E-procurement Adoption Barriers in Retrospect: A Structural Equation Analysis of Ghanaian Hospitals

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ABSTRACT

The preponderance of both public and private enterprises with closed systems of management has been determined as a major barrier to E-procurement adoption in developing economies. Yet, the benefits of e-procurement are monumental and multifaceted. The objective of this study is to investigate the barriers of Ghanaian hospitals on e-procurement adoption decision. The current state of E-procurement in hospitals has been studied very little, yet hospitals play an important role in the global supply chain management. A questionnaire was administered to senior members with significant influence on hospital procurement in ten regional hospitals in Ghana. This was augmented by evidence from officials of the Public Procurement Authority and senior staff of the Ministry of Health and Ghana Health Service. We constructed and used a more sophisticated structural equation model (SEM) to analyze the relationship between E-procurement barriers and E-procurement adoption and possible mediating and moderating factors between them. The results of the study indicates that among the barriers of e-procurement systems, inadequate IT infrastructure, lack of adequate legal environment and corruption of public officials are the most important barriers in the adoption of e-procurement systems. Overcoming these barriers will help to reduce the negative effects of all other barriers and aid e-procurement adoption.

Keywords: Public procurement, hospitals, adoption, barriers, structural equation model.

INTRODUCTION

The labor market in the various industries has been greatly standardized and specialists are now hired to handle various portfolios. This is due to market diversity, globalization and inventions on new technologies. Some of the advantages of market standardization, specialization and globalization is cost reduction and division of labor shorter work processes (Gericke, Rohner et al. 2006). Unfortunately, public hospitals have not taken advantage of these processes in the procurement of goods and services. For example, Switzerland and other advanced nations still do not take full advantage of e-procurement. A study from Germany showed that only 38 percent of the German hospitals use e-procurement but no such proof exists in Ghana and other developing countries (Mettler and Rohner 2009).

However, e-procurement is the means by which the various industries automate their procurement and it has become an essential tool for both domestic and international procurements. It is however saddling that e-procurement has not received the needed research. According to Albrecht, Dean et al. (2005), firms use e-procurement to procure direct materials for operations. A major barrier to E-procurement adoption is that, some business lines are closed systems and cannot support automation which is the characteristic of e-procurement. Other systems, such as vertical and horizontal industry portals, do support those capabilities.

Our study focuses on the challenges of E-procurement in public hospitals in Ghana in order to identify and resolve all the impediments of E-
procurement adoption in Ghana. Muffatto and Payaro (2004) define e-procurement as the use of internet technology which align the business processes to improve productivity and efficiency. According to (Peleg, Lee et al. 2002) e-procurement is able to integrate all the supply chain for efficient and effective productivity. Also, (Rajkumar 2001) states that E-procurement is employed to align multiple supplier catalogs into a single buyer-managed view of the catalog. This system will enable purchasing personnel to review product purchase profiles and in turn facilitate supplier negotiations. Also, e-procurement computerize most of purchasing processes (Kheng and Al-Hawamdeh 2002). According to Bendoly and Schoenherr (2005) e-procurement facilitates transaction costs reduction, quickens procurement, broadens supplier base, align procurement processes, better control over procurement spending and employee compliance, broadens supplier and buyer base, reduce paperwork and duplication of tasks, and integrate procurement processes.

Mena et al. (2006) added that E-procurement is able to solve procurement challenges by aligning work processes, providing timely information, and improving coordination and collaboration. For public hospitals the potential benefits of E-procurement should be an important motivator in the adoption of E-procurement, and setting up an E-procurement system should not be beyond central and local governments who own these hospitals. In an empirical study, (Batenburg 2007) notes that institutions from countries that are reluctant to change such as Spain do not easily adopt e-procurement unlike countries with low uncertainty avoidance such as Germany.

Vaidyanathan and Devaraj (2008) studied the impact of order procedures of buyers and information flow between suppliers and buyers on the quality of supplier logistics fulfillment process. These studies are not focused on E-procurement adoption in SMEs. The current state of E-procurement in hospitals has been studied very little, yet hospitals play an important role in the global supply chains. Vaidyanathan and Devaraj (2008) studied the impact of order procedures of buyers and information flow between suppliers and buyers on the quality of supplier logistics fulfillment process.

