E-PROCUREMENT AND SUPPLY CHAIN MANAGEMENT THE CASE OF STANDARD CHARTERED BANK OF KENYA

By

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DECLARATION

This project is my original work and has not been submitted for a degree award in any other university.

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This project has been submitted for examination with my approval as university supervisor.

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DEDICATION

I dedicate this study to my family for being the best cheerleaders throughout my studies. God bless you all.

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ABSTRACT

Supply Chain Management (SCM) refers to all the processes involved in the designing, building, and delivering of products to the customers that need them. Effective SCM requires simultaneous improvements in both customer service levels and the internal operating efficiencies of the companies in the supply chain. Recent development in technologies enables organizations to access information easily in their premises. This accessibility of information is helpful in the coordination of SCM activities. One of the uses of technology in SCM is the use of an E-procurement System. An E-procurement system connects companies and their business processes directly with suppliers while managing all interactions between them. This includes management of correspondence, bids, questions and answers, previous pricing and multiple emails sent to multiple participants.

The focus of this research project was to establish the impact of E-procurement system in SCM. The research approach adopted was a case study of the Standard Chartered Bank of Kenya (SCBK), E-procurement system. Specifically, this study sought to find what motivated the set-up of the E-procurement system, also to establish what are the benefits derived and the challenges experienced in the use of the system. The case study took a multiple research approach which included the review of pertinent literature, and administering of survey questionnaires. The questionnaires were administered to 100 members of staff of all cadres as all use the procurement system while secondary data was gathered from the company's website.

The study found that an E-procurement system is effective in bringing about a lot of benefits; this included: better inventory management, better contract compliance where deliveries were timely and as per specification meaning fewer returns. The study also found that most challenges were surmountable if with the full engagement of all stakeholders. For a successful E-procurement system, it is recommended that senior management drive the implementation and that the roll-out be even included in the company's strategic plan. The study recommended that SCBK should enable the system to be linked to suppliers for an even more efficient procurement process.

CHAPTER ONE

INTRODUCTION

1.1   Background of the Study

As competition intensifies and markets become global, markets are becoming more international, dynamic and customer driven; customers are demanding more varieties, better quality, higher reliability and faster delivery (Nor & Zulkifli, 2009). This suggests that technological developments are also occurring at a faster pace. Today, the emphasis is also on cutting costs, streamlining expenses while at the same time trying to offer a competitive edge with regard to customer service, many organisations are looking to improve their bottom line and financial performance by implementing new technology into their supply chains. Recent developments in the technology world enable the organization to have information easily in their premises. These technologies are helpful in coordinating the activities that manage the supply chain. The cost of information has greatly decreased due to the increasing rate of technologies.

The Internet and the World Wide Web have dramatically changed the business-computing landscape. New opportunities are emerging under the umbrella of E-business, which is the execution of business processes with the assistance of internet technologies (Lee & Whang, 2001). Businesses that successfully embrace E-business will find a pathway to increased supply chain efficiency via intelligent supply chains, reduced cycle time and greater customer loyalty. In the new economy, effective SCM is vital to the competitiveness of enterprises because it directly impacts their ability to meet changing market demands in a timely and cost-effective manner (Hui et al, 2003). With annual worldwide supply-chain transactions in the trillions of dollars, the potential impact of performance improvements is tremendous (Hanafizadeh & Sherkat, 2009).

The SCM is characterized by high degrees of difficulty, due to the complexity of multiple relationships and interactions between trading partners. This calls for significant discussions on Information, Communication and Technology (ICT) and SCM. Effective SCM is built on the basis of the high quality of information transmission and sharing, this will rely heavily on information technology to provide reliable support. Managers need to

understand information technology, meaning computer data recognition equipment, communication technologies, factory automation, hardware and software.

1.1.1 Supply Chain Management

E-procurement is defined as the use of Internet-based (integrated) technologies to carry out individual or all stages of the procurement process including search, sourcing, negotiation, ordering, receipt and post-purchase review (Croom & Brandon-Jones, 2004). An extended version of the definition states that E-procurement is more than just a system for making purchases online. A properly implemented system can connect companies and their business processes directly with suppliers while managing all interactions between them. This includes management of correspondence, bids, questions and answers, previous pricing and multiple emails sent to multiple participants.

Several independent firms are involved in manufacturing a product and placing it in the hands of the end user in a supply chain, raw material and component producers, product assemblers, wholesalers, retailer merchants and transportation companies are all members of a supply chain (La Londe & Masters, 1994). Another definition says, a supply chain is the alignment of firms that brings products or services to market (Lambert et al, 1998). Supply chain is the entire network of entities, directly or indirectly interlinked and interdependent in serving the same consumer or customer. It comprises of vendors that supply raw material, producers who convert the material into products, warehouses that store, distribution centers that deliver to the retailers and retailers who bring the product to the ultimate user. Businesses depend on their supply chains to provide them with what they need to survive and thrive.

The SCM is the oversight of materials, information, and finances as they move in a process from supplier to manufacturer to wholesaler to retailer to consumer (Cooper et al, 1997). SCM involves coordinating and integrating these flows both within and among companies. It is said that the ultimate goal of any effective SCM system is to reduce inventory (with the assumption that products are available when needed).

1.1.2 E-Supply Chain Concepts

Electronic SCM activities and infrastructure consists of six processes (Norris and West, 2002); first there is E-planning which is collaborative planning between buyers and sellers to develop a single shared forecast of demand and a plan of supply to support this demand, and to update it regularly based on information shared over the Internet. There is also E-replenishment which encompasses the integrated production and distribution processes. Companies can use replenishment information to reduce inventories, eliminate stocking points and increase the velocity of replenishment by synchronizing supply and demand information across the extended enterprise. Next, there is E-procurement which is the use of Web-based technology to support the key procurement processes, including requisitioning, sourcing, contracting, ordering and payment. E-procurement supports the purchase of both direct and indirect materials and employs several web-based functions such as online catalogs, contracts, purchase orders and shipping notices.

