is a tool that address the desire of firm, consumers and management to cut service costs while increasing speed of services delivery(Nuwahereza, 2015). The operational advantages of e-procurement are based on the need of managers to overcome the challenges of cycle times and high costs frequently found in the healthcare field(Addison, 2016). The internet can be used for both purchasing and delivery of goods(Addison, 2016).Eadie et al (2007) argues that e-procurement allows sections of electronic documentation to flow through the supply chain it improves the speed of returns and subcontractor price visibility as quoted in (Barngetuny & Kimutai, 2015).Authority (2007) reports that the public procurement law (Act 663) has introduced an established high level of sanity in the procurement, it’s entirely manual base and procurement practitioners are calling for the establishment of e-procurement in Ghana.

On another hand, Ketikidis et al. (2010) observed in their studies that the cost to the healthcare system of supply chain inefficiencies may reach really high figures. The relationship between buyers and sellers are also in focus as the compatibility of information systems and processes, the understanding of mutual business needs, communications, commitment, flexibility and trust are factors that can reduce operating costs. Prior to emergence and origination of e-procurement, organizations used to spend too much on their supply chain management, so e-procurement has significantly changed this attitude of supporting the whole process of supply chain ranging from reducing the procurement overheads to value creation and overall efficiency and effectiveness(Mahdillou & Akbary, 2014). In the quest for cost controlling without affecting the quality of healthcare, hospital managers must consider the supply chain management, which provides the proper concepts and tools for the optimisation of the supply chain system. A well-defined supply chain measurement system increases the chance for success by aligning processes across multiple firms, targeting the most profitable markets and obtaining a competitive advantage through differentiated services and lower cost(Pohlen & Lambert, 2001).

To improve the supply chain system processes, the supply chain concepts utilise information system tools and focus on the relationship between suppliers and sellers, studying the compatibility of information systems and processes, the understanding of mutual business needs, communication channels and methods, commitment to the business relationship, flexibility and trust.Coulthard and Castleman (2001) disclosed that electronic procurement has become one of the most successful of electronic commerce applications. It has been widely adopted by companies seeking better business processes and an improved bottom line. These advantages have not been lost on governments which also engage in extensive buying activities and are major customers for a wide range of goods and services. Onsongo and Moronge (2016) reported that it is evident that employees have a great role in adoption of e-procurement and their skills, competencies and training may influence to a large extent how e-procurement is adopted and implemented in an organisation. The human element in a business environment cannot be overemphasized because without which, any organizational objectives such as e-procurement may not succeed. Soares-Aguiar and Palma-dos-Reis (2008) intimated that, in fact, total administrative costs for firms using e-procurement systems are only 33.2% of the costs supported by organisations using manual processes. The automation of requisition generation is the most significant contributor for the cost reduction, which has a direct impact on the organisations net income. Indeed, if a firm would try to achieve the same financial impact on net income through an increase on sales, a significant effort would have to be undertaken in order to get the same results, since an increase on sales normally implies an increase on costs. Developmental reports revealed that in order to benefit from introducing e-Procurement tools in national public procurement system it is necessary to review the existing legal framework.
and optimise procurement process for an e-commerce environment. As this will require redesign of procurement methods and incorporating new business processes in the public procurement legislation (law) as well as operational policies. According to (Commission, 2012) lack of governmental (management) support for e-Procurement as a default means of purchasing affects the confidence level among players. The European Commission (EC) states that the level of information technology infrastructure and usage in developing countries still remains an impediment to a full integration of e-procurement.