These studies are not focused on E-procurement adoption in SMEs however the current state of E-procurement in hospitals has been studied very little, yet hospitals play an important role in the global supply chains. We have examined the status of E-procurement in public hospitals in Ghana and reports our findings in this study. The organization of the remaining parts of this article is as follows: Section 2 presents the review of related literature, Section 3 follows with Hypothesis Development, Section 4 presents the methodology, Section 5 describes the data used in this study, Section 6 presents data analysis and finally Section 7 concludes the paper.

LITERATURE REVIEW

Lack of Employee Competency
E-procurement has become indispensable ammunition against inefficiencies in the procurement processes across industries. For this reason, Governments across the world are making frantic efforts to grab the tool to fight the many evils in the procurement procedures by migrating their procurement activities towards E-procurement platforms; however, enough has not been done to take advantage of the e-procurement in the public sector especially in the health sector (Rahim and Assaber 2011). To enjoy the full benefits of e-procurement, government and management of organizations including public hospitals need to equip staff with the relevance knowledge and skills to use the applications of (Beth et al. 2003).

According to (Barsemoi, Mwangagi et al. 2014) many institutions are short of the requisite know-how to handle e-procurement. (Barsemoi, Mwangagi et al. 2014) argued that skills and knowledge of employees influence the future adoption of a new technology. The authors also argued that the requisite competence in e-procurement processes is lacking in various public institutions such as public hospitals hence the delay in e-procurement adoption. There is enough proof exists in literature that there is a direct correlation between an institution’s capacity to explore new technology and its human resources competence. It is evident that employees have a great role in e-procurement adoption and their skills, competencies and training may influence to a large extent how e-procurement is adopted and implemented in an organization.

The human element in a business environment cannot be overemphasized because without which, any organizational objectives such as e-procurement may not be successful. There are other significant issues including readiness of existing legislative framework, and networks of their suppliers in the conduct of their business (Muguuro 2014) that affects e-procurement adoption.

Inadequacy of Legal Framework
Legal framework is a basis of any business transaction whether in public sector or private businesses.

It defines the obligations and responsibilities of the partners transacting business with the objectives of fulfilling each other’s desired goals. In a study, Kheng and Al-Hawamdeh (2002) found that the legal framework governing business to business commerce are still not developed enough to contain e-procurement. Example, there are not enough legal framework to address issues related to e-mail contracts, e-signatures, and application of copyright laws to electronically copied documents. The Public Procurement Authority recognizes that the existing PPA 2005 and PPDR 2006 legal framework in Ghana may not have adequately covered aspects of e-procurement transaction. The weakness in the legal framework therefore may inhibit the adoption and growth of e-procurement initiatives.

Understanding the challenges and limitation of e-procurement adoption in the public sector is important due to complexities of government policies and bureaucracy. Without such understanding, government may not be able to achieve the benefits of e-procurement. This could assist in future planning and adoption of e-procurement. In an effort to create orderliness in public procurement, PPA through the support of the Ghana Government and the Public Financial Management Reform (PFMR) Programme, has since its establishment in 2007 endeavoured to implement a new legal and regulatory regime to guide public procurement. Key achievement towards implementing a new legal and regulatory framework in public procurement is evident in the many guidelines PPA has developed to guide procurement practices and pricing of common user items. The guidelines include Public Procurement Market Price Index, General and Disposal Manual, Procurement Manual for Works, Procurement Manual for Information and Communication Technology, Procurement Manual for Insurance Services, Procurement Manual for Non-Intellectual Services, among others.

Since coming into being, PPA has conducted procurement assessments and reviews, in about 100 major procuring entities. The principal goal of the reviews has been to help entities develop capacity building programs which enable them better apply the provisions of the Act and the Regulations. Procurement Assessments, on the other hand, have been carried out to check the level of performance of the procurement function in the selected entities to establish their strengths, weaknesses and areas that require assistance and improvement.

Inadequate Technological Infrastructure

Technological Infrastructure development and e-procurement adoption have positive correlation. In his study, Rajkumar (2001) finds that systems integration is important to e-procurement adoption. He further reiterated that both the customer’s information infrastructure and supplier’s information infrastructure are critical to e-procurement adoption. In the infrastructure use, Croom (2000) in his study observed that email, web sites, funds transfer and Electronic Data Exchange all dominated the list.

Email and web sites are dominant and universal systems, whilst major banks provide support for electronic funds transfer which provides a secure, low cost means of payment. Electronic Data Exchange on the other hand is only cost effective for high volume transaction and communication between common trading hierarchies.

