

## Factors Influencing Adoption of E-Procurement in Kenya's Public Sector

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**ABSTRACT:** *E-procurement system contributes significantly to national productivity growth through the removal of non-value added activities in procurement process. However, the adoption has been slow in Kenya and there is still a lack of studies assessing the impact of e-procurement. This study aims to explore the barriers of e-procurement adoption in Kenya and to understand e-procurement success, and why success has not been achieved using desktop research design. Insights that will be obtained from systematic evaluations regarding the barriers of e-procurement systems will help to develop an instrument to measure success; identify barriers to achieving success and establish a framework to promote success of e-procurement in the public sector in Kenya.*

**KEYWORDS:** E-Procurement, Productivity, Public Sector, Procurement Process, Kenya

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### INTRODUCTION

Businesses face many challenges in today's fast-changing uncertain global climate (Lee and Gebauer, 2006). Many organizations have turned their attention to Electronic Commerce (eCommerce/EC) technologies to improve the efficiency of their business processes. The most prominent form of e-commerce system concerning interactions between businesses (Business-to-Business /B2B eCommerce) that has recently received attention in the literature is called electronic procurement (e-procurement) system (Hawking and Stein 2004). It automates an organization's purchasing process, reduces transaction costs, improves inter-organizational coordination within the supply chain, improves relationships with business partners and offers competitive sourcing opportunities for the buyer organizations (Subramaniam and Shaw 2002). The widespread adoption of e-procurement systems by organizations in both private and public sectors will lead to national performance improvement and productivity growth and it has the potential to increase the gross domestic products (GDP) significantly (Hawking and Stein 2004).

Literature in the field of supply management and e-procurement discuss several benefits of e-procurement (Presutti, 2003). Previous literature (Edmiston, 2003; Panayiotou, et al., 2004) have identified major advantages with e-procurement, such as; reduction of supply costs, reduction of cost per tender, lead time savings, simpler ordering, reduced paperwork, decreased redundancy, less bureaucracy, standardization of processes and documentation, online reporting, clearer and more transparent processes, ensured compliance with procurement laws and regulations, minimization of errors, and easier access to information. Previous research also indicates that e-procurement may lead to increased quality and more adequate purchasing (Engström et al., 2008). In addition, e-procurement has been found to facilitate decentralization of procurement and, thereby, enable purchasing professionals to focus more efforts on strategically important issues (Panayiotou et al., 2004).

In Kenya, there are some organizations that have successfully embraced the use of e-procurement technology. For instance Nation Media group through their digital platform commonly known as N-Soko enables their clients to purchase products online (Gitahi, 2011). Awino (2011) conducted an investigation of selected strategy variables on firm's performance. The study focused on supply chain management in large private manufacturing firms in Kenya. It was established that most of the SCM strategies of large manufacturing firms in Kenya are not owned by individual firms but also other organizations within the SC that provide the required linkages towards the overall corporate performance of the manufacturing industry.

However, the adoption rate of e-procurement systems has been much lower than the initial prediction (Forrester Research 2000; Da Vila et al. 2003). In Australia, for example, only 10% of large Australian businesses are trading through some form of e-procurement systems (Stein and Hawking 2004). At the moment, there has been little evidence on the realization of e-procurement benefits since the involvement of multiple parties/stakeholders in e-procurement systems presents challenges in measuring the impact (Subramaniam and Shaw 2002). In addition, the meaning of success in the context of e-procurement is different from other contexts and, therefore, requires a unique measure which is not yet available (Seddon et al. 1999; Chua et al. 2005). As introduction of e-procurement systems requires significant investment to replace existing technologies, without clear evidence on the impact, many organizations are not motivated to adopt e-procurement systems (Subramaniam and Shaw 2002; De Vila et al. 2003).

Most purchases in public sector institutions require a bureaucratic procedure to be followed. The majority of items are bought on requisition. This means that enormous amounts of efforts are spent on sending forms back and forth in the system. The internal coordination costs are therefore high with respect to the contracting procedure for commodities. As pointed out by Berryman et al. (1998) it is generally assumed that the procurement of commodities represent the greatest potential for savings with respect to electronic purchases especially due to the reduction in work procedures, which can be automated. This is the case both with respect to the ordering process and the handling of invoices and payments. This combined with the regulated tendering process makes the idea of automating procurement an attractive option compared with the status quo. Unlike private procurement, public procurement is highly regulated.

In the next section, the paper presents the purpose of the study, a brief literature review on e-procurement systems and their importance for organizations. This is followed by the methodology and results. Finally, the paper presents conclusions and recommendations for policy action and further studies.

### **Purpose**

This study is, therefore, designed to understand the factors influencing the successful adoption of e-procurement in the public sector in Kenya. Based on the understanding obtained from the study policy recommendations on how successful adoption of e-procurement in the public sector should be adopted. More specifically, the aims of this study are:

- To systematically assess role of legal issues on the adoption of e-procurement system in the public sector in Kenya.
- To establish the role of resistance to change on the adoption of e-procurement system in the public sector in Kenya.
- To determine the role of IT issues on the adoption of e-procurement system in the public sector in Kenya.
- To determine the role of security of transactions on the adoption of e-procurement system in the public sector in Kenya.

## **METHODOLOGY**

To achieve the objectives of this study, a desktop research design was adopted. This involved literature searches on various studies on e-procurement in the public sector in different studies. From the insights obtained from the studies, e-procurement drivers/barriers will be identified. Analysis conducted in different studies will provide summary discussions, data and measures of e-procurement in the public sector.

