FACTORS HINDERING ADOPTION OF E-PROCUREMENT IN TELECOMMUNICATION INDUSTRY IN KENYA: CASE OF SAFARICOM LIMITED

William N. Mwangi
Jomo Kenyatta University of Agriculture and Technology

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ABSTRACT

The purpose of this study was to investigate factors hindering the adoption of e-procurement in telecommunication industry in Kenya. The study sought to establish the effect of cost of technology, infrastructure, and knowledge of e-procurement and management attitudes on the implementation of e procurement. The study adopted adopted descriptive research design. The target population was all managers from Telecommunication industry in Kenya. A questionnaire with both structured and semi-structured questions was the key data collection instrument. The study that found iout that there exists a positive realtionship between cost of technology and implemementation of e-procurement, there also exist a moderately strong positive relation between organisation infrustructure and e-procurement. On the relationship between knowledge of e procurement it was found out that there was a moderately strong positive relationship between knowledge and e procurement implemrntation. Lastly, the study established that there exist positive relationship between management attitude and implementation of e procurement. The study concludes that cost of the technology is a critical factor which is more likely to hinder the implementation of e procurement within the telecommunication industry. It was also concluded that although information systems were intergrated, such information structure were not flexible for implementation of e procurement; moreover, management support on the implementation of e procurement was unclear. The study reccommended that organisations should regularly consider reviewing of their budgetary allocation for implementation of e procurement so as to meet the demand of ever increasing cost related to costs of e procurement.

Keywords: *e procurement, adoption, implementation, information system, technology.*

Introduction

E -Procurement refers to the acquisition of goods and services by any individual or organisation (public, private, international) electronically. Within the last ten years, the lowly, back-end procurement process has been transformed into a strategic resource. Procurement is now seen not only as a strategic player in the value chain, but as amajor driver in the extended supply chain (Lamming, 2005). There are many reasons for its popularity. Specific drivers may be traced to such areas as trends in global sourcing, emphasis on time tomarket, product quality based competition, customer uncertainty and the need to improve bottom-line costs (Kalakota and Robinson, 2001). The procurement process has become a costly activity for businesses over the years, often involving slow manual business procedures and even slower systematic processes for handling procurement transactions. At the same time, purchasing officers were forced to handle errors in ordering, costing and invoicing; which were often time consuming and costly to trace.

Historically, businesses realised time and cost savings by linking with major suppliers through private networks, such as electronic data interchanges (EDIs). Consolidating the purchase process with a few key suppliers capable of providing volume discounts can generate tremendous cost savings (Warner, 2003). Within the last ten years, the lowly, back-end procurement process has been transformed into a strategic resource. Procurement is now seen not only as a strategic player in the value chain, but as a major driver in the extended supply chain. There are many reasons for its popularity. Specific drivers may be traced to such areas as trends in global sourcing, emphasis on time to market, product quality based competition, customer uncertainty and the need to improve bottom-line costs (Kalakota & Robinson, 2001).

E-procurement refers to the purchase of goods and services for organizations. Procurement usually represents one of the largest expense items in a firm's cost structure. The Aberdeen Group (2001) found that the indirect procurement or the purchase of maintenance, repair, and operations (MRO) goods not directly involved in the production process such as office supplies, personal computers and non-manufacturing items usually constitutes 30-60 percent of a firm's total expenditures. Moreover, corporate buyers tend to waste time on non-value adding activities such as data entry, correcting errors in paperwork, expediting delivery, or solving quality

problems (Neef, 2001). A number of recent drivers have spurred interest in finding ways of cutting costs in the corporate environment. Among them are the recessionary trend that have saddled the global economy after 2001 (Neef, 2001). the resolve of firms to use internet-enabled technologies to achieve supply chain management efficiencies for competitive advantage with a specific focus on procurement (Presutti, 2003), and the push for accountability and transparency amongst stakeholders, which requires organizations to improve their ability to report on revenues and expenses in order to provide greater transparency into the financial activities of public companies.