Usually, Electronic Data Exchange is installed for the management of the supply chains. The cost per unit is relatively low, the benefits of high speed transmission and the sunk cost of investment are all factors which are seen as likely to sustain Electronic Data Exchange, or at least integrate it into an Internet- Electronic Data Exchange structure for the management of specific high frequency exchange supply chains. A commercial report by IDC (2003) demonstrated that, there remained a slow uptake of e-procurement systems, emphasizing that system infrastructure-related issues such as software integration (including discussion of XML related opportunities) were inhibiting implementation.

In a related work, Kheng and Al-Hawamdeh (2002) studied the adoption of e-procurement in Singapore and emphasized that, significant investment in hardware, software, and personnel training to participate in e-procurement are prohibitive. Technological infrastructure plays a key role in adoption of e-procurement without which integration of public procurement entities will not materialize. Suppliers on the other hand are at different levels of infrastructure development and this plays a great role in understanding how this multiple level of technological infrastructure is integrated to facilitate adoption of e-procurement. Understanding of the different levels of infrastructure in public procurement entities and suppliers would help government to quantify the amount of investment in software and hardware to be channelled into adoption of e-procurement.

Security of Procurement Transaction Data

Research studies have been conducted into...
challenges in e-procurement adoption. Huber, Sweeney et al. (2004) suggested that stakeholders in e-procurement adoption perceived concerns about security and confidentiality of the data in e-procurement adoption is not guaranteed. In their study, Saeed and Leitch (2003) measured the opinions of customers on e-procurement risks and found transaction risks to be wrong products acquired as a result of unclear information. The authors further asserted security risks to be unauthorized entry of electronic trading portals and failure to safely keep business related data during transmission or storage. Finally, the authors observed privacy risks to be unlawful information collection and illegitimate information disclosure. In addition, Yen and Ng (2002) further reported that both buyer and seller perceive security risks as a challenge impeding e-procurement adoption.

Individual end users and entire business units will naturally resist any change in business processes that poses uncertainty in security and privacy of their transactions. Organizations keep their business information secret as a protective mechanism to ward off competition and remain competitive in the business environment. Public sector organizations on the other hand have limits to the amount and nature of information to be shared with other third parties. The Public procurement legal framework in Ghana is legislated on confidentiality of the public procurement process. The use of web technology has brought a myriad of data security challenges in internet transactions because of cybercrimes. The growth of internet, nevertheless has brought serious challenges to businesses due to data hacking, internet fraud, cyber vandalism, virus and malware attacks (Huber et al. 2004).

Public Sector Procurement in Ghana
In Ghana, the public sector procurement is regulated under the Public Procurement Act, Act 663. In defining public procurement, Ghana’s PPA, (Act 2003) defines it as, the purchase of goods, works and services with utmost good faith, in the right quantity and quality, at the right time, in the right place for the direct benefit or use of governments, corporations, or individuals, generally via a contract. This means, public procurement is the purchase of goods and services through the use of public funds. Public procurement is a process that takes into account appropriate procurement planning, budgetary allocation, bids invitation, bids evaluation, award of contract, contract management, performance measurement, monitoring, auditing and reporting (Ghana, 2003).

According to Angeles and Nath (2007), asserted that there is a developing trend on the realities of e-procurement adoption. Research studies have been conducted into challenges faced by institution like public hospitals in adopting e-procurement. Kheng and Al-Hawamdeh (2002) presenting a study from Singapore on challenges of e-procurement adoption in that country, they found out that e-procurement adoption was challenged by security and confidentiality concerns. They further found out that there was inadequate IT infrastructure in terms of hardware and software as well as inadequate skilled labor to competently handle e-procurement transactions.

According to the authors, there is no adequate legal framework to cater for e-procurement adoption. An example is the legality of e-signature. In addition, they found that the legal framework for governing business to business commerce; capable of extending further the e-procurement is still under developed. Current literature available mainly studied the private firm’s e-procurement adoption, a few public firms and public institutions including public hospitals. This study is therefore primarily on the challenges of adoption of e-procurement in some public hospitals in Ghana

Literature has identified several e-procurement barriers such as the lack of capital, inadequate human resource, inadequate IT infrastructure, resistance to change, and lack of top management support as barriers to of E-procurement adoption. (Hawking, Stein et al. 2004) found that (a) insecurity of e-procurement transactions, (b) lack of supplier E-procurement infrastructure, (c) high cost of technology, (d) inadequate framework negatively affects e-procurement adoption. In addition, (Liao, Cheng et al. 2003) found behavioural and infrastructure barriers to the implementation of E-procurement. Besides lack of top management support, behavioural challenges include purchasing personnel receiving improper benefits from favoured companies, false floor prices, and information leaks, while infrastructure barriers include lack of expertise and the necessary technology.