Procuring entities can influence quality by prequalification requirements (Eadie, Rodgers, McKeown, & Smyth, 2012), by specifying quality standards (Enquist, Camén, & Johnson, 2011) in the tendering documentation and by applying quality criteria when awarding contracts. Beamon and Ware (1998) emphasized that improving the quality of processes is the key to performance in firms as they result in reduced costs, improved resource utilization and improved process efficiency. King’ori (2013) reiterated that, performance measures in supply chain metrics like quality which measures the percentage of goods received and raw materials rejected, quantity that measures the percentage of stock which has not moved over a specified period, stock outs and the number of emergency orders. This will enable the top management to appreciate the benefits that accrue from the automation of procurement activities and thus take an initiative to fully automate the procurement activities in the supply chain and top management support is very essential in implementation of e-Procurement system. Azanlerigu and Akay (2015) argues that management of these institutions (public hospitals) should make conscious efforts to integrate organizations system and those of the trading partners, as well as demonstrating the positive impact of the system and installing linkages between all public departments. Systems integration is a critical success factor for e-procurement implementation both with the customers information infrastructure and its’ link to suppliers (Rajkumar, 2001). Ghana’s public procurement Act, Act 663 (PPA) indicates that public procurement entities have different stages of implementation whereas others lack e-procurement. ICT enables greater information to be widely available with ability to offer access to large catalogues of suppliers, wide range of product and services available to employees who in turn provide greater range of flexibility (Philip & Wurster Thomas, 1999). Nyagah (2015) studied that business using e-procurement benefit from shorter lead times, cost reduction, improved quality collaboration, flexibility in the supply chain among others. Thawiwinyu and Laptaned (2009) concluded that e-procurement has contributed to a better understanding of how firms in various industries and business settings, can effectively utilize strategic sourcing and e-procurement, in conjunction with trading house and advanced manufacturing technologies and realize improvements in different flexibility dimensions. Robaty Shirzad and Bell (2013) observed that within e-procurement online exchanges, flexible technology can bring efficiency by having the same technological platforms, using compatible software able to accommodate the different technologies buyers and sellers use.

Wagner and Sweeney (2010) demonstrated that many organisations still lack effective ICT infrastructure, which may organise, support and facilitate the highly complex and often rapidly changing interfaces among the organisational entities and disciplines involved in e-business processes. Vaidya, Sajeev, and Callender (2006) in their study found that top management support and performance measurement were found to be a critical projects towards e-procurement implementation. Without top management support (organization commitment) e-business (e-procurement) is difficult to implement successfully (Wagner & Sweeney, 2010). The public procurement Act 200,( Act 663) of Ghana must be reviewed as the current modes are rigid and allows no flexibility, as institutions and government are encouraged to embrace e-procurement which if adopted would be faster, less costly and easier to purchase material (Mensah & Tuo, 2013).

PHYSICAL STRUCTURES REQUIRED TO SUPPORT E-PROCUREMENT

According to (Thomson 2006) both stationary and mobile computers are suitable for buyer-supplier interactions. Integrated suite software that enables e-Procurement operations is developed to suit both stationary and mobile device users. According to (Bidgoli & Hossien, 2004), for entities to adopt the e-Procurement system, they should have in place, the following hardware: personal computer, broadband internet connection, scanner & printer and card reader (installation). These software must also be available: an operating system, microsoft office or
equivalent, pdf writer/pdf reader, anti-virus software, java and internet access software.

Public E-Procurement System
An e-Procurement system manages tenders through a web site (Min & Galle, 2003). This can be accessed anywhere globally and has greatly improved the accessibility of tenders. Studies have demonstrated that employees training are a crucial factor for perception of ease of use and acceptance of information technology. The lack of system knowledge may create anxiety, negative attitude and diffusion to use e-Procurement technology. Training programs provide knowledge and primarily experience of computers and new information technology, making employees more confident (Panayiotou, Gayialis, & Tatsiopoulos, 2004). According to studies findings on e-Procurement systems, perception about electronic procurements ease of use was significantly associated with those that reported ease of internet use. This finding is consistent with findings of other studies, where individuals computer self-efficacy and system experience had a significantly positive effect on perceived ease of use of the internet system (Pasiopoulos et al., 2013). The internet represents an insecure channel for exchanging information leading to a high risk of intrusion or fraud, such as phishing (Bichler, 2000; Gralla, 2007b).
The internet consists primarily of the collection of billions of interconnected web pages that are transferred using http (hypertext transfer protocol), are collectively known as the World Wide Web. The internet also uses ftp (file transfer protocol) to transfer files, and smtp (simple mail transfer protocol) to transfer e-mails (Gralla, 2007a). An inadequate e-Procurement system can also impede workflow by being too device dependent. If workflow moves only through stationary computers, mobile users will not have the opportunity to complete their tasks until they sit down at the location of the stationary computer. Business agility demands efficient workflow and prompt responses to requisitions and requests for approval. Staying ahead of the game depends on empowering employees wherever they happen to be (Flanegin, 2006). Most suppliers perceive participation in an e-Procurement system as a cost of doing business, rather than as value added to their materials or services. Integrating the value chain with customers have up-front and ongoing administrative costs, such as the cost of updating the attributes of items and services. They also need to invest in assuring the security of their own IT systems even as they integrate them with others down the value chain (Gralla, 2007a).