Although the implementation of e-procurement initiatives is not all that new, there is current interest in understanding issues involved in its implementation, especially in a web-enabled environment. Overall, it appears that e-procurement is still in its early stages of adoption in the corporate world. A study by Aberdeen Group (2003) on spending analysed practices of 157 firms revealed that only a few firms truly know and understand how much they spend, on which products, and with which suppliers. About 80 percent of the study participants recognized that spending analysis is “very important” or “critical” to their success, yet only about half of those specific respondents had any formal spending analysis tool in place.

Problem Statement

Managers recognize benefits of e-procurement such as: better coordination with suppliers, quicker transaction times, higher flexibility, better supplier integration, and lower costs (Fang et al., 2007). However, although overall adoption rates of e-procurement technology (EPT) are still a relative unknown (Pearcy et al., 2008), most researchers agree that the full impact of e-procurement has not yet been realized and that the adoption and integration of EPTs into the business mainstream is occurring at a much slower pace than expected (Davila et al., 2003). Desipite of all the benefits mentioned above adoption od e procurement is at very low pace.

Previous studies have shown that while over 70 percent of American buyers use internet technologies at work (Caridi et al., 2004), the percentage of business procurement conducted electronically is relatively low – ranging from 10 percent (Qualyle, 2005) to 20 percent (Kulp et al., 2006). Study by Smart (2010) that explored on business case for e-procurement, Smart identified eighteen drivers which form the basis for e-procurement. However, the study also

identified seventeen problem factors which have the potential to militate the adoption of e-procurement.

Whilst there are definable benefits from e-procurement, in the early days of the internet boom there was without doubt considerable hype about the dramatic changes these technologies would produce, and there is emerging evidence on the realities of e-procurement and some of the difficulties which adoption entails (Davila et al., 2003; Angeles and Nath,2007). The extent of its adoption in developing countries is below expectations and progressing slowly (Pires and Stanton, 2005).safaricom kenya limited adopted eprocurement since 2008, despite this development its implementation is faced by numerous challenges. It is therefore in this light that the proposed study seeks to fill this knowledge gap by investigating factors hindering the implementation of e-procurement.

Literature Review

Although the adoption of e-procurement has rapidly increased in recent years, companies face different challenges associated with the advent and use of e-procurement. One is that most companies only apply single e-procurement functions. The analysis by Wyld (2004) shows that in the USA only 30 percent of the companies surveyed use e-procurement systems for requests for quotations, online auctions (25 percent) or e-markets (33 percent). A second challenge is that, despite the overwhelming evidence which shows the advantages of e-procurement systems, proprietary systems such as EDI continue to persist, and have to be included in a company's overall e-procurement infrastructure.

The implementation of e-procurement initiatives is not all that new, there is current interest in understanding issues involved in its implementation, especially in a web-enabled environment. Overall, it appears that e-procurement is still in its early stages of adoption in the corporate world. A recent Aberdeen Group (2001) study of spending analysis practices of 157 firms revealed that only a few firms truly know and understand how much they spend, on which products, and with which suppliers (Bushell, 2004). About 80 percent of the study participants recognized that spending analysis is “very important” or “critical” to their success, yet only about half of those specific respondents had any formal spending analysis tool in place. And the few that had these tools analyzed only half of their total spending. A McKinsey Company

research study found that the majority of the respondents considered spending analysis and demand management (i.e. questioning the necessity of purchases) as the two areas that were resistant to improvement in their firms. McKinsey Company research into suppliers reveals that 85 percent of the study participants intended to invest at their current or higher levels in new software to automate procurement processes. An earlier industry study indicated that only 8-10 percent of the largest 5,000 firms had an e-procurement system in place

Davila et al. (2003) demonstrates that there are two types of e-procurement adopters: one group of firms experiments with multiple solutions, whereas the second group commits only to one type of technology. The study also indicates that "follower" firms value the lessons they learn from their more venturesome counterparts who innovate with newer e-procurement technologies. The findings also show encouraging signs of wider adoption of e-procurement as more firms come forward with their pioneering implementation experiences and as more and more firms take internet-enabled supply chain management initiatives more seriously. Meanwhile, in a field study of an industrial supplier and its customer, Smart, (2010) found that a supplier could derive strategic benefits when the hub customer firm initiates the e-procurement system and the supplier trading partner, in turn, enhances the system's capabilities. It was also found that supplier trading partners with advanced technological capabilities can significantly increase the benefits of an order processing system both to themselves and their customers.