HYPOTHESIS DEVELOPMENT
Ghana’s public procurement system has seen significant changes over the years with the main of eradicating corruption in public procurement, achieve value for money, increase transparency, and efficiency in public procurement process. To this end, Government Ghana has passed Procurement Act, (Act 663) to govern the public procurement process.
Act 663 has regularized the public procurement system in Ghana by establishing a high level of sanity in the procurement environment. The Act is however based on the manual procurement system and this does not encourage e-procurement adoption in Ghana. This requires the establishment of e-Procurement friendly legal framework in the country. Government rather established E-Government Procurement (eGP) also referred to as E-Procurement which is defined as a comprehensive process in which agencies and institutions use IT systems for procurement. Government intends to take advantage of the technological innovations to employ internet into procurement activities. Business-to-business online procurement has recently emerged as one of the hottest topics in the world of commerce and technology. Ghana is currently implementing the e-Ghana project to enhance the use of technology in government’s transactions with the public. It is therefore imperative that e-Procurement is adopted as one of the applications of the e-Ghana project to ensure increased transparency, non-discrimination, equality of access, open competition, accountability and security of process in the procurement process.

To further enhance procurement processes, the Government of Ghana has established Public Procurement Authority (PPA) to oversee the all public procurements. Information Communication Technology (ICT) has brought much transformation in how organizations, both public and private conduct businesses in recent times. The Public Procurement Authority of Ghana (PPA) has taken the advantage of ICT be more efficient, transparent, accountable and professional in their dealings. To this end, PPA has developed two web-based applications to assist procurement practitioners in their quest to employ e-procurement. These applications enable governmental bodies to place or input their annual procurement plans online for the Authority and other governmental bodies to place or input their annual procurement. These applications enable procurement practitioners in their quests.

Also, the Authority has trained Public Entities on how to use the system to prepare their annual procurement plan. Also, the Authority has trained Public Entities on how to use the website www/ppaghana.org in posting their tenders, contracts awarded, expression of interest, pre-qualifications etc. This posted information can be viewed by interested suppliers, contractors, consultants and the entire public who chose to visit the site. Despite all these great interventions, e-procurement is still not adopted in most of Ghana’s public institutions including public hospitals. From the above background, it is obvious that certain barriers are inhibiting the adoption of e-procurements in public institutions including public hospitals, the public institutions are of our interest in this article. This leads us to our hypotheses:

**H1:** There are E-procurement barriers that hinder the adoption of e-procurement in Ghana’s public hospitals

**H2:** E-procurement barriers significantly affect e-procurement adoption in Ghana’s public hospitals

**METHODOLOGY**

In our study, we employ the use of Structural Equation Model (SEM) to analyze our hypothesized model. Fundamentally, this model is made up of two different types of models, first, the measurement model and second, the structural model. The measurement model is first used to understand the relationships between measured variables and latent factors, whilst the structural model is used to measure the hypothesized relationship among latent factors. In other words, SEM is a multivariate tool that enables the researcher to simultaneously examine a series of interrelated dependence relationships among the measured variables and latent constructs as well as between the latter ones (Hair et al., 2010). This study uses (Anderson and Gerbing 1988) two-step approach, in which the measurement model is estimated prior to the structural model as follows:

\[
y_1 = \gamma_{11}x_1 + \gamma_{12}x_2 + \zeta_1, \quad y_2 = \beta_{21}y_1 + \zeta_2.
\]

And in matrix terms

\[
\begin{pmatrix}
    y_1 \\
    y_2
\end{pmatrix} =
\begin{bmatrix}
    0 & 0 \\
    \beta_{21} & 0
\end{bmatrix}
\begin{pmatrix}
    y_1 \\
    y_2
\end{pmatrix} +
\begin{bmatrix}
    \gamma_{11} & \gamma_{12} \\
    0 & 0
\end{bmatrix}
\begin{pmatrix}
    x_1 \\
    x_2
\end{pmatrix} +
\begin{pmatrix}
    \zeta_1 \\
    \zeta_2
\end{pmatrix}, \text{ i.e.}
\]

\[
y = By + \Gamma x + \zeta.
\]