Public E-Procurement Software
According to Bidgoli and Hossien (2004) cited in (Thomson 2006b) study, enterprise resource planning (ERP) is a cross-functional enterprise system driven by an integrated suite of software modules that supports the basic internal business processes of a company. ERP gives a company an integrated real-time view of its core business processes such as production, order processing, and inventory management, tied together by ERP applications software and a common database maintained by a database management system. ERP systems track business resources (such as cash, raw materials, and production capacity) and the status of commitments made by the business (such as customer orders, purchase orders, and employee payroll), no matter which department (manufacturing, purchasing, sales, accounting, and so on) has entered the data into the system. ERP facilitates information flow between all business functions inside the organization, and manages connections to outside stakeholders (Adam R, P, & Merwe, 2011).
Enterprise system software is a multi-billion dollar industry that produces components that support a variety of business functions. IT investments have become the largest category of capital expenditure in United States-based businesses over the past decade. Enterprise systems are complex software packages that offer the potential of integrating data and processes across functions in an enterprise. Although the initial ERP systems focused on large enterprises, there has been a shift towards smaller enterprises also using ERP systems (Thomson 2006). Organizations consider the ERP system a vital organizational tool.
because it integrates varied organizational systems and enables flawless transactions and production. However, an ERP system is radically different from traditional systems development. ERP systems can run on a variety of computer hardware and network configurations, typically employing a database as a repository for information (Gill, 2011).

In 1990 Gartner Group first employed the acronym ERP as an extension of material requirements planning (MRP), later manufacturing resource planning and computer-integrated manufacturing according to (Bidgoli & Hossien, 2004). Without supplanting these terms, ERP came to represent a larger whole, reflecting the evolution of application integration beyond manufacturing. Not all ERP packages were developed from a manufacturing core. Vendors variously began with accounting, maintenance, and human resources. By the mid1990s ERP systems addressed all core functions of an enterprise. Beyond corporations, governments and non–profit organizations also began to use ERP system (Walsh, 2009). According to (Turban, 2008), entities perceive ERP as a vital tool for organizational competition, as it integrates dispersed organizational systems and enables flawless transactions and production. ERP vendors traditionally offered a single ERP system. ERP systems suffered from limitations in coping with integration challenges dealing with changing requirements. However, companies preferred to implement an ERP suite from one vendor that incorporated stand-alone point solutions (that once filled feature gaps in older ERP releases) to achieve higher levels of integration and improve customer relationships and the supply chains overall efficiency.

However, Rajkumar (2001) study reveals that, though most companies still follow the single source approach, a significant number of firms employ a strategy of best of breed ERP to strive for a competitive advantage. ERP vendors began to acquire products, or develop new features comparable to or better than many of the top applications. According to (Bendoly & Schoenherr, 2005), these helped companies, via single source, maintain or create a competitive advantage based on unique business processes, rather than adopt the same business processes as their competitors. In the following years, integration was a leading investment due to a feature gap and the need to extend and integrate the ERP system to other enterprises or best of breed applications. Integration was ranked as one of the leading investments for 2003. Well over 80% of U.S. companies budgeted for some type of integration in 2002, and roughly one-third of U.S. companies defined application integration as one of their top three IT investments in 2003. ERP license revenue remained steady as companies continued their efforts to broadly deploy core applications, and then add complementary features in later phases (King, 2005).