Another supply chain concept is E-collaboration, which is collaborative product development that involves the use of product design and development techniques across multiple companies to improve product launch success and reduce time to market. E-logistics is another process and is the use of web-based technologies to support the warehouse and transportation processes. It enables distribution to couple routing optimization with inventory tracking information. Lastly, there is E-business to business exchange that refers to the way businesses may transact with each other electronically. E-supply emerges as alternative configurations to the traditional supply chains.

1.1.3 Background of Standard Chartered

According to SCBK website, SCBK was established in 1911 with the first branch opened in Mombasa Treasury Square. Today, SCBK is one of the leading banks in Kenya, with an excellent franchise. It has a total of 33 branches spread across the country, 90 automated teller machines (ATMs) and 1698 employees. The SCBK has local shareholding of about 26 percent comprising of about 32,000 shareholders. It has remained a public quoted company on the Nairobi Securities Exchange (NSE) since 1989. The bank offers a variety of local and foreign currency accounts, both deposit and

loan to their customers. It also has a diversified portfolio cutting across select sectors that include business services, manufacturing, wholesale and retail trade, transport and communication, real estate, agriculture, energy and water.

Further underpinning its importance, SCBK hosts the regional shared service centre supporting the bank's technology operations in Uganda, Tanzania, Zambia, Botswana and South Africa on a real time basis. Its headquarters are located in Nairobi, Kenya. The SCBK has achieved several technological milestones that include the first Kenyan bank to obtain the International Standards Organization 9002 (ISO 9002) certification in technology systems, the first to install ATMs and establish an automated banking centre for 24-hour convenience, the first to offer utility bill payment and satellite television payment over ATM, the first to introduce priority banking facilities in Kenya for more affluent customers, the first to launch international photo debit card, the first to introduce unsecured personal loan, the first to launch the mobile top-up scheme and was the first to launch banking business solutions for corporate customers.

1.2   Statement of the Problem

Over the years, the procurement profession has faced many hurdles which include lack of visibility of their processes, timely delivery of goods and services and delivery to the specifications required by the various departments. In June 2009, the E-procurement system known as E-proc was rolled out in SCBK. This marked a new era in the way the procurement process was conducted. The purpose of this paper is to evaluate the impact of the E-procurement system being used in SCBK that as there has been no evaluation of the system since the roll-out. Qualitative assessment will be done by summarizing secondary data on the E-procurement system available on financial reports and websites and also through inferences made from interacting with the users through use of questionnaires to establish what difference it has made in their day to day operations. The study will not only be beneficial to SCBK in finding ways to improve the system but is applicable across all industries in Kenya. It will provide an in-depth overview of an E-procurement system end to end.

E-procurement is a relatively new technology and more research need to be done in order to encourage the use of E-procurement in Kenya. Accordingly, the study done by Ernst and Young, 2001 on the adoption of E-procurement in Kenya has been slow with practical difficulties in getting the systems operational. Muganda (2001) looked at the value of E-commerce and concluded it led to organizational improvement of current processes and transformation where new markets are opened. Available local literature on E-procurement is mainly limited to media reports of implementation of E-government in Kenya. Also, most local studies on E-procurement focus on its application to government and not commercial firms.

Internationally, Angeles & Nath (2007) explored the challenges to E-procurement in private sector and identified system integration, standardization and immaturity of E-procurement market services as key challenges in E-procurement implementation. In addition, Smart (2010) presented three cases of E-procurement implementation in private sector and found that the failures of implementing E-procurement were due to the difficulties in dealing with process improvement, adoption or integration and change management issues. Also, most studies provide broad analysis of benefits of E-procurement (Tatsis et al, 2006). Other studies focus on barriers in E-procurement implementation such as technology immaturity, problem in implementing change, potential conflicts with suppliers, inability of small and medium sized enterprises to materialize savings and cost of implementation (Angeles & Nath, 2007, Tanner et al, 2008, Shakir et al, 2007). These studies show there has been more focus in explaining what has gone wrong rather than giving what has been done and how to improve.

1.3   Objectives of the Study

The general objective of this study was to evaluate the impact of using an E-procurement system on SCM and the specific objectives of this study will be to:-

i.   Determine the factors that enabled the implementation of E-procurement system in SCBK.

ii.   Identify the benefits achieved since the introduction of E-procurement system.

iii.   Establish the challenges faced in using E-procurement system and ways to mitigate these challenges.

1.4   Value of the Study

Use of technology in SCM remains a critical area of research, considering that little research has been done on use of Information Technology (IT) in SCM in Kenya. The SCBK and similar firms would benefit from the research as it would provide a point of reference as to the benefits and challenges faced and how to improve the system.

Students and academicians who wish to carry further research in creating sustainable competitive advantage in organizations using technology in SCM will greatly benefit from this study. The study is important as a catalyst to explore further by also looking at other areas such as manufacturing firms.

Policy makers and procurement managers will use the information from the study to come up with informed decisions on the changes needed to enhance their SCM system. The data gathered can be used to help local based firms in Kenya learn more on the benefits envisaged and the challenges involved in implementing an E-procurement system. The government will use the findings of this study to promote the use of ICT in organisations. The Kenya Government is banking on integration of ICT into public procurement to cut red tape and accelerate the completion of state projects. The Daily Nation reported that according to the deputy director of supply chain at the treasury, they have floated an expression of interest to bidders for the procurement software. Piloting will be done in 10 public entities in the next financial year and will be part of the integrated financial management approach intended to better monitor the use of government funds. E-procurement is among the major reforms that are being undertaken together with the change in legal framework with the objective of hastening project implementation, cutting bureaucracy, reducing waste and enabling more investors to participate in government procurement (The Daily Nation, 16 April 2013).