In a recent survey of 102 international active e-marketplaces and procurement service providers, Smart (2010) found the following perceived barriers to electronic procurement. First they noted a "wait-and-see" attitude among firms in selecting e-marketplaces and procurement service providers. They also noted concerns over security and confidentiality of the data needed to be exchanged in electronic environments. There also issues of reluctance to share data with trading partners and the "non-feasibility of custom-made products" for pooling initiatives. Lastly they found that e-procurement was hampered by lack of standardization and uncertainty over trust and commitment among trading partners.

Day et al. (2003) noted users' reluctance to be subjected to significant changes in business processes as a major barrier to the implementation of e-procurement systems. Sanders (2005) examined buyers' perceptions of e-procurement risks and arrived at three dimensions. First there

is the transaction risks resulting from wrong products purchased due to incomplete or misleading information. Secondly there were security risks resulting from unauthorized penetration of trading platforms and failure to protect transaction-related data while being transmitted or stored. Lastly there was the issue of privacy risks arising from inappropriate information collection and information transparency.

Zack (1999) found that both buyer and seller firms in their sample considered the following prohibitive and discouraging. First the costs and development time required to set up online procurement systems, enabling these systems, and meeting workforce requirements of such systems. Also the lack of adequate security measures to protect data; and trust issues between buyers and sellers. In the same study, managers of the seller firms also cited attitudinal resistance to change stemming from a number of concerns which included the uncertainty over its ability to gain the expected return on investment to cover development costs, the work required to enforce business process changes called for by these systems and worker apprehensions about being replaced by automated procurement systems.

Day (2001) uncovered a number of issues ventilated by a panel of noted academics who were asked to indicate key business-to-business commerce issues. They had expressed concern about a number of what appeared to be difficulties facing business-to-business (B2B) commerce at that time. There was the issue of the marketplace seemed to not be ready to take on B2B services, particularly those of e-procurement exchanges. There were inequities in power valence between and among trading partners participating in electronic environments like B2B exchanges, with most of the power held by channel masters or hub firms and B2B exchange founders. Another challenges accompanying building a single point-of-contact between a large multi-unit business firm that wants to offer a single B2B interface to its corporate customers as this will require changes in the way the firm manages its customers and the way its customer relationship management functions work. Other difficulties were noted to be cross-enterprise systems integration issues and lack of trust among trading partners and therefore, reluctance to share data and information as well as issues peculiar to small firms – lack of capital to participate in B2B procurement environments and small transaction volumes associated with these firms' scale of business.

Klein (2007) investigated the adoption of e-procurement in Singapore and presented stumbling blocks to this initiative from the point of view of Singaporean firms. First, there was concern about security and privacy of procurement transaction data. Second, required significant investments in hardware, software, and personnel training to participate in e-procurement are prohibitive. Third, the laws governing B2B commerce, crossing over to e-procurement, are still undeveloped. For instance, questions concerning the legality and force of e-mail contracts, role of electronic signatures, and application of copyright laws to electronically copied documents are still unresolved. Fourth, technical difficulties related to information and data exchange and conversion such as inefficiencies in locating information over the internet using search engines and the lack of common standards that get in the way of the easy integration of electronic catalogues from multiple suppliers. In Zhu's (2002) interview of 20 suppliers, he found that their major concerns centred on how participating in electronic e-procurement environments threatened their profit-making abilities through data exposure, pricing pressure from customers, and the resulting margin erosion.

Lamming (2005) invoked transaction cost economics in pointing out a number of risks associated with setting up electronic market mechanisms such as opportunism by unscrupulous market participants and asset specificity. The latter has to do with the need for a firm to commit certain resources to deploy IT applications and infrastructures needed to link its internal business processes with those of the e-marketplace trading platform. The more complex and idiosyncratic these integration links are, the more difficult it is to transfer use of such connections with other trading platforms or trading partner networks.