Developers now take greater effort to integrate mobile devices with the ERP system. ERP vendors are extending ERP to these devices, along with other business applications. Technical stakes of modern ERP concern integration hardware, applications, networking, supply chains. ERP now covers more functions and roles including decision making, stakeholders’ relationships, standardization, transparency, globalization (O’Brien, 2011).

THEORETICAL FOUNDATION TO SUPPORT E-PROCUREMENT

Transaction Cost Theory

Transaction cost theory tries to explain why companies exists and why companies expand or source out activities to the external environment. The transaction cost theory supposes that companies try to minimize the costs of exchanging resources with the environment, and that companies try to minimise the bureaucratic costs of exchanges within the company. Companies are therefore weighing the costs of exchanging resources with the environment, against the bureaucratic costs of performing activities in house. The theory sees institutions and market as different possible forms of organising and coordinating economic transactions. When external transactions costs are higher than the company’s internal bureaucratic costs, the company will grow, because the company is able to perform its activities more cheaply, than if the activities were performed in the market. However, if the bureaucratic costs for coordinating the activity are higher than the external transaction costs, the company will be downsized. Williamson (1981) reported that a transaction cost occurs when a good or a service is transferred across a technologically separable interface. Therefore, transaction costs arise every time a product or service is being transferred from one stage to another, where new sets of technological capabilities are needed to make the product or service. However, transaction costs are defined as expenses incurred when buying or selling a good or service, they are mainly made of three categories namely: search and information costs, bargaining costs, policy and enforcement. Implementation of e-procurement automates much of the administration involved in purchasing, making it avoiding the use of paper and as the results, leads to potential savings (Owili, 2013).
Institution Theory

Scott (2004) observed that institutional theory emphasizes the importance of institutional environments in shaping organizational structure and actions. Institutions regulate economic activities by setting the rules of the game as the basis for production, exchange, and distribution. Yang, Su, and Fam (2012) claimed that it is essential for firms to follow established rules, norms, and belief systems to gain legitimacy and mobilize their social, economic, and political resources in order to adapt to specific institutional environments in view of enhancing firm performance. Gibbs and Kraemer (2004) emphasized that in accordance to institutional theory, organizational decisions are not driven purely by rational goals of efficiency but also social and cultural factors and concerns for legitimacy. Institutions are transported by cultures, structures and routines and operate at multiple levels. Scott (2004), further explained as cited by (Chegugu & Yusuf, 2017) that institutions are composed of cultural-cognitive and regulative elements that, together with associated activities and resources, gives meaning to life. The author explains the three pillars of institutions as regulatory, normative and cultural-cognitive. The regulatory pillar emphasizes the use of rules, laws, and sanctions as an enforcement mechanism, with expediency as the basis for compliance.

The normative pillar refers to norms (how things should be done) and values (the preferred or desirable), social obligation being the basis of compliance. The cultural cognitive pillar rests on shared understanding (common beliefs, symbols, shared understanding). The public procurement is guided by the PPA 2003, regulations and guidelines from time to time are issued by the Public procurement oversight Authority only and which must be complied to the letter by all the private entities and providers (Chegugu & Yusuf, 2017).

The Technology, Organization, Environment Framework (TOE)

The technology, organisation, environment framework is a classic framework that proposes a generic set of factors that explains and predict the likelihood of innovation or technology adoption (Tornatzky & Fleischer, 1990). Awa, Ukoha, and Emecheta (2016) found out that, the framework proposes three bits of enterprise contexts that influence the adoption or implementation of innovation. The TOE model has been shown to be useful in the investigation of a wide range of innovations and contexts (Baker, 2012). The technological context refers to the internal and external technologies that are relevant to the firm, it includes both equipment and processes. The organisational context is made up of characteristics and resources of the firm and it involves firms’ size, degree of centralization, degree of formalization and managerial structure, human resources, amount of slack resources and linkages among employees. The environment context involves the size and structure of the industry, the firms competitors and so on (Tornatzky & Fleischer 1990). The TOE model is relevant in this review, in that it develops strategies on how to link up with trading partners departments and suppliers in the supply chain ecosystem (Tornatzky & Fleischer, 1990).