1.5   Overview of the Project

Chapter one introduces the background of the study by introducing the concepts of SCM , E-supply chain , E-procurement, the background of SCBK, the problem statement, objectives of the study, the importance of the study and overview of the project. Chapter two will review recent relevant studies (local and international), which have been done and identifies the objectives of these studies, the results and gaps that have been identified; these studies will inform the current study. Chapter three deals with the research design, population, sample, data collection and data analysis. Further, this chapter will give insights as to how the research study data was collected and analyzed and the appropriateness of the research methods in addressing the objectives of the study. Chapter four provides the discussion of the results, which includes presentation and interpretation of the results. This chapter also deals with the findings and conclusions as per each objective. Chapter five deals with the summary and conclusion of the study as well as recommendations and limitations of the research study; the extent to which the research objectives had been achieved, the lessons learnt how that knowledge could be used and the shortcomings that could arise from the research are expounded within this chapter.

CHAPTER TWO
LITERATURE REVIEW

2.1   Introduction

The literature review deals with an exposition of the body of knowledge on E-procurement. Followed by a review of the literature in E-procurement what has been done locally and internationally. At the end of the literature review is a summary of the research gaps identified.

2.2   Supply Chain Management

Supply chains encompass the companies and the business activities needed to design, make, deliver, and use a product or service. Businesses depend on their supply chains to provide them with what they need to survive and thrive. Every business fits into one or more supply chains and has a role to play in each of them. The pace of change and the uncertainty about how markets will evolve has made it increasingly important for companies to be aware of the supply chains they participate in and to understand the roles that they play. Those companies that learn how to build and participate in strong supply chains will have a substantial competitive advantage in their markets. (Hugos, 2006).

The SCM involves coordinating and integrating the flows both within and among companies. It is said that the ultimate goal of any effective SCM system is to reduce inventory (with the assumption that products are available when needed). The SCM flows can be divided into three main flows; the product flow includes the movement of goods from a supplier to a customer, as well as any customer returns or service needs, the information flow that involves transmitting orders and updating the status of delivery and financial flow consists of credit terms, payment schedules, consignment and title ownership arrangements.

The ICT in SCM ensures that a company achieves cost saving. If a company has a system that allows it to get supplies faster, this will cut down on manufacturing lead times, which saves money. With ICT, a company can also lower operational expenses with timely planning for procurement, manufacturing and transportation. Better order, product and

execution tracking can lead to improvements in performance and quality - and lower costs. A company can also improve profit margins through better coordination with business partners (Chopra & Meindl, 2001).

2.3 Difference Between Purchasing and Procurement

Weele (2010) defines the purchasing process as obtaining from external sources all the goods and services that are needed for maintaining and developing direct and indirect production activities in the best conditions. The author divides the purchasing process in two parts tactical purchasing and operational purchasing. Each of these parts comprises three specific phases, resulting in the following six phases of the purchasing process; the first phase is the specification phase where all the needed materials and services for maintaining and developing direct and indirect production activities are identified. Secondly, there is the selection of suppliers which entails identification, evaluation and selection between different suppliers. Next, there is contracting where the prices are negotiated and the contracts are concluded with the suppliers. Consequently, there is the placing of the order for goods and services with the selected suppliers with whom contracts have been done before. Then there is monitoring which entails tracking deliveries of goods and services that must be in accordance with those set in the contract. Lastly, is the evaluation that is the analysis of the purchasing process.

While purchasing mainly describes the process of buying-learning of need, locating and selecting a supplier, negotiating price and other pertinent terms and following up to ensure delivery, procurement is a broader term that includes aspects such as stores management, traffic, incoming inspection and salvage. Purchasing generally refers to the actual buying of materials and those activities associated with the buying process. Procurement is broader in scope and includes purchasing, traffic, warehousing and receiving materials. Procurement is therefore all actions necessary to close the complete purchasing cycle (Jooste & Schoor, 2003).

2.4 E-procurement

The Chartered Institute of Purchase and Supply (CIPS) definition of E-procurement is, E-procurement is using the internet to operate the transactional aspects of requisitioning, authorizing, ordering, receiving and payment processes for the required services or products. The key enabler of the above is the ability of the systems to communicate across organizational boundaries. E-procurement refers to the use of electronic methods in every stage of the purchasing process from identification of requirements through payment and potentially to contract management (Davila et al, 2003).

Boer et al, (2002) classified E-procurement into six forms that is, E-ordering and E-maintenance repair operate, web-based enterprise resource planning, E-sourcing, E-tendering, E-reverse auctioning/E-auctioning and E-informing. Some of the benefits of adopting E-procurement include savings in purchasing transaction cost resulted from less paperwork, less mistakes and more efficient purchasing process (Croom et al, 2007). According to Lysons and Farrington, 2006 the characteristics of an E-procurement system includes allowing online connectivity with key suppliers; provision for paperless buying**;** electronic generation of requests for quotations and subsequent receipt and analysis of quotations**;** linkage between receipt of customer demand and repeat buying actions**;** auto**-**generation of the purchase order; provision of shipping and dispatch data and allows for online payment

An Aberdeen report (Minahan & Degan, 2001) divides E-procurement technologies into three categories: one is indirect procurement which includes the procurement of non-production goods and services such as office supplies, printing, advertising and casual labour; then there is direct procurement which includes the procurement of raw materials, parts and assemblies (that is, organization and management of raw materials, parts and assemblies), and finally sourcing entails identification, evaluation, negotiation of products and supplies for both the indirect and direct supply chain.

2.5   Evolution of E-procurement Models

Kalakota & Robinson (2001) had identified seven basic types of E-procurement trading models. These together with their key differences are shown in Table 1 below.