In addition we need to specify the variances of any variable appearing on the right hand side:

\[
V(\zeta) =
\begin{bmatrix}
    \psi_{11} & 0 \\
    0 & \psi_{22}
\end{bmatrix}, \quad \text{and}
\]

\[
V(x) =
\begin{bmatrix}
    \phi_{11} & \phi_{12} \\
    \phi_{21} & \phi_{22}
\end{bmatrix} = S_{xx} = \Phi.
\]

Since the \(\chi\)'s are exogenous, their variances and covariances are given, and are estimated by the sample values. Thus they cannot contribute to the falsification of the model. Counting up all the free parameters, we have 1 \(\beta\), 2 \(\gamma\)'s, 2 \(\psi\)'s and 3 \(\phi\)'s.
There are \((4.5)/2 = 10\) data values, leaving 2 degrees of freedom for the model. This can be seen in the path diagram by the fact that there are two missing arrows; the arrow that does not appear between \(x1\) and \(y2\), and the arrow not present between \(x2\) and \(y2\). It is actually these two missing arrows that are being tested by the Chi Square statistic for this model. Their absence is what we can falsify using the SEM technique. The AMOS 17.0 software is used to test the measurement and structural models based on the maximum likelihood estimation method.

We test the measurement model using the confirmatory factor analysis (CFA) as described in Hair et al. (2010). We investigate the model \(\chi^2\) and its significance first. Additionally, we examine other goodness-of-fit measures. Based on the recommendations of (Hu and Bentler 1998), we choose standardized root mean square (SRMR), Tucker-Lewis Index (TLI), comparative fit index (CFI), and root mean square error of approximation (RMSEA). After evaluating the fit of the measurement model, we assess the convergent validity of the constructs. We test the convergent validity by examining (i) the factor loadings; (ii) the average variance extracted (AVE) for each latent construct; and (iii) construct reliability (CR). After assessing the convergent validities, we examine the standardized residual covariance and modification indices to identify the problems in the measurement model. Once the measurement model is validated, we test our structural model where our main focus is to test the hypothesized relationships. The goodness-of-fit of the structural model is evaluated with the same measures that we used to test the measurement model. After evaluating the goodness-of-fit measures for the structural model, we finally analyze the path coefficients and loading estimates analyze our hypothesized model.

More specifically, we use SEM to analyze the relationship between E-procurement Barriers and E-procurement adoption. Based on the current practice and literature review, we collect measurement variables and latent variable to construct SEM for the relationship between E-procurement Barriers and E-procurement adoption. In this study, we set up one latent variable, barriers to e-procurement and we measure the latent variable by Inadequate IT infrastructure, Inadequate legal framework, Security of e-procurement transaction data, corruption, inadequate skilled personnel, and Organizational Culture, (KOTEC, 2005; Sohn et al., 2005).
The measurement model consists of one latent variable with six indicators. We test the measurement model using the confirmatory factor analysis (CFA) method as described in Wang and Wang, (2012). The result of Goodness-of-fit measures for the measurement model is shown in table 1. After model formulation, identification, estimation, evaluation and modification, we present the overall model fit. The model statistic is, \( \chi^2 = 408.936 \). This statistic is a conventional overall test of fit in SEM and instead of significant \( \chi^2 \) statistical test as used in the traditional statistical testing tools, a non-significant \( \chi^2 \) is desired.

Our results therefore suggest a good model fit. However, because the \( \chi^2 \) is very sensitive to violation the assumption of multivariate normality and its other shortcomings, we employ other goodness-of-fit test to verify the \( \chi^2 \) statistic result. We use Bentler’s (1990) Comparative Fit Index (CFI). The result of CFI is 0.95 which is above the rule of the thumb of 0.90. It can be said that this measure indicates a good model fit. In addition, we employ Tucker–Lewis Index (TLI) to further test the model fit. Like the CFI, the result of TLI of 0.96 is above the rule of the thumb of 0.90. It also can be said that this measure indicates that our data fits our model. In addition, we employ Root mean square error of approximation (RMSEA). Hu and Bentler (1999) suggested a value greater than 0.06 as cut off for a good model fit.

Our result of 0.061 suggests that, at 90% confidence interval, our data fit our model well. We also use Standardized Root Mean Square Residual (SRMR). The value of this index less than 0.10 is acceptable (Kline, 2005). Our result of 0.052 suggest that our data fit the model well. Table 1 show that all values are within the recommended ranges indicating that the measurement model has a good fit.

