

**E-PROCUREMENT ADOPTION AND SUPPLY CHAIN
PERFORMANCE AMONG COMMERCIAL BANKS IN
NAIROBI, KENYA**

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DECLARATION

I declare that this research project is my original work and has not been presented to any other institution of learning for the award of an academic certificate.

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Date.....

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D61/79277/2012

This research project has been submitted for assessment with my authority as the University supervisor.

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DEDICATION

This research project is dedicated to the loving memory of my dearest Late Mom, Teresiah Wayua Mwangela, whose passion and love for education was evident through her love, inspiration, determination and hard work to support my education. Mom, there is no way I could kill your determination for me to achieve the highest I could in education. May your soul rest in peace knowing that your daughter toiled on to achieve.

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I am most grateful to the source of my wisdom and strong pillar of my life – God Almighty for making it possible for me to carry out this study and for seeing me through from beginning to the end of this course. I acknowledge that He alone deserves all the Glory for the completion of this project which wasn't an easy task.

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I feel indebted to the management of all the commercial banks in Kenya for making this project a success by allowing me to collect data from them.

To all of u, may the Almighty God forever favor you.

ABBREVIATIONS AND ACRONYMS

B2B	–	Business-to-Business
CBK	–	Central Bank of Kenya
CIPS	–	Chartered Institute of Purchasing and Supplies
CMA	–	Capital Market Authority
CSFs	–	Critical Success Factors
EC	–	Electronic Commerce
EPS	–	Electronic Procurement System
ERP	–	Enterprise Resource Planning
ICTs	–	Information Communication Technologies
IT	–	Information Technology
KBA	–	Kenya Bankers Association
KPIs	–	Key Performance Indicators
SCM	–	Supply Chain Management
SCOR	–	Supply Chain Operations Reference
SPSS	–	Statistical Package for Social Sciences
TQM	–	Total Quality Management

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ABSTRACT

The purpose of this study was to establish the effect of e-procurement adoption on supply chain performance among commercial banks in Nairobi. In order to fill this gap, the study sought answers to the following two important questions: what is the extent of e-procurement adoption among commercial banks in Nairobi? What is the relationship between e- procurement adoption and supply chain performance among commercial banks in Nairobi? The results of the research have been conducted and interpreted with a view of developing a better understanding of the relationship of e-procurement adoption on supply chain performance of commercial banks. This study took the form of a descriptive research design and data was collected through a structured questionnaire from procurement managers of commercial banks in Nairobi. Frequencies, percentages, mean scores and regression analysis were used to analyze the data. The study revealed that majority of the commercial banks in Nairobi, Kenya have adopted e-procurement with the following e-procurement practices: online advertisement of tenders, receiving online submission of proposals for the tenders, and short listing suppliers online among others. Finally, e-procurement adoption explains 86.7 % of supply chain performance among commercial banks in Nairobi. The study recommends that commercial banks in Nairobi need to incorporate all the e-procurement activities into the system; they need to find out ways of encouraging employees to make use of e-procurement systems as well as find ways of addressing the factors that are critical to the success of e-procurement. This will enable them to improve adoption of e-procurement. The study also recommends that commercial banks in Nairobi should link their suppliers through the e-procurement website so as to improve product and service delivery. It will also be important to conduct a comparative study to establish the similarities and differences.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The use of Information Communication Technologies (ICTs) has dramatically changed services, business models and people's expectations of the quality and efficiency of information sharing and service delivery (Brown and Maniam, 2005). Development in information and communication technology, especially the internet, helps the application of alliances used by the manufacturers to become more effective through the integration of firm's information technology (IT) infrastructure.

One of the information systems that helps revolutionize the supply chain activities is e-procurement. An e-procurement system is an information technology-based purchase system which is at the input end of the supply chain (Presutti, 2003). It has been commonly accepted that information infrastructures such as e-procurement systems become increasingly connected and embedded with other infrastructures to initiate the growth of enterprises (Vaast and Walsham, 2009). In line with this, the usage of information technology in e-procurement systems is considered to be an innovation strategy action (Mishra and Agarwal, 2010).

In recent years, e-procurement has been advocated as a new strategic view of supply chain management (Nelson et al., 2002). The innovation of implementing e-procurement systems can create value for enterprises through utilizing IT enabled resources on supply chain management (Dong et al., 2009). As noted by Nelson et.al. (2001), the majority of organizational spending consists of purchasing. In order to decrease the total costs spent on purchasing process, internet technologies are used and e-procurement has become popular to implement in the latest era by both governments and enterprises. Although the opportunities for improvement seem

abound, both private and public sector are still cautious as far as the adoption of electronic technologies is concerned (Zheng et al, 2004)

E-procurement is a further and welcome development in the supply chain management processes aimed at eliminating much paper work activities and enhance operations control and finally, lead to cost reductions. Furthermore, it assists supply chain management professionals in the sometimes arduous task of linking supply chain members, which is a necessity in increasing the speed of information transfer and reducing non-value adding processes.

1.1.1 E-procurement Adoption

According to Lysons (2006), E-procurement is the use of internet to operate the transactional aspects of requisitioning, authorizing, ordering, receiving and payment process for the required services and products. Chaffey (2002) also defines e-procurement as the electronic integration and management of all procurement activities including purchase request, authorization, ordering delivery and payment, between a purchaser and a supplier.

E-procurement system is a probable means in reducing operation costs allowing wider choice of products, deducting manual order processing costs and administrative costs. E-procurement system(EPS) is an electronic system used to automate all or part of the procurement function by enabling the scanning, storage and retrieval of invoices and other documents, management of approvals; routing of authorization requests; interfaces to other finance systems and matching of documents to validate transactions (Chaffey, 2002). E-procurement is not just about reducing the operational costs of an organization; but more about promoting the well-being of the employees and the enterprise as a whole through organizational efficiency.

The adoption of web-based e-procurement systems in the B2B purchasing transactions allows firms to reduce transaction costs, improve internal process efficiency and increase collaboration with suppliers (Barbieri and Zanoni, 2005). The benefits of technology-based supports for procurement activities can be organized into two broad categories: Organizational level and Inter-organizational level. In organizational levels, previous studies suggested that implementing e-procurement systems could make companies' procurement process more efficient and effective through automating procurement process, re-engineering the internal process and enhancing inter organizational co-ordination.

Davila et al., (2003) noted that by implementing e-procurement, the firm could shorten order fulfillment cycle time, lower inventory levels, and the price paid for goods, and reduces administrative costs of procurement. Eakin (2003) argued that the benefits of e-procurement can be classified into hard benefits (such as price savings and process cost reductions), soft benefits (such as individual time freed up through more efficient processes), and intangible benefits (such as cultural change, financial approval for all spending, and high visibility of supplier performance). Presutti (2003) found out that e-procurement systems can bring benefits to the company such as reducing time to market cycles, reducing material and transactions costs, and reducing stock levels. Chaffey (2004) argued that 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 systems not only could make the operational processes of the buyer organization more effective but could also make order fulfillment process of the supplier organization more efficient and improve partner relationship management. The order fulfillment performance can be achieved through information sharing between buyer and supplier. Web-based e-procurement enables the information to be shared among trading partners, such as sales forecasts, production schedules, inventory levels and product specifications.

Khanapuri, Nayak, Soni, Sharma and Soni (2011) assert that there are a number of requirements relating to the adoption e-procurement system. They include technology, objectives, information, staffing and skills. These requirements make the adoption process to face a number of challenges such as compatibility, integration, adoption and regular use by employees and lack of capacity by small suppliers.