Table 1:   Comparison of Various E-procurement Models

Trading Model	Characteristics
Electronic Data Interchange (EDI) networks	i. Handful of trading partners and clients. ii. Simple transactional capabilities iii. Batch processing iv. Reactive and costly Value-Added Network (VAN) changes.
Business- to employees (B2E) requisition applications	i. Making buying fast and hassle-free for company employees ii. Automated approvals routing and standardization of requisition procedures iii. Provide supplier management tools for the professional buyer
Corporate procurement portals	i. Provide improved control over the procurement process and allows company's business rules be implemented with more consistency. ii. Custom negotiated prices posted in a multi-supplier catalogue. iii. Spending analysis and multi-supplier catalogue management.
First-generation trading exchanges; community catalogue and storefronts	i. Industry content, job postings and news ii. Storefronts: new sales channel for distributors and manufacturers iii. Product content and catalogue aggregation
Second-generation trading exchanges; transaction- oriented trading exchanges	i. Automated requisition process and purchase order transactions. ii. Suppler, price and product/service availability discovery. iii. Catalogue and credit management.
Third-generation trading exchanges: collaborative supply chains	i. Enable partners to closely synchronize operations and enable real time fulfillment. ii. Process transparency resulting in restructuring of demand and the supply chain iii. Substitute
Industry consortia: buyer and supplier led	i. The next step in the evolution of corporate procurement models

2.6   Motivating Factors for E-procurement

Buy IT states that the benefits of an investment in E-procurement can be both hard (directly measurable) and soft (indirectly measurable). The hard measures of E-procurement benefits are that E-procurement enables automation of the purchase process eliminating errors and longer turn-around times associated with manual entry. Secondly,

it enables the electronic payment of invoices and this allows for promptness and good credit rating. Thirdly, it lowers the prices by means of strategic sourcing and ensures that the suppliers on the system are only the ones who meet the company's standards. There is also the lowering of inventories held as it enables just-in-time deliveries where the stock system is connected to the supplier and a trigger level is set to ensure order process initiated at that level. It also assists to reduce head count as there is virtually no stocks to be managed also as all employees are involved in purchasing process thus the procurement team needs only be skeletal to maintain the supplier database.

One of the main reasons for an E-procurement venture is to reduce costs (Thompson et al, 2000). Companies implementing E-procurement seldom realize any bottom-line saving and the total financial impact is difficult to justify. This has contributed to the slow initial adoption rate of E-procurement in companies (Jooste et al, 2003). Table 2 below shows how cost reduction is achieved through the use of E-procurement.

Table 2:   Reducing Costs Through E-procurement

Associated Procurement Costs	Solution Through E-procurement
Maintaining a larger-than-needed supplier base	With the bulk of E-procurement based on catalogue spending, companies can control from which companies purchases are made. This has a follow-on effect of a reduced supplier base.
Obtaining larger-than-needed volumes	E-procurement contributes to companies better controlling their purchasing. Through data analysis, companies can reduce spending per product type.
Lack of standardization	Each product type follows a standardized process in E-procurement through approval to requisitioning.
The cost of extended lead and cycle times	Longer-than-necessary lead time results in carrying unnecessary safety stock. E-procurement provides a vehicle to track fulfillment more effectively, providing Management Information System (MIS) reports for improved supplier management.
The cost of order processing and receiving	E-procurement simplifies order processing. Costs associated with receiving can be reduced if the system is integrated with the correct back-end system to ensure a three-way check.

The soft measures of E-procurement benefits are that it enables the freeing up of purchasing staff time, enabling them to focus more on strategic procurement issues. Secondly, it reduces the cases of maverick buying-when staff buy from suppliers other than those with whom a purchasing agreement has been negotiated. Thirdly, there is the

improved monitoring of supplier performance in terms of turn-around time and number of times used by the company showing confidence levels in the supplier. There is also improved order tracking and tracing as the procurement becomes more visible. Lastly, there is improved availability of management and accounting information.

2.7   Empirical Studies

Kiburi (2008) investigated the factors influencing the implementation of E-procurement among firms listed on NSE. The objective of the study was to establish the factors influencing the implementation of E-procurement and the challenges faced in implementation. The study was conducted by use of questionnaires to various firms listed on the securities exchange. The study found that the major technical challenge was the cost of technology while the major resource challenge was budgetary support. To overcome the challenge, she recommended that companies should develop capital reserves that will cater for new developments and innovation in these companies. The scope of the study was not representative as around 75 percent of the respondents' use of E-procurement systems was limited to using the internet to browse catalogues and potential suppliers. Another gap in her study was that the factors needed to implement the system were not highlighted and the study ended up focusing on the challenges with solutions to the same not being drawn from the study.

Rahim (2008) investigated the factors affecting the acceptance of E-procurement in an Australian City Council using an exploratory case study approach. In the study, he found that two sets of factors that are associated with the employees' acceptance of E-procurement systems. The first set included system usefulness, ease of use, system reliability, employee training and employee involvement and the second set consisted of council's senior management support and support received from the vendor of the E-procurement system. The data was collected using six in-depth interviews with several key informants then analysed using the pattern matching logic. This technique compares an empirically derived pattern with the predicted one. Data analysis was conducted manually by developing a coding scheme based on which each interview transcript was transcribed and coded for pattern matching. This method of study where no questionnaires were done and where the sample was restricted to only senior management

staff essentially locked out the workers who had hands-on experience on the system and also data collected was subjective as without questionnaires the interviewees may have tended to give coached answers.

Sitar (2011) came up with a paper espousing the barriers to E-procurement adoption. The paper surmised that the barriers can be synthesized to four main groups; management barriers, organizational barriers, IT barriers and users barriers. The most important management barriers were: resistance to change, limited resources and problems in sharing information and collaboration. Managers were afraid of changes that E-procurement would bring and they do not have the resources needed (money, time and skilled personnel) for the adoption and implementation process. From the organizational barriers, cultural differences, internal and external compatibility and breaking up post supplier relationships are most important. Implementation of E-procurement does raise culture change issues and many organizations are not prepared for change. The IT barriers play a very important role in the implementation process. The most important IT barriers are security of transactions, lack of compatibility between systems and the lack of common technology standards. The lack of common technology standards and security of transactions are stalling the progress of implementing E-procurement. The most important users' barriers are users' resistance to change, lack of information system skills and fear. Users are resistant to change and they are afraid of change because they do not have the E-procurement skills needed.

2.8   Summary

From the foregoing, there is need for literature on E-procurement that provides an in-depth analysis of an E-procurement system that is in use and also to come up with what worked and did not work and how to overcome these challenges. This may then be used as a model for best practice within the field. Table 4 below summarises empirical studies.