TAM

Davis (1989) found out that, the technology acceptance model (TAM) is an information systems theory that models how users come to accept and use a technology. Ajzen and Fishbein (1972) reiterated that, TAM is based on the theory of reasoned action, which states that beliefs influence intentions, and intentions influence one’s actions. According to TAM, perceived usefulness (PU) and perceived ease of use (PEOU) influence one’s attitude towards system usage, which influences one’s behavioural intention to use a system, which, in turn, determines actual system usage. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. There are two factors that are involved in this phenomenon: Perceived usefulness (PU): the degree to which a person believes that using a particular system would enhance his or her job performance. Perceived ease of use (PEOU): the degree to which a person believes that using a particular system would be free from effort. These constructs reflect user’s subjective assessments of a system, which may or may not be representative of objective reality. System acceptance will suffer if users do not perceive a system as useful and easy to use. Kaliannan, Awang, Raman, and Dorasamy (2009) posits that e-procurement adoption is made up of transformations that involves reengineering the current system inside the organization that come what may, would have an effect on the organization operations. Activities that are carried out involving procurement processes in public organisations (Ghanaian hospitals) are likely to be transformed on the basis of e-procurement adoption because of the ordering process, order preparation, order approval.
and order transmission to its trading partners (Osir, 2016).

**Innovation Diffusion Theory**

Innovation diffusion can be defined as the process by which an innovation is communicated through certain channels over time among the members of a social system (Rogers Everett, 1995). The theory is regarded as important in predicting the adoption of technological innovations for example e-procurement (Chen & Zhang, 2016). Rogers Everett (1995) observed that the communication channels refer to the medium through which people obtain the information about the innovation and perceive its usefulness. It involves both mass media and interpersonal communication (Zhang, Yu, Yan, & Spil, 2015). An idea that appears to be new to individuals can be considered an innovation (Rogers Everett, 1995). Diffusion is the process by which an innovation is communicated through certain channels over time among members of a social system (Rogers, 2000). The attributes of an innovation include five user perceived qualities that is: relative advantage, compatibility, complexity, trialability and observability.

Relative advantage is the degree to which a new idea is perceived as superior to the idea that it replaces. Compatibility is the degree to which a new idea is perceived as consistent with the existing values, experiences and needs of potential adopters. Complexity is defined as the degree to which an innovation is perceived as difficult to understand. Trialability is the degree to which an innovation may be experimented with on a limited basis and Observability is the degree to which the results of an innovation are visible to others. An innovation that is perceived as having greater relative advantage, compatibility, trialability and observability along with less complexity, will be adopted more rapidly than other innovation (Rogers, 2000). Al-Zoubi (2013) found out that the organizational decision to adopt e-business (eProcurement) may also be influenced by external factors of the organisation e-competition pressure and government support that provide barriers and incentives to e-business adoption.

**CONCLUSIONS**

At the onset we identified that Ghana’s healthcare industry faces a lot of challenges at the moment. Be it the exponential growth in demand for safe treatments at an economical price or escalating cost of running healthcare services, the sector needs to gear up to support growth that matches the domestic and international demand. We reviewed the extent to which e-procurement can help to eliminate some of the core challenges confronting the healthcare sector in Ghana. We further explored the roles of all players involved in procurement such as hospitals, pharmaceuticals, medical equipment suppliers, diagnostics providers, government and regulatory agencies to support the effective deployment and sustainability of e-procurement in the Ghanaian healthcare sector. We posit that to improve the supply chain system processes, the supply chain concept must utilise information system tools and focus on the relationship between suppliers and sellers. There is the need to study the compatibility of information systems and processes, the understanding of mutual business needs, communication channels and methods, commitment to the business relationship, flexibility and trust to augment effective co-integration. To be successful in effective deployment and implementation of e-procurement in the healthcare systems, the organizational decision to adopt e-business (eProcurement) will be influenced by external factors, organisation e-competition pressure and government support but these should rather provide incentives and not barriers to e-business adoption.

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