1.1.2 Supply Chain Performance

The modern Supply Chain is incredibly complex. To maximize competitive advantage, organizations must have comprehensive visibility into supply chain performance. According to Croom and Johnson (2003), Eng, (2004), Presutti (2003) and Tan et al., (2002), Supply chain performance is the evaluation of supply chain management and includes both tangible (e.g. cost) and intangible (e.g. capacity utilization) factors. It is the process of quantifying the effectiveness and efficiency of an action to achieve operational excellence in order to deliver leading customer experience.

To proactively manage the overall performance of supply chains, organization need to know more than inventory positions, deliveries dates, and fill rates. They must

understand the impact of supply chain changes on the total cost or cash flow and optimize supply chain effectiveness for better corporate results. This requires end-to-end visibility into factors that drive performance-such as cash-to-cash cycle time, overall supply chain cost, or perfect order fulfillment (Oloruntoba and Gray, 2005). Supply chain performance enables firms to drive rapid change in all aspects of nearly all operations, thus, effective supply chain mastery is a critical factor to achieving high performance.

E-procurement creates a higher profile for supply management and boosts its visibility to top management (Presutti, 2003). The increasing emphasis on supply chain management has created a greater focus on the supply management link in the supply chain. This focus will become even more intense as firms continue to adopt e-procurement strategies to leverage the competitive advantages of the internet. Managers need to understand the impact of technology and gain competency in the practices for e-procurement (Presutti, 2003).

Different researchers have suggested different measures of Supply Chain Performance. Stevens (1990) suggests the performance measure of SC in terms of inventory levels, service level, throughput efficiency, supplier performance and cost. Neely et al., (1995) in his work suggests quality, time, flexibility and cost as a few categories of performance measures and also points out need of a generally applicable systematic approach to performance measurement.

The Supply Council (Stewart, 1997) provides a useful framework that considers the performance requirements of member firms in a supply chain. The SCOR model views activities in the supply chain as a series of interlocking inter organizational processes with each individual organization comprising four components: plan,

source, make, and deliver. The model provides an indication as to how effective a firm uses resources in creating customer value. It considers the performance expectations of member firms on both input and output sides of supply chain activities (Lai, Ip, and Lee, 2001).

1.1.3 Commercial Banks in Kenya

The banking sector in Kenya is comprised of 43 commercial banks, two mortgage finance companies, 130 foreign exchange bureaus and 15 micro finance institutions (CBK, 2012). The companies Act, the CBK Act cap 491, the Banking Act cap 488, and Microfinance Act 2006 are the main regulators and governors of the banking industry in Kenya. The Acts are used along with prudential guidelines which are issued by the CBK. In 1995 the exchange controls were lifted after liberalization of the banking industry in Kenya. The banks have come together under the Kenya Bankers Association (KBA), which serves as a lobby for the banking sector's interest's .The KBA serves a forum to address issues affecting members.

The banking industry has in the recent past continued to record significant growth in assets, deposits, profitability and product offering. The growth has been punctuated by industry wide branch network expansion both in Kenya and regionally, automation of banking services and development of a wide array of customer centric products and increased competition following introduction of innovative products, services and new market entrance.

The main challenges facing the banking industry in Kenya include: Global financial crisis that led to reduction in deposits, trade volumes and performance of assets, declining interest margins, brought about by CBK's monetary Policy, interventions and new regulation especially with the passing of 2010 constitution. For instance,

smaller banks would face the challenge of increasing the minimum core capital to Kshs.1 Billion by end of 2012 as regulated by the finance Act 2008.

The cut throat competition in the banking sector coupled with the reduced government borrowing from the industry has affected the performance of the banks in Kenya. The operating environment for the industry keeps on evolving due to both local and global trends. To therefore remain abroad amid tight regulations, competitions and increased sustainable surveillance, banking industry has embraced technology as a lever to sustainable performance. The motivation for technology adoption within the industry is also enhance with the view of circumventing the tight regulation that has been imposed by the regulator.

1.2 Statement of the Problem

The procurement function in the competitive modern business environment has been characterized by massive scandals and indignity which have been attributed to poor handling of procurement information thus leading to excessive corruption (Thai, 2009). There is need to have a robust automated procurement system which is interlinked and this will lead to enhanced competitiveness and lowered costs (Ogot et al., 2009). E-procurement is among the supply-side activities that have been identified as a key area where information systems enabled innovations are likely to yield significant benefits for organizations (European Commission, 2005).

The advent of the internet has definitely made a change in the modern way of procurement functions. The role of procurement has changed considerably due to advancement in information technologies and information systems. There is a looming gap currently existing in our understanding of the role of procurement in our

organizations today (Brook, 2002). For any organization to be in the frontline in modern business, it has to adopt the rapid change in technology and methods of doing things.

Studies that have been carried out on electronic procurement clearly indicate that electronic procurement is a key factor on modern competitive companies in terms of efficiency and effectiveness of supply chains. For instance Giner (2011) confirmed that a properly implemented e-procurement system can connect companies and their business processes directly with suppliers while managing all interactions between them. A good e-procurement system helps a firm organize its interactions with its most crucial suppliers. It is evident that although this study focuses on e-procurement, it fails to address the role played by the web based technologies in supply chain performance.

Vaidya, Sajeev and Callender (2006) conducted a study on the critical factors that influence e-procurement adoption success factors in the public sector. The study concluded that if e-procurement initiatives in the public sector are to assist in the development of e-procurement across the information economy, there should be wider discussion and agreement on what constitutes the relevant Critical Success Factors (CSFs) and how the achievement of the success can be assessed. Another study was carried out by Batenburg (2007) on e-procurement adoption by European firms. It was established that there are indeed country differences with respect to e-procurement adoption and that firms from countries with a low uncertainty avoidance such as Germany and the UK, are the early adopters of e-procurement, while countries that are less reluctant to change such as Spain and France have lower adoption rates.

In Kenya, a study carried out by Ochieng (1998) on the analysis of factors considered important in the successful implementation of information systems, a case study of Commercial banks in Kenya; e-procurement was found to be a key factor on the bank business process management.

Another study carried out by Mauti (2012) found out that there are five main factors that determine the success of e-procurement implementation: employees and management commitment to success of adoption; reliability of information technology and supplier performance; monitoring the performance of e-procurement systems; user acceptance of e-procurement systems and top management support. The study also confirmed that challenges such as resistance to change from employees, lack of e-procurement approval by company board, existence of old IT equipment among the firms that need overhaul and lack of managerial support affect e-procurement implementation by large scale manufacturing firms in Nairobi. This study however did not indicate how e-procurement can assist in supply chain performance of an organization.

A study by Ratanya (2013) reveals that there is some level of e-procurement implementation among the large scale manufacturing firms in Nairobi. For instance it was established that most of the large scale manufacturing firms have in place an information system that enables their departments to share information. This sharing of information is one of the preliminary foundations upon which e-procurement is founded. It is also evident from the study that most of the firms have a centralized procurement system that is made possible through information technology. The results further confirm that most of the firms practice online internal procurement.

This implies that internal procurement activities are made possible due to e-procurement adoption and implementation.

However, irrespective of the level of bank operational activities retained within the industry, the adoption of e-procurement seems to be an understudied area in the banking industry in Kenya. A number of researches have been done on the business process implications of adopting electronic procurement but none has focused on Electronic procurement adoption and supply chain performance among commercial banks in Kenya. Consequently, this study seeks to fill the gap by answering the research questions: To what extent have the commercial banks in Kenya adopted e-procurement? What is the relationship between E-procurement adoption and supply chain performance among commercial banks in Kenya?