Table 3:   Main Barriers of E-procurement

Management Barriers	Organizational Barriers
i. Limited resources ii. Resistance to change iii. Problems in sharing information and collaboration	i. Different cultures ii. Internal and external compatibility iii. Breaking up post supplier relationships
IT Barriers	Users Barriers
i. Security of transactions ii. Lack of compatibility and integration between systems iii. Lack of common technology standards	i. Users resistance to change ii. Lack of information system skills iii. Fear

Table 4:   Literature Review Summary

Study	Objectives	Methodology	Findings	Research Gaps
Kiburi (2008) Factors influencing the implementation of E-procurement among firms listed on NSE in Kenya	Establish the factors influencing the implementation of E-procurement and the challenges faced in implementation.	Case study; used questionnaires to firms listed in NSE	Major technical challenge was the cost of technology while the major resource challenge was budgetary support.	Respondents' use of E-procurement limited to using the internet to browse catalogues and potential suppliers. Factors needed to implement the system were not highlighted and the study ended up focusing on the challenges with solutions to the same not being drawn from the study.
Rahim (2008) Identifying factors affecting acceptance of E-procurement systems	Identify factors affecting the adoption of an E-procurement system by an individual employee of given that the employee is not familiar with it prior to roll-out.	Qualitative case study; six in-depth interviews with several key informants then analysed using the pattern matching logic	First set of factors included system usefulness, ease of use, system reliability, employee training and employee involvement, and the second set consisted of the council's senior management support and support received	Sample was restricted to only senior management staff essentially locked out the workers who had a hands-on experience on the system and also data

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			from the vendor of the E-procurement system.	collected was subjective as without questionnaires the interviewees may tend to give coached answers.
Sitar (2011) The barriers of implementing E-procurement	Identify the main barriers to implementing E-procurement.	Literature survey/review	Study surmised that the barriers can be synthesized to four main groups; management barriers, organizational barriers, IT barriers, users barriers.	Study was based solely on a study of other works done in E-procurement.

CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter describes and outlines the research methods used in order to achieve the objectives outlined in chapter one. Specifically, this chapter describes the research design, target population, data collection instruments, and data analysis method used.

3.2 Population Design

It is neither practical nor feasible to study the whole population in any study. Hence, a set of participants is selected from the population, which is less in number (size) but adequately represents the population from which it is drawn so that true inferences about the population can be made from the results obtained. This set of individuals is known as the sample (Prashant & Supriya, 2010). The target population will be the employees of SCBK, as at end of 2012 the population was at 2800. A sample was drawn from the main departments of finance, operations and customer service. The questionnaire was then distributed randomly, as all members of staff have access to the E-procurement system. The sample size will be 100 as the tasks done are highly specialized and in a particular department most respondents have similar experiences.

3.3 Research Design

Research design refers to the method used to carry out a research. The research strategy that was used was an exploratory case study. In the social sciences and life sciences, a case study (or case report) is a descriptive or explanatory analysis of a person, group or event. The case that is the subject of the inquiry will be an instance of a class of phenomena that provides an analytical frame, an object, within which the study is conducted and in which the case illuminates and explicates (Yin, 2009). The case study took a multiple research approach which includes the review of pertinent literature, and administering of survey questionnaires.

3.4   Data Collection

Primary and secondary data was collected and used in this study. Primary data was collected using a questionnaire, while the bank's website and financial reports provided secondary data. To achieve objective one, that is to determine the factors that enabled the implementation of the E-procurement system, this was done by use of secondary data which was available on the bank's website. For objective two and three the use of financial data and structured questionnaire was done, administered to a representative sample of the relevant stakeholders who use the system, the questionnaire contained both closed and open ended questions. The questionnaires were delivered to the target respondents at their premises or via email and then collected at a later agreed date. The questionnaire was used as a tool since it was easy to construct, having rules and principles for construction that are easy to follow. Moreover, copies of the questionnaire could reach a considerable number of respondents either by mail or personal distribution. Generally, responses by questionnaires are objectified and standardized and this made tabulation easy. The open-ended questions were aimed at obtaining qualitative data on the general ways the system may be improved. The closed questions were aimed at obtaining quantitative data for statistical analysis. The questionnaire was divided into two parts part one gathered information on the respondents profile and part two was on the benefits and challenges experienced on implementation of E-procurement.

3.5   Data Analysis

In this study, the qualitative data collected was summarized and conclusions drawn after comparison with other studies. Quantitative analysis was then done through use of descriptive statistics, including graphs, measures of location (mean) and measures of dispersion (standard deviation), was also used to describe the collected data. The mean will enable the rating of the various factors tested and the standard deviation will show where most responses lie.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.1   Introduction

This chapter presents data analysis and findings of the study as set out in the research methodology. The data on the motivators for implementing were gathered using annual financial reports for the period 2011 to 2012. The other data on the benefits and challenges of the E-procurement system were gathered through questionnaires.

4.2   Response Rate and Demographic Data

The study targeted 100 respondents in collecting data. From the study 96 out of 100 respondents filled and returned the questionnaires. The response rate was therefore 96 percent. This was made possible as the questionnaires were hand delivered to key contacts in each department who followed up for completion and submission. Table 5 below shows the response rate.

Table 5:   Response Rate

Response	Frequency	Percent
Responded	96	96
Non-respondents	4	4
Total	100	100

On the length of time in organization, respondents were asked to indicate the number of years they had served in SCBK. The responses were as shown in the Table 6 below.

Table 6:   Length of Time in Organization

Length	Frequency	Percent
1 to 2 years	26	27.1
3 to 5 years	40	41.7
6 to 10 years	20	20.8
10 years and above	10	10.4

Majority of the respondents fell under 3- to 5 years of working in the bank (41.7 percent). The banking industry faces a lot of attrition hence the fact that most respondents have been in the bank for less than five years. However, this did not affect the study because of the constant use of systems and all are expected to have a grasp of the systems. In

addition, the study sought to find out the level held in organisation by the respondents. The results are as shown in Table 7 below.