Previous studies such as that of Mustonen-Ollila and Lyytinen (2003) showed that user resistance to technology was a major driver for its non-adoption, thus establishing a relationship between the DoI and TAM framework that can be seen in. Davis (1989) investigated various influences of technology acceptance and came up with two significant determinants “perceived usefulness” and “perceived ease of use” as a theoretical base for specifying the causal link between attitudes and behavioral intensions towards technology. The technology acceptance model (TAM) relies on the theory of reasoned action, which posits that behavior is logically processed in the following order: belief-attitude-intention-behavior. The relationships between perceived usefulness, perceived ease of use, attitude and intentions have been supported in the information technology literature (Smart (2010). Within an organizational context, perceived

usefulness is defined as the prospective user's subjective probability that using a specific technology will increase job performance, while perceived ease of use refers to the degree to which the prospective user expects the technology to be free from over excessive effort during application.

Methodology

The study adopted descriptive research design. The target population for the study was managers from Telecommunication industry in Kenya. Probability sampling procedure was used. The study used questionnaire with both structured and semi-structured questions in relation to the study objectives as a key instrument for primary data collection. Secondary data were collected through procurement and ICT department manuals as well as reviewing of journals and other relevant literature in the organization. Qualitative data collected from the open-ended responses from the respondents was analyzed using coding, pattern and inductive analysis.

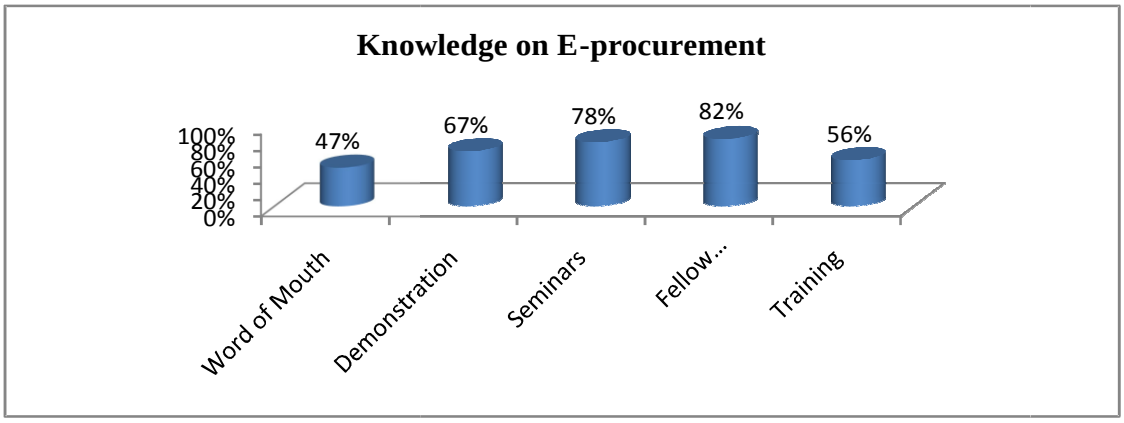
Findings

80% of the respondents acknowledged the existence of the budget for e procurement system. A few (20%) seemed not to be aware of the existence of e procurement system. Respondents further acknowledge that such budget was not enough for the implementation of e pocurement system within the organsation. This shows that Safaricom acknowledged e-procurement and thus there was a budgetary allocation to enhance its adoption. (51%) of the respondents acknnowledged the existence of information systems within the organisation. A few of the respondents were not sure of the existence of information system. It can be observed from these results that there is information systems exists within the organisation. These findings demonstrates that though there is existence of the information knowledge the implementation of e-procurement is still at infant stage in many developing countries.

On the level of intergration of information systems within organisation departments and regioinal offfices. majority (58%) of the respondents indicated that information systems within the organisation were intergrated.A few 20% of the respondents indicates that non existence of intergration of e procurement system within the organiation. The show that information systems within the organisation were intergrated with other regional offices wthin the country. The

findings fully agrees with the fact that the level of intergration of information syetem within an organaisation is not an indication of the fact that e-procurement implementation is at high pace within an organaisation.