1.3 Objectives

The objectives to the study are:

- i. To determine the extent of e-procurement adoption among commercial banks in Kenya.
- ii. To establish the relationship between E-procurement adoption and Supply Chain Performance among commercial banks in Kenya.

1.4 Value of the Study

The study may be of significance in the following ways to the following groups:

Financial Institutions:

The findings from this study will be beneficial to the financial institutions as far as the adoption of e-procurement systems is concerned and also in coping with problems of

implementation and institutionalization of the e-procurement systems. The financial institutions will be in a position to formulate effective electronic procurement policies so as to gain a competitive edge in the market. The study will also serve as a benchmark to other organizations who intend to adopt e-procurement. It will enable them to better understand the role of e-procurement in organizational supply chain performance.

Procurement Professionals:

To procurement and Supply Chain professionals, the study will be helpful in addressing the factors identified so as to increase the usage of e-procurement in enhancing supply chain performance among the population identified. The government will find the information useful in diagnosing the problems affecting the financial sector and come up with policies that will support electronic procurement adoption to enhance supply chain performance.

Investors:

Investors in the financial sector will use the information from this study to make critical decisions regarding electronic procurement for cost minimization and profit maximization. They will use the findings as a benchmark for best practice in procurement practices.

Research and Academic Institutions:

Procurement being an area that is attracting a lot of professional, academic and scholarly attention, this project can be used as a reference to promote the general academic and scholarly input to the understanding of this body of knowledge. The

study will also assist in confirming the theoretical assumptions on the impact of e-procurement on supply chain performance.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of the studies that have been conducted on e-procurement and Supply Chain performance by other scholars. It also covers the effects of e-procurement adoption on supply chain performance, and conceptual framework.

2.2 E-procurement Adoption

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 (B2B ecommerce) that has recently received attention in the literature is called electronic 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).

Sain et al., (2004) had a wider definition for e-procurement: E-procurement can be considered as the electronic integration and management of all procurement activities, including purchase request, authorization, ordering, delivery and payment between a purchaser and a supplier. Croom (2000) also mentioned that e-procurement systems in essence mirror the procurement process through the provision of two distinct, but

connected, infrastructures -internal processing and external communication with the supply base.

It is commonly defined as an organization's indirect procurement using the internet, as procurement is the concept closely inter-related with the supplier's selling activities. Also, Tatsis et al., (2006) developed the following definition; e-procurement is the integration, management, automation, optimization and enablement of an organization's procurement process, using electronic tools and technologies and web-based applications.

According to Cullen (2007), E-procurement refers to the purchase of goods and services for organizations through the internet. It is the use of integrated (commonly) web-based communication systems for the conduct of part of, or all the purchasing process; a process that may incorporate stages from the initial need identification by users, through search, sourcing, negotiation, ordering, receipt and post purchase review.

Various researchers defined-procurement differently: Parida and Parida (2005) defined e-procurement as a technology solution that facilitates corporate buying using the internet. Essentially on internet/intranet based purchasing application or hosted service that streamlines buying, trading partners, maximizes trade efficiency across the entire supply chain, and provides strategic e-commerce capabilities in internet time; process which supports the procurement and sourcing activities via internet technologies and enables efficient negotiation between buyers and suppliers (Gimenez and Lourenco, 2004); Electronic acquisition of goods and services in a firm (Turban and King 2006); The automation of the procurement processes, so that the sourcing,

vendor selection, procurement processes, shipment status tracking and payments can be made in an online environment (Bhaskar, 2005).

There are various forms of e-procurement as identified by (Fred et al., 2003). These include: e-sourcing, e-reverse auctioning, e-contract management, e-ordering, and web-oriented ERP. Organizations and firms began to use internet as a new way of doing business and this led to the rise of electronic commerce (e-commerce). As put by Tavi et al., (2008) e-commerce is trading by means of new communication technology (for instance, internet). It includes all aspects of trading, encompassing commercial market making, ordering, supply chain management, and the transfer of money.

According to Rayport et al., 2002, business efficiency, increased automation of processes, retained and expanded customer base, and reduced information costs are some of the major benefits of e-commerce. Through the rise of e-commerce, various products and services are available online and organizations are able to procure their needed products and services online. This initiative was to be the start of new era for electronic procurement (Thatcher et al., 2002).

EPIQ (2010) argues that a good e-procurement system enables a firm to organize its interactions with its most critical suppliers, a set of built-in monitoring tool to help control costs, assure maximum supplier performance and keeping an open line of communication with potential suppliers during a business process. The system allows managers to confirm pricing and leverage previous agreements to assure each new price quote is more competitive than the last.

2.3 The role of E-procurement in the procurement process

By reference to the literatures on procurement and e-procurement mentioned, e-procurement is a technology solution or application that facilitates corporate buying through the internet use. It pervades each major component of the purchasing process (Presutti, 2003). In a broader sense, e-procurement is viewed as an electronic procurement system that has five functions: Web-based ERP, E-design, E-sourcing, E-negotiation, and E-evaluation.

Web-based ERP (Enterprise Resource Planning) involves creating and approving purchasing requisitions, placing purchase orders and receiving goods and services by using a software system based on Internet technology. E-design refers to establishing buying requirements through the specification development process, and has emerged to help facilitate early supplier involvement. Buyers and suppliers communicate and develop products and specifications in line with collaboration. E-sourcing is the application of internet technology to the steps of supplier selection in purchasing process. A proposal is requested on the internet for pre-qualified supplier. The suppliers receive the request and submit bids electronically. Then, they evaluate the bids, negotiate online and select the most proper suppliers. In the contract agreement stage of purchasing process, the purchasing department needs more involvement with it. The role of e-procurement in this stage is on-line negotiation called e-negotiation. The final stage of e-procurement is e-evaluation. In this stage, information is critical; company requires more proper solutions to collect detail, extensive and accurate information for evaluating and rating suppliers. Thus, e-procurement is organization's procurement using the internet technologies, including e-design, e-sourcing, e-negotiation and e-evaluation (Albrecht et al., 2005).

E-procurement solutions provide the firm with data warehousing capabilities and other knowledge management tool to support this. The impacts of e-procurement systems include economic efficiency as well as improved procurement capacity of organizations. In the developing countries, and mid-income countries like Kenya, the electronic transactions reduce the possibility of corruption that usually occurs with face-to-face transactions (Atkinson, 2000). Consequently, the introduction and utilization of integrated e-procurement systems creates internet-enabled supply chain, establishing business-business relationships and electronic procurement systems for managing the supply chain and would not only reduce costs and lead times but also will eventually enhance the company's competitiveness and position it for further growth (David et al., 2002).

E-procurement system can improve the effectiveness of operation processes and the transparency of the supply chain (Puschmann and Alt, 2005). Therefore, it could be implied that an e-procurement system is more pivotal than other e-business applications when studying supply chain performance. In the current economic environment, a value creation perspective is important for improving supply chain performance (Wiengarten et al., 2010). It can be expected that the functional characteristics of e-procurement systems can enable companies to improve the efficiency of value creation processes in the supply chain.