Table 7:   Level in Organization

Level	Frequency	Percent
Clerical	40	42
Supervisory	41	43
Middle Management	10	10
Senior Management	5	5

Table 7 shows that the majority of the staff fall under clerical and supervisory level as the bank tends to have a flat organisational structure where decisions are made even at the lower levels.

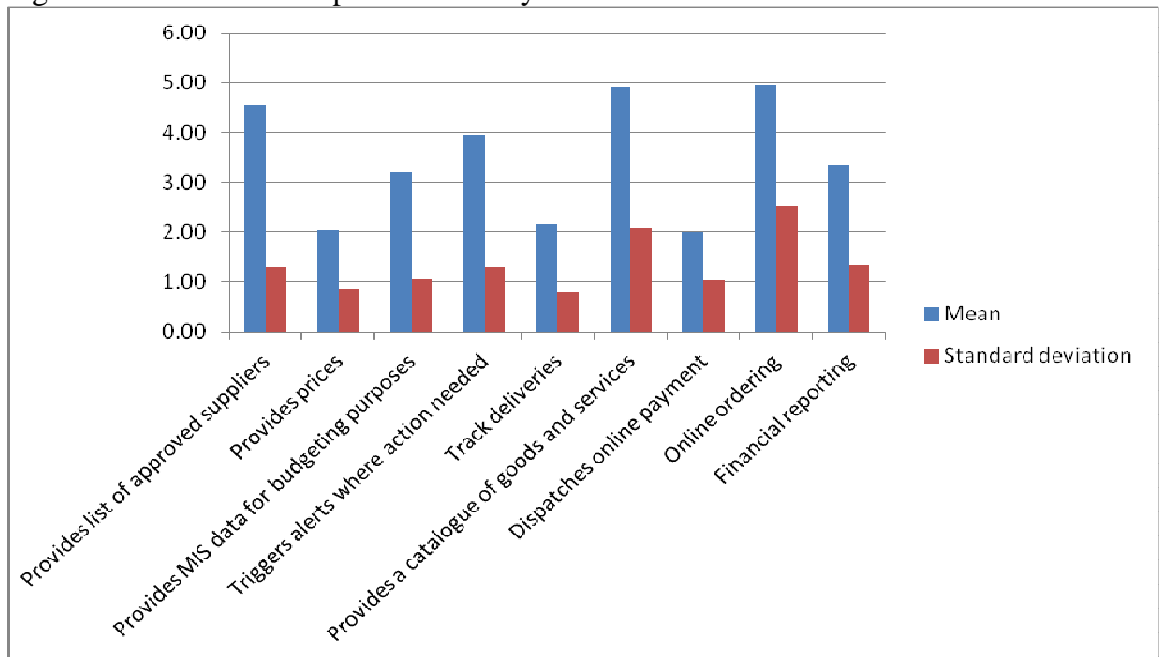## 4.3   Uses of E-procurement System

From the group financial annual report of 2000, there was drive to increase productivity which was three pronged; one of which was that a major review was undertaken of all businesses to look for efficiency improvements. As a result, a number of opportunities were identified which included the use of E-procurement to be able to rationalize staff headcount and costs (Standard Chartered Annual Results, 2000).

The study sought to examine the uses of E-procurement system in SCBK. The respondents were asked to indicate their levels of agreement on a scale of 1 to 5, as to the functionalities the E-procurement system enables. For purposes of interpretation a mean of 1 to 2.5 means disagree and a mean of 2.6 to 5 means agree. Additionally, a standard deviation (std dev) of less than 1 points to the fact that majority of the respondents do not use the functionality and one of greater than 1 shows that majority of the respondents use the functionality. The uses were derived from the literature review section. The means and standard deviations of these ratings were then computed and the results were as presented in Table 8 and Figure 1 below.

Table 8:   Uses of E-procurement System

Uses of the E-procurement System	Mean	Standard Deviation
Provides list of approved suppliers	4.54	1.30
Provides prices	2.03	0.86
Provides MIS data for budgeting purposes	3.21	1.07
Triggers alerts where action needed	3.94	1.30
Track deliveries	2.15	0.79
Provides a catalogue of goods and services	4.92	2.07
Dispatches online payment	2.00	1.03
Online ordering	4.97	2.51
Financial reporting	3.34	1.36