We present the results for the measurement model in table 2. We test the reliability of this model by using Cronbach’s alpha which is a composite measure. The rule thumb is that Cronbach’s alpha value of more than 0.70 indicates a reliable model.

Our result of 0.82 shows that our model is reliable. Next, we test the construct validity. We test the convergent validity by examining the factor loadings first. All factor loadings are significant at the 0.05 level of significance. Next, we calculate the average variance extracted (AVE) for each construct and we find AVE as 0.51. Since an AVE of 0.50 or higher suggests adequate convergent validity, our result suggests that our model pass the convergent validity test. Again, we also test the construct reliability (CR), which is another indicator of convergent validity. CR values is 0.78. Since the exceed the threshold of 0.70, this also validates convergent validity.

### Table 1: Goodness-of-fit measures for the measurement model

<table>
<thead>
<tr>
<th>Goodness-of-fit measure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRMR</td>
<td>0.052</td>
</tr>
<tr>
<td>TLI</td>
<td>0.963</td>
</tr>
<tr>
<td>CFI</td>
<td>0.954</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.061</td>
</tr>
</tbody>
</table>

### Table 2: Results for the measurement model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach alpha</th>
<th>AVE</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal Issue</td>
<td>0.894</td>
<td>0.510</td>
<td>0.775</td>
</tr>
<tr>
<td>Security Concerns</td>
<td>0.774</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corruption</td>
<td>0.865</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inadequate Skilled labor</td>
<td></td>
<td>0.743</td>
<td></td>
</tr>
<tr>
<td>Org. Process &amp; Culture</td>
<td>0.790</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT Infrastructure</td>
<td>0.809</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 3: Goodness-of-fit measures for the structural model

<table>
<thead>
<tr>
<th>Goodness-of-fit measure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRMR</td>
<td>0.055</td>
</tr>
<tr>
<td>TLI</td>
<td>0.955</td>
</tr>
<tr>
<td>CFI</td>
<td>0.979</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.055</td>
</tr>
</tbody>
</table>

After testing the measurement model, we test our structural model. The result is presented in table 3. The results denote that the measures are all within desirable ranges and the structural model fits the data well. Again, we test the average variance extracted (AVE) as done in the measurement model. The AVE value is 0.52. Since an AVE of 0.50 or higher suggests adequate convergent validity, the structural model can be said to be validated. Third, we test the construct reliability (CR), which is also an indicator of convergent validity. CR values is 0.76 and since it exceeds the threshold of 0.70, this also validates
convergent validity. Since all our models pass the validity tests, we interpret our coefficient estimates.

From Fig. 1, it can be seen that the path coefficient estimate between barriers and adoption is -0.25 and it is significant at the 0.05 level of significance. This result supports our hypothesis that there are E-procurement barriers that hinder the adoption of e-procurement in Ghana’s public hospitals and these barriers are significantly affecting the e-procurement adoption in Ghana.

CONCLUSION

This study investigates the effects of the barriers to e-procurement systems on the e-procurement adoption decision. An empirical analysis has been performed for 10 regional public hospitals in Ghana which operate under the Ministry of Health and also under the Ghana Health Service. The aim of the study is to determine the root cause of Ghana’s inability to adopt e-procurement system in the ten regional hospitals.

This is achieved by measuring the driving power of each of the major potential barriers. The results of the study indicate that among the barriers of e-procurement systems, inadequate IT infrastructure, lack of adequate legal environment and corruption of public officials are the most important barriers in the adoption of e-procurement systems. Inadequate IT infrastructure, inadequate legal framework personnel and corruption in public procurement must first be addressed before e-procurement can be adopted in Ghanaian public hospitals. Thus, the act governing public procurement, Public Procurement Act, 2003 (Act 663), must seek to promote e-procurement. Act 663 should be amended to make room for e-procurement adoption. Hospitals authorities together with the Ministry of Health and Ghana Health Service should make it their internal policy to employ e-procurement system. Secondly, according to our study, Corruption is the second force against e-procurement in Ghanaian public hospitals. Until corrupt officials are nipped and punished according the laws of the land, e-procurement in public hospital will hardly be adopted. In tackling the barriers of e-procurement systems in the ten regional hospitals in Ghana, management of these hospitals should focus more on improving IT/technical infrastructure. Overcoming these barriers will help to reduce the negative effects of all other barriers and aid e-procurement adoption.

List of Reference