2.4 E-Procurement and Supply Chain Performance

Supply chain performance refers to the evaluation of supply chain management, and includes both tangible (e.g. cost) and intangible (e.g. capacity utilization) factors (Croom and Johnson, 2003; Eng, 2004; Presutti, 2003; Tan et al., 2002). Performance captures the extent, to which companies and their key suppliers can satisfy their end

customers, by being responsive to their needs and providing a high-quality, competitive product. Responsiveness to customer needs quality of product/service overall customer and supplier satisfaction. Supply chain performance management is the process of quantifying the effectiveness and efficiency of an action to achieve operational excellence in order to deliver leading customer experience.

E-procurement is an electronic procurement system whose wider application context is e-business. E-business refers to the implementation of business activities through digital technologies over the internet (or extranet) (Amit and Zott, 2001). E-procurement system can improve the effectiveness of operation processes and the transparency of the supply chain (Puschmann and Alt, 2005). Therefore, it could be implied that an e-procurement system is more pivotal than other e-business applications when studying supply chain performance. In the current economic environment, a value creation perspective is important for improving supply chain performance (Wiengarten et al., 2010). It can be expected that the functional characteristics of e-procurement systems can enable companies to improve the efficiency of value creation processes in the supply chain.

The process through which e-procurement contributes to supply chain performance can only be highlighted through explaining the relationship among such processes as; Partner relationships, information sharing, and supply chain integration which are proposed as the processes that connect e-procurement systems with supply chain performance. Since e-procurement is an electronic (technology-based) system (Presutti, 2003), the consequences of e-procurement can be inferred from the technological applications associated with supply chain management. The term partner relationships refers to mutually committed relationships between enterprises

and their partners (e.g. suppliers, the same tier manufactures and channel members) in the supply chain (Li et al., 2005; Liker and Choi, 2004; Panayides and So, 2005; Skjøtt-Larsen et al., 2003). Information sharing refers to good-quality information flow between an enterprise and its partners (e.g. suppliers, the same tier manufactures and channel members) in the supply chain (Lee et al., 1997; Monczka et al., 1998; Tan et al., 2002). Supply chain integration is defined as the coordination and activity integration of supply chain processes between an enterprise and its partners (e.g. suppliers, the same tier manufactures and channel members) in the supply chain (Tan et al., 2002; Zhang et al., 2006).

Partner Relationships and Supply Chain Performance.The influence of partner relationships on supply chain performance is expected to be positive. Relying on ongoing and mutually beneficial partner relationships, an enterprise can launch a successful product/service faster than its competitors (Liker and Choi, 2004). Enterprises that incorporate strategic collaboration partners in their product design process could potentially further reduce the time and cost of developing and introducing new products (Eng, 2004).

Information Sharing and Supply Chain Performance.Information sharing is about the information flow, the timeliness of information availability, and the openness and transparency. It will affect performance apparently. For instance, the e-market place provides a mechanism for companies to control, coordinate, and economize on transaction costs, as it improves information flows and helps reduce uncertainty (Eng, 2004). The use of IT enables far greater information to be more widely distributed, and in terms of the ability to offer access to large catalogues of suppliers, the range of products and services available to employees is reported to have provided far greater

range flexibility (Evans and Wurster, 2001). Malone et al., (1987) argued that this kind of electronic communication along with supply chain allows the reduction of both the costs of coordinating economic transactions and the costs of coordinating production. Barratt and Rosdahl (2002) claimed that ease of search and transparency acts as an advantage to the buyer. Procurement costs are reduced through economies of supplier search and e-marketplace to SCM are examined in three dimensions: unit cost reduction, increased efficiency, and streamlined operations. Croom and Johnson (2003) identified three main elements of internal service performance, namely: cost (efficiency and expenditure), process conformance and internal customer satisfaction.

Supply Chain Integration and Supply Chain Performance. Firms that intend to reap the strategic advantage of their participation in e-marketplaces should be aware that their interaction with other firms requires an integration of various functional areas within an organization and coordination with external participant organizations (Eng, 2004). As Croom (2000) and De Boer et al., (2002) mentioned that internal process efficiencies and automation are seen to be key drivers for increasing process efficiency. Tan et al., (2002) supported that supply chain integration influence majorly in product quality and customer service levels. Narasimhan and Das (2001) and Narasimhan and Kim (2002) definitely pointed that improved integration improves the performance of both the buyer and supplier. All of these indicated that firms which improve their supply chain integration are likely to increase their supply chain performance.

Supplier Appraisal and Supply Chain Performance: Suppliers need to be evaluated before they are awarded tenders. The process of evaluation is called appraisal. In the process of supplier appraisal, we use Carter's 1995 7 Cs model which has undergone

modifications and CIPS (2011) does it effectively by incorporating other 3 Cs, the summed up 10 Cs can be stated as: Competency of the supplier, Capacity in terms of physical, intellectual and financial resources, Commitment like data available to control quality, Control which touches on information systems, Cash which look at both financial and current assets, Cost, Consistency in contract performance, Culture, Clean which entails even environmental policies and communications which is integrated with information system.

2.5 Effects of E-Procurement on Supply Chain Performance

Automating the procurement process drastically reduces the effort of human resources in banks' operations by sending of the invitations to the suppliers and publishing of the tendering procedures, it also involves usage of e-auctions, ,and enhances final and intermediate report production, archiving of documents received thus anomalous offers evaluation(Thatcher, 2002).

Informative: involves quality and availability of information; tendering documents are available from more sources, tendering procedures and documentation is more accurate, as employees can spend more time in its preparation and documents produced by every user of the platform are shared and available for consultation(Thatcher, 2002). Standardizing, expending, and innovating: refers to tendering procedure that is clearly divided in phases, with no possibility of overlap. Automation liberates time to be used in other activities that generate a higher value, creation of standardized tendering procedures using the platform and using of new information technology instruments (i.e. digital signature; certified email, e-invoicing) (Ochieng, 1998).

Better organization and archiving of offers: offers, documents and answers to eligibility requirements, are automatically organized by the platform, in the same way for each supplier. Thus it is faster and easier to compare the offers and access them in every phase of the process. There is no risk of losing documents or confusing them with those presented by other suppliers, or even regarding a different tendering a procedure. Every event or activity regarding a procedure is tracked and is available to every stakeholder at any time (Ochieng, 1998).

Administrative simplification: standardizing of phases and activities allows employees to master the dynamics of tendering procedure and every registered user can access and check its status online. Better communication: Easier collaboration and knowledge sharing with other public boards, (exchange of documents, messages and contact lists). More effective managing of bundled tendering procedures like framework, contracts, possibility of working from remote locations and managers can coordinate many tendering procedures more effectively (Ochieng, 1998).

Increased transparency: information about current tendering procedures and their rules, information about the volume of public expenditure, information about the markets (which supplies for which commodities and where) streamlining, reduction of bureaucratic procedures; the tendering procedure is linear, clearly divided in phases, reduction of procedural burdening and reduces error risk (Ochieng, 1998).