Figure 1:   Uses of E-procurement System

From the foregoing, it is possible see that the E-procurement system allows a lot of buy-side functionality in terms of control of the suppliers used, ability to order online, and provision of data on purchases. In addition, it is not connected to the supplier as there are no prices set or a way of tracking deliveries.
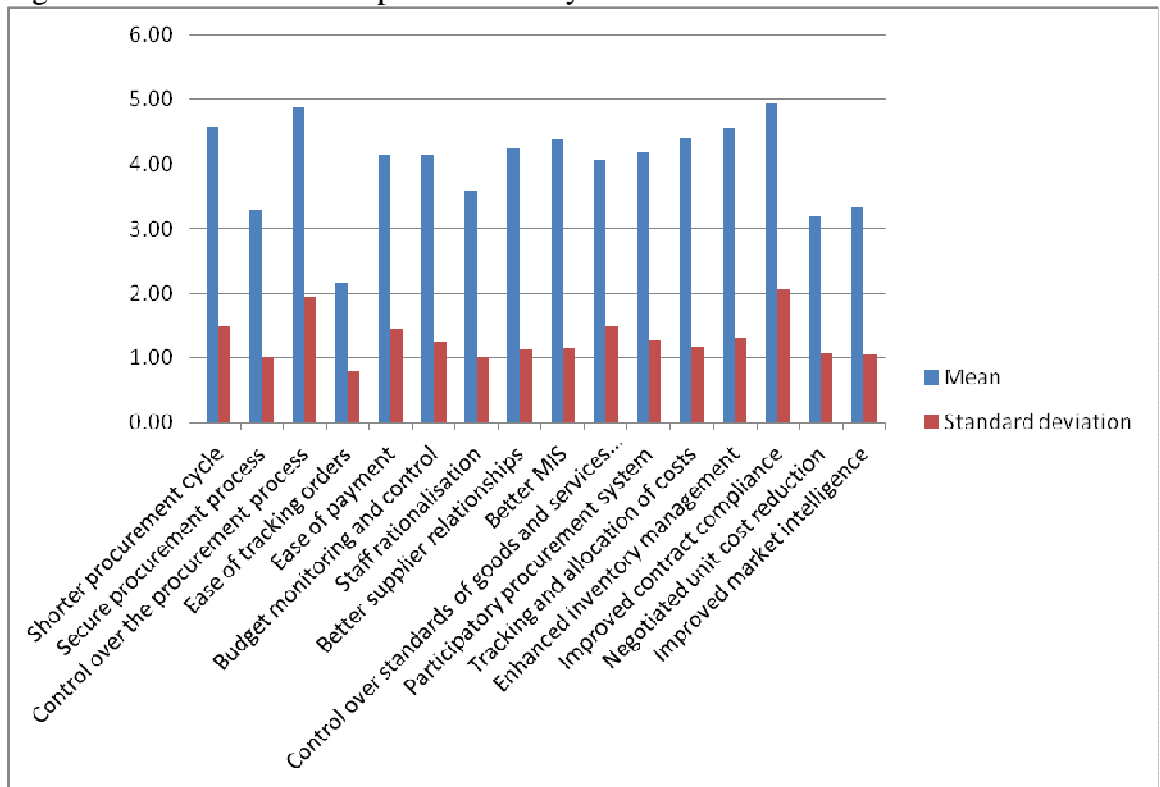
4.4   Benefits of E-procurement System

The study also sought to establish the benefits perceived by respondents since the introduction of E-procurement system. The benefits were derived from the literature review. Table 9 and Figure 2 below show the response distribution.

Table 9:   Benefits of E-procurement System

Benefits of the E-procurement System	Mean	Standard Deviation
Shorter procurement cycle	4.57	1.47
Secure procurement process	3.29	1.00
Control over the procurement process	4.88	1.94
Ease of tracking orders	2.15	0.79
Ease of payment	4.15	1.44
Budget monitoring and control	4.15	1.24
Staff rationalisation	3.59	1.01
Better supplier relationships	4.25	1.13
Better MIS	4.38	1.14
Control over standards.	4.08	1.48
Participatory procurement system	4.18	1.27
Tracking and allocation of costs	4.40	1.18
Enhanced inventory management	4.56	1.31
Improved contract compliance	4.94	2.07
Negotiated unit cost reduction	3.19	1.08
Improved market intelligence	3.34	1.06

Figure 2:   Benefits of E-procurement System

From the foregoing, the benefits most felt from E-procurement system are that it has led to more control over the procurement process and contract compliance from the supplier. Order tracking scored the lowest a mean of 2.15 and a standard deviation of 0.79.

## 4.5 Challenges Faced in the Use of E-procurement System

The study also sought to find out the challenges faced in the use of E-procurement system. The challenges also were derived from the literature review section. Table 10 and Figure 3 below show the findings.

Table 10:   Challenges Faced in the Use of E-procurement System

Challenge Areas	Mean	Standard Deviation
Do you trust the system?	4.96	2.12
Is the system expensive to run?	2.99	1.11
Is it easy to access system support?	4.89	2.10
Do suppliers understand the system?	2.97	1.29
Is the system user friendly?	4.83	1.81
Is the network connection reliable?	4.78	1.69
Is the system easy to use?	4.26	1.22
Does the system provide adequate solutions?	4.77	1.80
Is there budgetary support?	4.53	1.58
Are all staff trained?	4.27	1.21
Does it have the backing of top executives of the company?	4.90	1.96

From the foregoing, it is possible to see that there are little or no challenges existing in the use of E-procurement system since all the mean scores were above 2.5 and the standard deviation scores were above 1. The system is viewed as user friendly, with good network connectivity, good user support system and management buy-in. The only area where with an issue is that the system affords no connection to suppliers meaning there is still some manual process in getting orders to suppliers and ensuring delivery and payment.

Figure 3:   Challenges Faced in the Use of E-procurement System
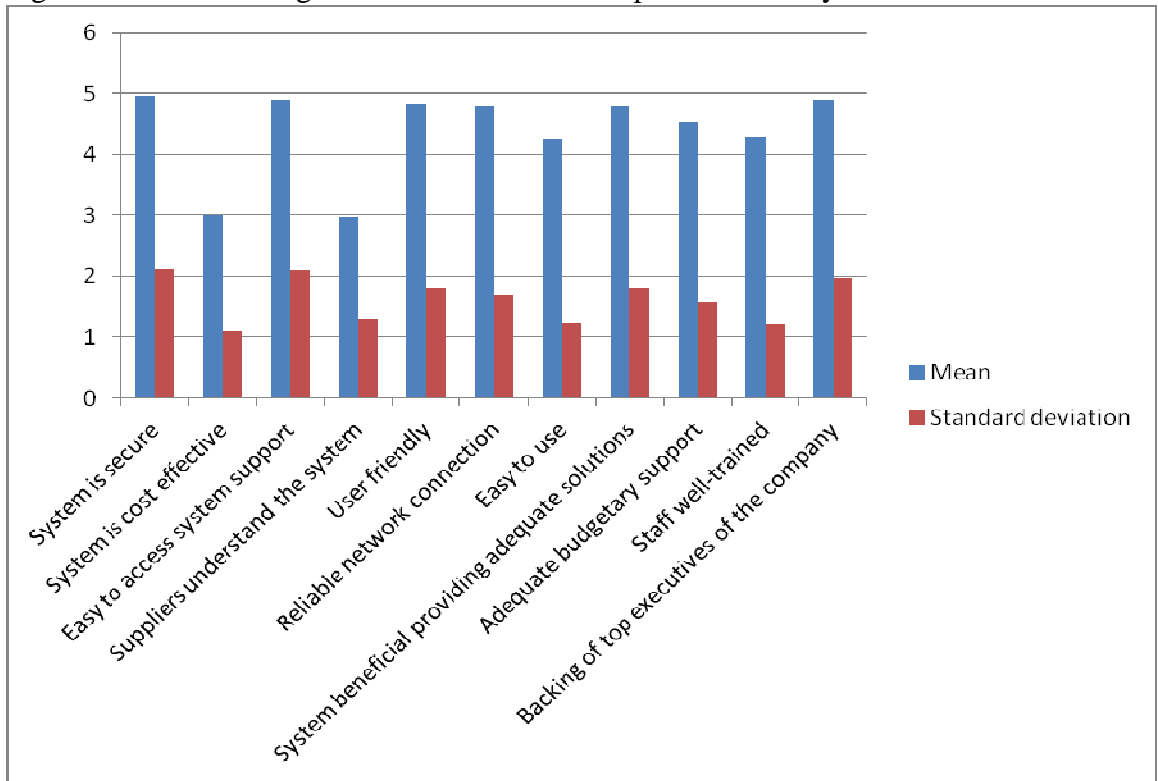
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1   Introduction