## **RESULTS AND DISCUSSION**

### **Barriers and Risks of e-procurement**

Though e-procurement has a lot of benefits to the organizations involved, in both parties (buyer and supplier), there are some issues to be acknowledged and taken care of.

As per Edie et al (2007), identified some of the greatest risks related to products and services procured through e-procurement in the construction field; they are in order of importance: supplier relationships, technology and legal control, cost/benefit concern, organizational skills and culture. The legal, technical and organizational barriers that may result from procurement online are one of the greatest challenges for policy makers.<sup>13</sup>

Despite the proven benefits of using electronic means in procurement, Edie et al (2007) showed that only 48% of respondents indicated that they were able to conduct ecommerce effectively. This might be an indication that those barriers are really impacting the good results and benefits for the implementation of e-procurement.

The barriers identified in the European study have been found in any type of procurement, having some of them slightly modified from segment to segment. However, it is fundamental to the development of strategies for improvement to have those barriers and risks identified. They are shortly explained in the following sections.

### **Legal issues**

Edie et al (2007) also stated that Information and Communications Technology (ICT) is improving communication in the construction sector. On the negative side it also showed that only 26% of respondents agreed that e-procurement was acceptable as admissible written

proof during construction. Only 17% thought that it was acceptable as a written notice. This questions the legal validity of electronic information exchange and must be considered as a barrier to the implementation of an e-procurement system.

Legal difficulties are one of the main barriers to e-procurement, such as lack of specific legal regulation, different national approaches and validity, enforceability and evidentiary problems. The legal boundaries of e-procurement are mentioned in a chapter later on.

### **Resistance to change**

Resistance to change, lack of a widely accepted solution and lack of leadership, which are cultural issues, are highlighted as barriers by Edie et al (2007) in the USA. These produce a slowdown in adoption of e-procurement and result in a failure to reach many of the perceived benefits. Therefore a cultural change needs to take place prior to adoption of an e-procurement system. However, with the pressures on companies, other competing initiatives have taken priority in many occasions.

According to Edie et al (2007), there was a study conducted in Singapore which showed that this was the largest barrier in that country with 60% of the respondents under the impression that other initiatives were of more importance than e-procurement. This point towards the need for cultural change, which brought by top management support can successfully implement e-procurement.

### **IT issues**

As per Edie et al (2007) some companies have a problem in acquiring the right platform to carry out e-procurement. The reason might be due to high costs involved in installing the proper IT system to have all the benefits of e-procurement process.

Lack of IT system to conduct e-procurement can be easily solved by investing in this area either by joint investment or financing and training key users to gain expertise. The capital invested would easily be returned by the benefits e-procurement provides to the company, which benefits have been previously covered.

The lack of e-procurement knowledge can occur when the company has an older generation of employees that are change resistant regarding IT related issues, relying on traditional forms and means of procurement, which can be solved by training employees and by creating a knowledge sharing centre to spread the IT concept of e-procurement through the organization or key personnel.

### **Security of transactions**

Security is a major concern when working on the internet. Edie et al (2007) state “The World Wide Web leaks such as a sieve. Data transmitted on it can be garbled, can reassemble wrongly at the other end, or can display only partially because of incompatible software”.

Many of the banks although acknowledging these problems, have set systems into place to mitigate them. An example is the Bank for International Settlements (BIS) who state that their security “should include establishing appropriate authorization privileges and authentication measures, logical and physical access controls, adequate infrastructure security to maintain appropriate boundaries and restrictions on both internal and external user

activities and data integrity of transactions, records and information". It should not be different than the security structure for e-procurement platforms.

## **CONCLUSIONS**

The study sought to establish the factors influencing the successful adoption of e-procurement in the public sector in Kenya. From the study findings, it can be concluded that enforceability/legality electronic contracts is a critical determinant of adoption of e-procurement. In particular, practitioners worry whether in case of a legal dispute they can enforce such contracts. In addition, resistance to change and leadership, which are cultural issues, is of utmost importance in spearheading e-procurement adoption. The perceived threats of technology can be stumbling blocks in the adoption process. The study also concludes that acquiring the right platform to carry out e-procurement can determine whether the platform succeeds or not. This may vary from organization to organization depending on the nature and level of complexity of that organization. Security of an organization's IT infrastructure will determine whether e-procurement platforms succeed. Concerns about the online transactions regarding hacking, data encryption and cyber theft and attacks pose real threats to acceptance of e-procurement.

## **RECOMMENDATIONS**

Given the aforementioned conclusions, the study recommends that;

- Cultural change precedes technology adoption to reduce resistance to change.
- The government legislates regulations to govern electronic contracts to foster acceptance of enforceability of e-procurement transactions and electronic evidence as evidence in a court of law
- The government conducts a study of its user needs and those of suppliers so as to acquire the appropriate e-procurement platform
- The government criminalizes cyber crime and puts in place a raft of punitive penalties to discourage cyber crimes.
- Further empirical studies be conducted on the benefits of adoption of e-procurement in the public sector in Kenya.

## **Definition of Terms**

E-procurement is the combined use of electronic information and communications technology (ICT) in order to enhance the links between customer and supplier, and with other value chain partners, and thereby to improve external and internal purchasing and supply management processes, (Chartered Institute of Procurement and Supply, (CIPS), 2013).

### Acronyms/Abbreviation

B2B: Business-to-Business

BIS: Bank of International Settlement

EC: e-commerce

GDP: Gross Domestic Product

IT: Information Technology

USA: United States of America

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