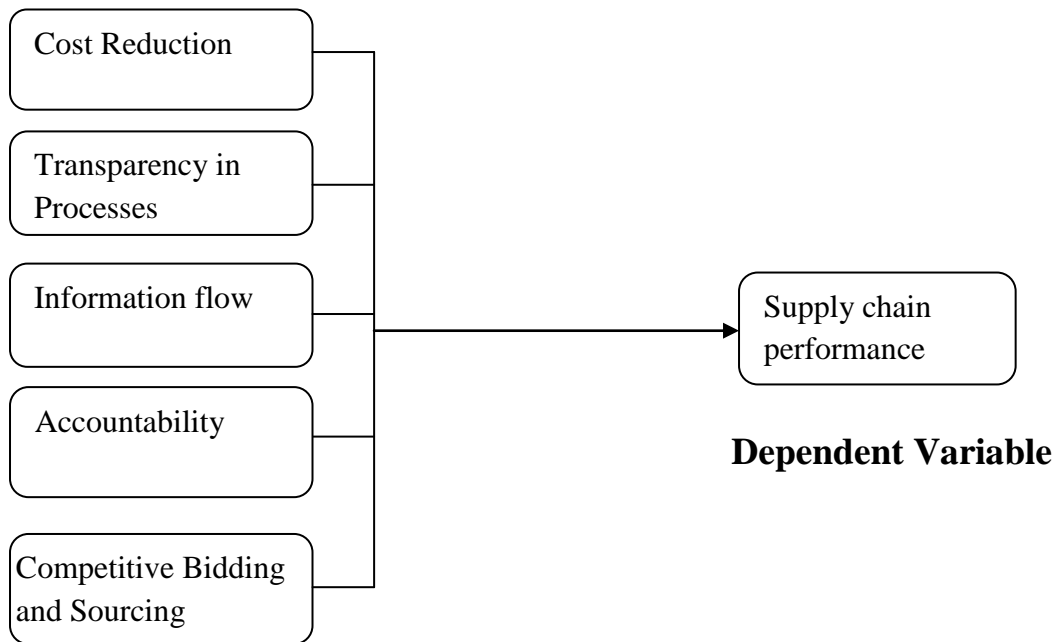
2.6 Conceptual Framework

The conceptual framework explains the relationship between the dependent and the independent variables in the study. In this study, the dependent variable is Supply Chain Performance. E-procurement has the potential of bringing the following effects

on the supply chain: reduces operational cost, facilitates information flow, enhances accountability, competitive bidding and sourcing and enhance transparency. These independent variables are likely to impact on the performance of the supply chain.

Figure 2.1: Conceptual Framework

Independent Variables



Source: Researcher (2014)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methodology that was used in the collection of data pertinent in answering the research questions. It consists of research design, study population, data collection and data analysis methods.

3.2 Research Design

The researcher conducted a census study of the commercial banks operating in Nairobi, Kenya. This design is preferred to other research designs since it is the most commonly used when data is to be collected at one point in time across many firms. The study adopted a descriptive approach in trying to establish the impact of e-procurement adoption on supply chain performance among commercial banks.

3.3 Population of the Study

This study targeted Commercial banks operating in Nairobi, Kenya. According to the Central Bank of Kenya, there are 43 Commercial banks in Kenya as can be seen from the appendix (ii) attached at the end of this study. A census study was conducted on all the 43 commercial banks in Kenya.

3.4 Data Collection

Primary data was obtained using a structured questionnaire as seen from the appendix (i). Self-introduction to the respondents on the issue of concern was made through an introductory letter. The questionnaire consisted of closed ended questions covering issues related to e-procurement adoption on supply chain performance. The closed

ended questions allow responses from the respondents from limited stated alternatives where a Likert scale is adopted. Respondents were required to indicate their views on a scale of 1-5. The Questionnaire was chosen because it is easier for the researcher to collect a lot of information over a short period of time. The researcher targeted managers of procurement in each of the 43 banks studied. Follow up was done through personal visits, telephone calls and e-mails to enhance response rate.

The questionnaire had three sections. Section A collected data on the company profile, while sections B and C, sought data on research objectives. The questionnaire was administered through drop and pick later method as well as sending and receiving via email.

3.5 Data Analysis

The researcher conducted descriptive statistics and regression analysis of the data collected for the study. Objective one was analyzed using mean scores obtained from Statistical Package for Social Sciences (SPSS). Frequencies and percentages were used to analyze demographic data, establish the extent to which commercial banks have adopted e-procurement. Its effect on supply chain performance of commercial banks was analyzed using regression analysis. The findings were presented in tables and pie charts. In order to establish the relationship of e-procurement and supply chain performance, the following equation was used;

$$P = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + e$$

Where; P = performance; a = the constant of regression; b_1, b_2, b_3, b_4, b_5 = the regression coefficients of respective variables; e = error term

x1= Accountability; x2= Transparency process; x3= Competitive bidding &
Sourcing; x4= Flow of Information; x5= Cost Reduction

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The purpose of this study was to establish the effect of e-procurement adoption and supply chain performance among commercial banks in Nairobi. The study had two objectives to achieve: to determine the extent of e-procurement adoption among commercial banks in Nairobi, Kenya; and to establish the impact of e-Procurement adoption on supply chain performance among commercial banks in Nairobi, Kenya.

4.2 Description of the population

The population size is made up of 43 commercial banks in Kenya. Data was successfully collected from 42 procurement managers of commercial banks in Nairobi. This is an indication that the study was able to achieve a 99% response rate since the study involved a whole population of the 43 licensed commercial banks in Nairobi, Kenya.

4.3. Organizational Profile

The study sought to obtain from the respondents information regarding the commercial banks they worked for. The aim of this information was to assist the researcher connect a few characteristics of the commercial banks to e-procurement adoption. The findings from the study are discussed next.

4.3.1: Adopted E-procurement

Table 4:1 Adopted E-procurement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	30	71.4	71.4	71.4
	No	12	28.6	28.6	100.0
	Total	42	100.0	100.0	

Source: Research Data (2014)

One of the objectives of the study sought to establish the extent to which the commercial banks have adopted e-procurement in their supply chain process. Respondents were asked to indicate whether or not their banks have adopted e-procurement. From the findings presented in table 4.1 above, out of the 42 banks, 71.4% clearly indicated that they have adopted the e-procurement process in their line of supply chain management. 28.6 % of the commercial banks are yet to consider the e-procurement process in their supply chain management. According to a study by Ratanya (2013), on the e-procurement implementation and supply chain integration among large scale manufacturing firms in Nairobi, some of the reasons for non-adoption of e-procurement would be attributed to lack of enough finances to support the system adoption and implementation as well as lack of support from the top management.

4.3.2 Duration in operation

Table 4.2 Duration in operation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-10 Years	8	19.0	19.0	19.0
	11-20 Years	14	33.3	33.3	52.4
	21-30 Years	9	21.4	21.4	73.8
	31-40 Years	3	7.1	7.1	81.0
	Over 41 Years	8	19.0	19.0	100.0
	Total	42	100.0	100.0	

Source: Research Data (2014)

This part sought to establish the duration in which the banks have been in operation. It is evident from the findings as illustrated in table 4.2 above that most of the banks in Kenya have been in operation between 11-20 years constituting 33.3%. 19% of the commercial banks in Nairobi have been in operation between 1-10 years; 21.4% have been in operation between 21-30 years; 7.1% of the commercial banks have been in operation between 31-40 years whereas 19% have been in operation for over 41 years. The results confirm that most of the commercial banks have been in operation for a considerable period of time and have a considerable knowledge about e-procurement processes.

4.3.3: Duration in operation with E-procurement adoption

Table 4.3 Duration in operation with E-procurement adoption

		Yes	No	
How long in Operation	1-10 Years	20.0%(6)	16.7%(2)	19.0%(8)
	11-20 Years	36.7%(11)	25.0%(3)	33.3%(14)
	21-30 Years	20.0%(6)	25.0%(3)	21.4%(9)
	31-40 Years	6.7%(2)	8.3%(1)	7.1%(3)
	Over 41 Years	6.7%(5)	25.0%(3)	19.0%(8)
Total		100.0%(30)	100.0%(12)	100.0%(42)

Source: Research Data (2014)

The study sought to establish from the respondents the duration in which the banks in the market with e-procurement adoption. From the findings, in table 4.3 above, it is evident that majority of the banks who have adopted e-procurement have been in operation between 11-20 years constituting 36.7%.