This chapter presents the summary of findings, conclusion drawn from the findings and recommendations. The conclusion and recommendations draw focus on the purpose of the study.

5.2   Summary

The motivations for implementation of E-procurement system was driven by a group decision in 2000, as stated in the Standard Chartered Group financial annual report for 2000 which stated that intranet technology and E-procurement will be used to drive cost savings in human resources and other support functions. Under uses of E-procurement system, it was found that the system enables a lot of functionalities that ideally should be found in any generic E-procurement system. On the benefits, the one that stood out was the doing away with the need to manage inventories as now deliveries were on a just-in-time basis since the users are the ones to order as per their needs rather than orders being centrally managed. Under challenges the one that stood out was that there is still no integration of the system to suppliers system which is an area of improvement that may be explored.

5.3   Conclusion

This study sought to establish the impact of E-procurement on SCM. What has emerged from the study is that E-procurement is a major part of SCM in SCBK, this is as sourcing, control and reporting is done through the system. The study also sought to find out the benefits and the challenges of E-procurement and the benefits are enormous while the challenges are negligible and can be handled by more investment in the system to expand its functionality. The E-procurement system used in SCBK as per Kalakota & Robinson (2001) may be classified as a corporate procurement portal. The greatest motivator to the implementation of the system was that it was part of the strategic intent of the Standard Chartered Group this led to all stakeholders and resources being involved to ensure that the implementation was a success.

5.4   Recommendations

From the foregoing, there are benefits and uses of an E-procurement system that shows it works and results in cost rationalization, the challenges are also surmountable. The study also implies that senior management need to have a major buy in to enable the set up of the E-procurement system. The system should be accessible to all so as to achieve real benefits. Good training also is seen to have played a part in reducing the challenges of resistance to change in technology. Since the impact of E-procurement on SCM is highly positive this study recommends that it should be widely adopted and all stakeholders need to be fully engaged during implementation to ensure its success. For SCBK to achieve higher functionality there is need to move from intranet to internet technology to enable collaboration with suppliers.

5.5   Limitations

The study was limited to the banking sector by virtue of being a case study, there is need to study manufacturing, construction and merchandising sectors separately so as to establish if the procurement system should be generic that is one size fits all or organic that is each sector should get a system that adopts to their needs. Also due to lack of specific financial data, it was not possible to identify the magnitude of the costs saving derived from the implementation of the system. It would be good for future research to be based on financial data that can be traced back to the implementation of E-procurement system.

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APPENDIXES

Appendix 1:   Research Questionnaire

Part One: Profile of Respondent

1.   How long have you worked in the organisation(please tick)

a)   1 to 3 years   ( )

b)   3 to 5 years   ( )

c)   5 to 10 years   ( )

d)   10 years and above   ( )

2.   Describe level in organisation (please tick)

a)   Clerical level   ( )

b)   Supervisory level   ( )

c)   Medium level   ( )

d)   Senior management   ( )

Part Two**:** This section examines questions on the various variables to be used in the study

3. Uses of the E-procurement System

From the below tick what you use the E-proc system for (rate on five point scale where strongly disagree=1; disagree=2; neutral=3; agree=4; strongly agree=5)

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Provides list of approved suppliers					
Provides prices					
Provides MIS data for budgeting purposes					
Triggers alerts where action needed					
Track deliveries					
Provides a catalogue of goods and services					
Dispatches online payment					
Online ordering					
Financial reporting					

4. Benefits Achieved from the E-procurement System

From the below Indicate the extent to which you have found the E-procurement system beneficial (by ranking the benefits on a five point scale where strongly disagree-1; disagree-2; neutral-3; agree-4; strongly agree-5)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Shorter procurement cycle					
Secure procurement process					
Control over the procurement process					
Ease of tracking orders					
Ease of payment					
Budget monitoring and control					
Staff rationalisation					
Better supplier relationships					
Better MIS					
Control over standards					
Participatory procurement system					
Tracking and allocation of costs					
Enhanced inventory management					
Improved contract compliance					
Negotiated unit cost reduction					
Improved market intelligence					

5. Establish Challenges Faced in using the E-procurement System

Have the following challenges negatively affected the effective use of E-procurement in your organization (rate on five point scale where strongly disagree=1; disagree=2; neutral=3; agree=4; strongly agree=5)

1. Do you trust the system………..
2. Is the system expensive to run ………….
3. Is it easy to access system support……………
4. Do suppliers understand the system…………….
5. Is the system user friendly………….
6. Is the network connection reliable...........

7. Is the system easy to use…………..

8. Does the system provide adequate solutions…………..

9. Is there Budgetary support……………

10. Are all staff trained……………

11. Does it have the Backing of top executives of the company……………..

Kindly clarify other challenges faced and what could be done to eliminate them

………………………………...