Results showed that respondents agreed organization information structure is not flexible for implementation of e procurement (Mean score 3.73), supply chain management lacks the necessary capacity for development of e procurement (mean score 3.85), e procurement lacks the necessary structures like departments responsible within supply chain (Mean score 4.18), lack of base "infrastructure" to collect transaction data from more than one e-commerce application (Mean score 3.60) and lack of standard interchange formats for e-procurement (Mean score 3.81). this findings are similar to those of Zhu et al., (2006) who revealed that lack of assistance and the structural inertia of large organizations in supply chains can be a disincentive to implement e-business. However respondents were not sure whether it was hard to control and data management standards when adding other procurement system (Mean score 3.21).



An overwhelming manjority (82%) of the respondents fellow employees learnt about e procurement through fellow employees, 78% seminars and 67% through demonstration. A few (47%) learnt about e procurement through word of mouth. This show that organisation had invested in creation of knowledge about e procurement within the organisation. In a recent survey of 102 international active e-marketplaces and procurement service providers, Smart (2010) found out that one of the perceived barriers to electronic procurement is reluctance to share data with trading and lack of knowledge hampers adoption of e-procurement.

Conclusions

Cost of the technology is a critical factor likely to hinder the implementation of e procurement within the telecommunication industry. Budgetary allocation were not enough to meet the cost of the e procurement system. Such costs include; cost of software development by vendors, infrastructure development cost, cost of personnel training and cost of software maintance. Based on the findings it can be concluded that although information systems were intergrated, such information structure were not flexible for implementation of e procurement. The supply chain management lacks the necessary structures, capacity and standard interchange formats for development of e procurement. The study concludes that there exists weak infrastructure for the development and implementation of e procurement.

Knowledge of e procurement was high among the employees within the organization. The organization has used numerous channels like training and seminar in dissemination of knowledge on e procurement. However, it can be concluded that the benefits of e procurements remain unclear among the employees. The study concludes that management support on the implementation of e procurement was unclear among the respondents; however, it is unclear how e procurement is utilized and managed across departments within the organization. Management failed to entrench e procurement in the decision making processes within the organization.

References

Caridi, M., Cavalieri, S., Diazzi, G., Pirovano, C. (2004), Assessing the impact of e-procurement strategies through the use of business process modeling and simulation techniques, *Production Planning & Control*, Vol. 15 No.7.

Davila, A., Gupta, M. and Palmer, R. (2003), Moving procurement systems to the internet: the adoption and use of e-procurement technology models, *European Management Journal*,Vol. 21 No. 1, pp. 11-23.

Fang, W., Zsidisin, G.A., Ross, A.D. (2007), Antecedents and outcomes of e-procurement adoption: an integrative model, *IEEE Transactions on Engineering Management*, Vol. 54 No.3.

Kalakota, R., Robinson, M. (2001), *E-business 2.0: Roadmap for Success*, Addison-Wesley Longman, Boston, MA, .

Kulp, S.L., Randall, T., Brandyberry, G., Potts, K. (2006), Using organizational control mechanisms to enhance procurement efficiency: how GlaxoSmithKline improved the effectiveness of e-procurement, *Interfaces*, Vol. 36 No.3.

Lamming, R. (2005), *Strategic Procurement Management in the 1990s: Concepts and Cases*, Earlsgate Press, Stamford, CT, .

Presutti, W. (2003), Supply management and e-procurement: creating value added in the supply chain, *Industrial Marketing Management*, Vol. 32.

Qualyle, M. (2005), The real management implications of e-procurement, *Journal of General Management*, Vol. 31 No.1

Smart A (2010) Exploring the business case for e-procurement *International Journal of Physical Distribution & Logistics Management* Vol. 40 No. 3, 2010

Warner, F. (1998). Ford Motor Uses the Internet to Slash Billions of Dollars from Ordinary Tasks. *Wall Street Journal*, October 14.

Zack, M.H. (1999), "Managing codified knowledge", *Sloan Management Review*, Vol. 40 No. 4, pp. 45-58.