The reasons provided by banks that have not and have no current plans to adopt e-procurement are; high costs of implementation, the size of the bank (some banks believed they were too small to benefit from e-procurement), lack of management

support and the complexity surrounding the nature and diversity of products and services to be procured.

4.3.4 Chi-Square Tests of Independence

Table 4.4 Chi-Square Tests of Independence

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.846 ^a	4	.932
Likelihood Ratio	.848	4	.932
Linear-by-Linear Association	.605	1	.437
N of Valid Cases	42		

Source: Research Data (2014)

The same findings were subjected to Chi-Square tests to establish if there was any relationship between the banks' years in operation and adoption of e-procurement. Of much interest are the results of the "Pearson Chi-Square" row. From the findings as presented in table 4.4 above, $\chi (1) = 0.846$, $p = .932$, which is a value of less than 1. This indicates that there is no statistically significant association between the number of years the commercial banks have been in operation and the adoption of e-procurement. From the responses for instance, we had banks that have been in operation for over 41 years constituting 25% and have not considered adopting e-procurement. This is in line with an argument that: "Although the opportunities for technology improvement seem abound, both private and public sector are still cautious as far as the adoption of electronic technologies is concerned (Zheng et al, 2004)".

Table 4.5 Symmetric Measures

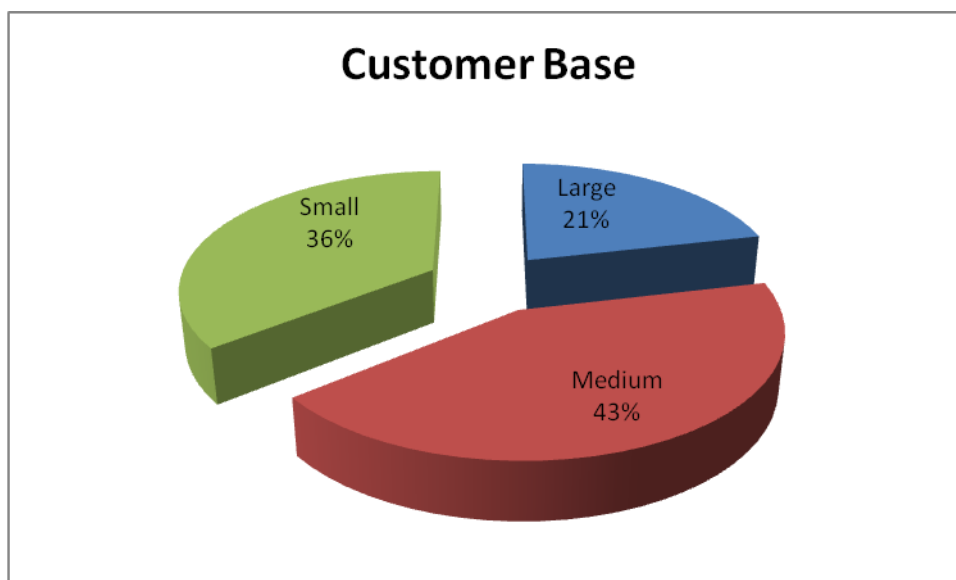
Symmetric Measures			
Nominal by Nominal	Phi	.142	.932
	Cramer's V	.142	.932
No. of Valid Cases		42	

Source: Research Data (2014)

As illustrated in table 4.5 above, Phi and Cramer's V are both tests of the strength of association. It is evident that the strength of association between the variables is very weak. In real situation it is clear that the banks' demand for e-procurement system is not entirely dependent on how long they have been in operation but rather their need for such systems.

4.3.5 Customer Base and Asset Base

Figure 4.1: Customer Base

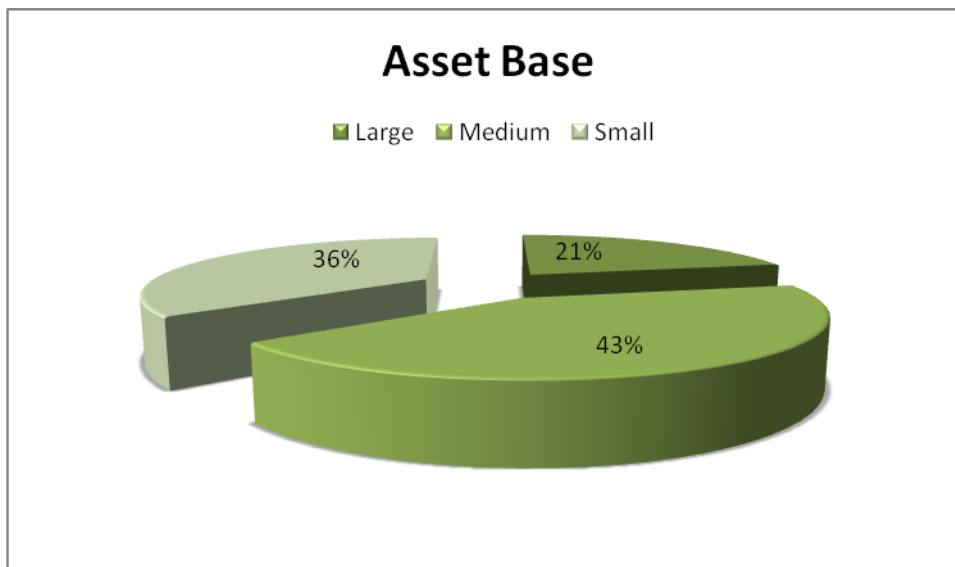


Source: Research Data (2014)

Customer base and asset base form the back-bone of the commercial banks. In order to establish the size of the banks, respondents were asked to rate the customer and

asset base in their banks in ranges of large, medium and small. 43% of the respondents rated their customer base as medium while 21% rated them as large as compared to 36% who have a small customer base as shown in figure 4.1 above. The size of the banks in terms of customer base was significant as it would indicate the market share of the banks under the study and how this influenced e-procurement adoption and supply chain performance. This is probably due the high competition amongst banks and majority of the customers are yet to know the benefits of banking.

Figure 4.2 Asset Base



Source: Research Data (2014)

Evidently as it's shown in figure 4.2 above, the asset base on the individual respondents share the same trend as the customer base with medium asset base rating at 43%, 36% small asset base and 21% large asset base. Both the asset and the customer base are directly proportional to each other. The more the customer base the more the assets so as to be to accommodate the demand from the customers and vice versa.

Medium to large size banks constitute the majority of those who have adopted, or intend to adopt e-procurement in the next 1-2 years. This is in line with another survey by ABS (2006) which suggests that the “likelihood of placing orders via the internet increases with size of businesses.”

4.3.6 Categorization within the banking industry

Table 4.6 Categorization within the banking industry

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Wholly Publicly Owned	5	11.9	11.9	11.9
	Public & Government shareholding	4	9.5	9.5	21.4
	Privately Owned	22	52.4	52.4	73.8
	Privately owned with & Foreign shareholding	11	26.2	26.2	100.0
	Total	42	100.0	100.0	

Source: Research Data (2014)

The study sought to establish the categorization of the banks based on such parameters as: wholly publicly owned, publicly owned with Government shareholding, privately owned, and privately owned with foreign shareholding. As per table 4.6 above, majority of the banks in Kenya are privately owned constituting 52.4 %, while 26.2% are partially privately and foreign owned. This trend tells that the country has scarce resources when it comes to investments the reason why there is some percentage of foreign ownership. 9.5% are publicly owned with government shareholding, while the rest 11.9% are wholly publicly owned. This is in line with an assertion that, a commercial bank is a financial institution licensed under banking Act, whose shares, or majority of whose shares can be owned by the government or by another state corporation (Wamalwa, 2003).

4.3.7 Years Elapsed since Adoption

Table 4.7 Years elapsed since Adoption

		Adoption of E-procurement		Total		
		Yes	No			
Years Elapsed since adoption	N/A	Count	0	12	12	
		% of Total	0.0%	28.6%	28.6%	
	0-5 Years	Count	16	0	16	16
		% of Total	38.1%	0.0%	38.1%	
	6-10 Years	Count	8	0	8	8
		% of Total	19.0%	0.0%	19.0%	
	Above 10 Years	Count	6	0	6	6
		% of Total	14.3%	0.0%	14.3%	
Total		Count	30	12	42	
		% of Total	71.4%	28.6%	100.0%	

Source: Research Data (2014)

From the findings as presented in table 4.7 above, 71.4% of the banks have had the e-procurement procedures in place. 38.1% have been in adoption for 0-5 years, 19.0 % being with e-procurement processes for 6-10, whereas 14.3% have had e-procurement practices for over 10 years. This indicates that the e-procurement procedures are new in Kenya and although majority have adopted them, they have not been effective for long. These findings can be supported by other findings as presented by Nelson et al., (2002) that, in recent years, e-procurement has been advocated as a new strategic view of supply chain management.

4.3.8 Success of the Adoption

Table 4.8 Success of Adoption

		Success of the adoption			Total
		N/A	Yes	No	
Adoption of E-procurement	Yes	0	29	1	30
	No	12	0	0	12
Total		12	29	1	42

Source: Research Data (2014)

Respondents were required to indicate whether the adoption of e-procurement was successful or not. The findings are presented as per table 4.8 above. Compared with the other surveys, e-procurement adoption has broadened in extent and deepened in scope. Out of the 42 banks from where data was collected, 29 of them constituting 69.0% now have a fully operational e-procurement system in place. These findings have been supported by recommendations by Presutti (2003) that the increasing emphasis on supply chain management has created a greater focus on the supply management link in the supply chain. This focus will become even intense as firms continue to adopt e-procurement strategies to leverage the competitive advantages of the internet. He continued to recommend that managers need to understand the impact of technology and gain competency in the practices for e-procurement.

4.4 Extent of Adoption

One of the objectives of this study was to establish the extent to which commercial banks in Nairobi have adopted e-procurement. The respondents were provided with a set of seven questions that were meant to establish the extent of adoption. Respondents were asked to rate to what extent e-procurement activities are used in their banks. The study rated the variables in a likert scale of 1- 5 where 1- very great extent; 2-great extent; 3-Moderate; 4-small extent; 5-very small extent. The results from their responses are discussed below:

Table 4.9 Extent of adoption

E-Procurement adoption Extent	N	Mean	Std. Deviation
Advertising tenders online	42	2.40	1.740
Online submission of proposals	42	2.17	1.622
Short listing of suppliers online	42	1.90	1.559
Company staff make requisitions online	42	2.71	2.075
Call for proposals done through company website	42	2.17	1.637
Existence of functioning website	42	2.90	2.070
Posting item specifications on company website	42	2.26	1.726

Source: Research Data (2014)

The researcher sought to find out whether commercial banks in Nairobi have a technology in place that allows the various departments within the organization to share information. The findings tabulated in Table 4.9 above confirm that short listing of tenders online has a mean of 1.90, an indication that it is largely done among the commercial banks. Online advertising of tenders had a mean of 2.40; submitting of proposal online had a mean of 2.17, presence of a functioning website had a mean of 2.90 posting of specifications to the banks website, online requisitions by staff, and online call for proposals had means of 2.26, 2.71 and 2.17 respectively. These findings indicate that commercial banks in Nairobi have to a great extent adopted e-procurement (mean between 1.90 and 2.90 with a significant standard deviation), while others adopted e-procurement to a very great extent. This data is in line with observations by Croom and Brandon-Jones (2004) who asserted that e-procurement systems enable organizations to carry out individual or all stages of the procurement process such as searching for suppliers, sourcing, negotiating, ordering and posting of purchase review using internet-based (integrated) information communication technologies.

4.5 Impact of e-procurement adoption on Supply Chain

Performance

Transformations to business processes, work practices and supply chain performance may be achieved as a result of the adoption of e-procurement. Respondents were asked to rate the impact of e-procurement on their banks' supply chain performance in a scale of 1-5 where: 1-strongly agree, 2-Agree, 3- Not sure 4-Disagree 5-Strongly Disagree. The findings are presented below:

Table 4.10: Impact of e-procurement adoption on supply chain performance

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.500	.083		30.000	.000
	Cost Reduction	-1.525E-014	.156	.000	.000	1.000
	Transparency process	1.000	.437	.671	2.287	.028
	Flow of Information	-1.000	.408	-.719	-2.449	.019
	Competitive bidding & Sourcing	-2.500	.379	-1.544	-6.594	.000
	Accountability	1.000	.323	.763	3.098	.004
a. Dependent Variable: Performance on Supply chain						

Source: Research Data (2014)

The Coefficients table 4:10 above provides us with the necessary information to predict supply chain performance from the variables specified in the model, as well as determine whether they contribute statistically significantly to the model. Transparency in process has a positive value of 1.000; accountability has a positive value of 1.000; competitive bidding and sourcing has a negative value of -2.500; flow of information has a negative value of -1.000; and cost reduction has a negative value

of $-1.525E*10^{-14}$. The model that can be developed from table 4.10 above is: $P=2.5+X_1+X_2-2.5X_3-X_4-1.525*10^{-14}X_5$. This model is capable of explaining 86.7% of the variance on supply chain performance among commercial banks in Nairobi.

Table 4.11 Anova

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.476	5	3.895	46.743	.000 ^b
	Residual	3.000	36	.083		
	Total	22.476	41			

Source: Research Data (2014)

Table 4.11 above indicates that the regression model predicts the dependent variable significantly well. This indicates the statistical significance of the regression model that was run. Here, $p < 0.001$, which is less than 0.05, and indicates that, overall, the regression model statistically significantly predicts the outcome variable i.e., it is a good fit for the data.

Table 4.12 Full model

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.931 ^a	.867	.848	.289

Source: Research Data (2014)

The model summary table 4.12 above represents the correlation between the variables which is 0.931, indicating a high degree of correlation. In this case, 86.7% can be explained using the stated variables ; reduction in cost, transparency in process, information flow, competitive bidding and sourcing, and enhancing accountability in the model while the 13.3% is the variance which can be attributed to some other variables not included in this study.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The aim of this study was to determine the impact of e-procurement on supply chain performance among commercial banks in Kenya. In this chapter a summary of findings from the study is provided. The chapter also presents conclusions and recommendations made upon careful consideration of the findings. It also provides suggestions on areas where further research is required.

5.2 Summary of The Findings

The survey findings indicate that procurement has transitioned from a largely operational concern and now has taken a more strategic position in organisations. E-procurement adoption has increased in both extent and scope, with more commercial banks adopting and implementing systems that span the whole enterprise, encompassing a greater range of procurement functions and activities. However, whilst progress has been made a number of challenges still remain.

As e-procurement has become a more strategic activity within organisations the role of the procurement professional also appears to be changing. This is seen in the greater requirement for staff development and training to enhance business analysis skills in areas such as strategic/competitive sourcing and supplier analysis. E-procurement involves efforts to change how procurement functions, cost reductions such as spending and budgets, employing staff, buying goods and services, and managing technological and organisational activity are carried out. It also has the

potential to transform the relations between suppliers and customers. The findings from the study further indicate that the five independent variables: cost reduction, transparency in process, information flow, Accountability and competitive sourcing and bidding explain 86.7% of the variance in supply chain performance. This implies that 13.3% of the variance can be attributed to some other variables not included in this study.

5.3 Conclusions

Commercial banks in Nairobi have achieved a given degree of e-procurement adoption. This is evident from the fact that most of the banks are able to do online internal procurement; share information among departments and centralization of procurement activities. The results show that e-procurement implementations have broadened in reach and deepened in scope. This change has resulted in greater adoption of functioning website, online requisition and online proposal activities consistent with the move towards more fully operational systems and the development of greater e-commerce capabilities. In this paper, we have reported on the findings of the impact of e-procurement adoption on supply chain performance. Finally, e-procurement adoption explains 86.7% of supply chain performance among commercial banks in Nairobi.

5.4 Recommendations

The study recommends that commercial banks in Nairobi need to incorporate all the e-procurement activities into the system; they need to find out ways of encouraging employees to make use of e-procurement systems as well as find ways of addressing

the factors that are critical to the success of e-procurement. This will enable them to improve adoption of e-procurement.

The findings indicate that there are a number of commercial banks that have not fully adopted e-procurement systems. It will be important to conduct a study to find out the reasons why some of these banks have not incorporated all the procurement activities in e-procurement. A comparative study will be critical in order to establish whether there are any similarities or differences in the effects of adopting e-procurement systems across different industries. The banking industry results can be compared to another industry.

5.5 Limitations of the Study

The findings of this study are only directly applicable to commercial banks in Nairobi. The time duration was not adequate to conduct a census of all the commercial banks in Nairobi. This is the reason why the study didn't achieve a 100% response rate as would be expected.

5.6 Suggestions for Further Research

This study has only focused on e-procurement adoption and supply chain performance among commercial banks in Nairobi. This same study should be extended to other industries or other financial institutions so that similarities and differences may be drawn.

It will also be advisable to replicate this same study after some years have elapsed in order to establish the changes that have taken place since e-procurement and supply chain are highly dependent on technology which is subject to change.

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APPENDICES

APPENDIX I: RESEARCH QUESTIONNAIRE

Introduction

This is a questionnaire for collection of data on e-procurement adoption and supply chain performance among commercial banks in Nairobi, Kenya. This is an academic research and the data collected will specifically be used for academic purposes only. No information will be divulged from these questionnaires since it will be confidential.

SECTION A: COMPANY PROFILE

Name of the Bank..... (Optional)

1. How long has your bank been in operation in Kenya?
 - a. 1 – 10 years
 - b. 11 – 20 years
 - c. 21 – 30 years
 - d. 31 – 40 years
 - e. Over 41 years
2. Kindly indicate below how you would rate your bank in terms of customer base.
 - a. Large
 - b. Medium
 - c. Small
3. Please indicate how you would rate your bank in terms of asset base
 - a. Large
 - b. Medium
 - c. Small
4. How would you categorise your bank within the banking industry in Kenya?

- a. Wholly publicly owned
 - b. Publicly owned with Government shareholding
 - c. Privately owned
 - d. Privately owned with foreign shareholding
5. Has your bank adopted e-procurement?
- a. Yes
 - b. No
6. How many years have elapsed since your company adopted E-procurement?
- a. 0 – 5 years
 - b. 6 – 10 years
 - c. Above 10 years
7. Was the adoption process successful?
- a. Yes
 - b. No

SECTION B: Kindly indicate the extent to which you agree with the following statement concerning the extent to which your bank has adopted e-procurement.

Use the scale of

1=Very great extent ; 2 = great extent; 3 = Moderate extent

4 = small extent; 5 = Very small extent.

Extent of Adoption	1	2	3	4	5
Tenders are advertised online	[]	[]	[]	[]	[]
Prospective suppliers submit proposals online	[]	[]	[]	[]	[]
Short listing of tenders is done by e-procurement system	[]	[]	[]	[]	[]
There is a functioning website to facilitate e-procurement	[]	[]	[]	[]	[]
Specifications for procured items are posted to bank website	[]	[]	[]	[]	[]
All bank staff make requisition online	[]	[]	[]	[]	[]
Call for proposals is done through bank website	[]	[]	[]	[]	[]

SECTION C: Impact of E-procurement adoption on supply chain performance among commercial banks in Nairobi, Kenya.

Kindly indicate the extent to which you agree with the following statements concerning the impact of e-procurement adoption on supply chain performance.

Use the scale of:

1 = strongly agree; 2 = Agree; 3 = Not Sure 4 = Disagree; 5 = Strongly Disagree.

Effect	1	2	3	4	5
Leads to cost reduction	[]	[]	[]	[]	[]
Leads to better service delivery	[]	[]	[]	[]	[]
Enables the organization to streamline process	[]	[]	[]	[]	[]
Facilitates real-time response to customers	[]	[]	[]	[]	[]
Guarantees real-time response to the market	[]	[]	[]	[]	[]
Improves transparency in the procurement process	[]	[]	[]	[]	[]
Improves the flow of information	[]	[]	[]	[]	[]
Leads to competitive bidding and sourcing	[]	[]	[]	[]	[]
It encourages accountability	[]	[]	[]	[]	[]

END

THANK YOU

APPENDIX II LIST OF COMMERCIAL BANKS IN KENYA

1	African Banking Corporation Ltd
2	Bank of Africa Kenya Ltd
3	Bank of Baroda (K) Ltd
4	Bank of India
5	Barclays Bank of Kenya Ltd
6	CFC Stanbic Bank Ltd
7	Charterhouse Bank Ltd
8	Chase Bank(K)Ltd
9	Citibank N.A.Kenya
10	Commercial Bank of Africa Ltd
11	Consolidated Bank of Kenya Ltd
12	Co-operative Bank of Kenya Ltd
13	Credit Bank
14	Development Bank of Kenya Ltd
15	Diamond Trust Bank (K) Ltd
16	Dubai Bank Kenya Ltd
17	Eco Bank Kenya Ltd
18	Equatorial Commercial Bank Ltd
19	Equity Bank Ltd
20	Family Bank Ltd
21	Fidelity Commercial Bank Ltd
22	G.T Trust Bank
23	First Community Bank Ltd
24	Giro Commercial Bank Ltd
25	Guardian Bank Ltd
26	Gulf African Bank Ltd
27	Habib Bank A.G Zurich
28	Habib Bank Ltd
29	Imperial Bank Ltd
30	I& M Bank Ltd
31	Jamii Bora Bank Ltd
32	Kenya Commercial Bank
33	K-Rep Bank Ltd
34	Middle East Bank (K)Ltd
35	National Bank of Kenya Ltd
36	NIC Bank Ltd
37	Oriental Commercial Bank Ltd
38	Paramount Universal Bank Ltd
39	Prime Bank Ltd
40	Standard Chartered Bank (K) LTD

41	Trans- National Bank Ltd
42	UBA Kenya Bank Ltd
43	Victoria Commercial Bank Ltd

Source: Banking in Kenya.com/banking-Kenya (CBK 2014) 07.53hours