EFFECTS OF E-PROCUREMENT IN THE BANKING INDUSTRY: A CASE OF NATIONAL BANK- HARAMBEE AVENUE BRANCH

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UNITED STATES INTERNATIONAL UNIVERSITY – AFRICA

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A Research Project Report Submitted to the Chandaria School of Business in Partial Fulfillment of the Requirement for the Degree of Masters in Business Administration (MBA)

UNITED STATES INTERNATIONAL UNIVERSITY - AFRICA

SUMMER 2019
STUDENT’S DECLARATION
I, the undersigned declare that this is my original work and has not been submitted to any other College, Institution or University other than the United States International University - Africa for academic purposes.

Signed: _____________________________      Date: ___________________________
Wanjiru Gikonyo (ID No: 657689)

This research project report has been presented for examination with my approval as the appointed supervisor.

Signed: _____________________________      Date: ___________________________
Prof. Zachary Mosoti

Signed: _____________________________      Date: ___________________________
Dean, Chandaria School of Business
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ABSTRACT
This study focused on the effects of using e-procurement within the banking industry. Specifically, the study examined the scope of e-procurement, effect of e-procurement on the supply chain management, and the challenges of adopting e-procurement practices that could be anticipated at National Bank, Harambee Avenue Branch.

This study used descriptive research design. The primary population of the study came from National Bank and specifically Harambee Avenue Branch which as at July 2018 housed 49 employees. The sample frame for the study came from National Bank’s human resource department. Census sampling was used in the study. Data for the study was collected using a questionnaire. In this study, data was broken down using Microsoft Excel and SPSS, and it was analyzed descriptively. Descriptive statistics, which included measures of central tendencies (frequencies, means and standard deviations) were used to analyze the collected data. Inferential analysis (correlations and regressions) were used to describe the degree of relationship between the study variables. Regression analysis employed the use of simple regression that indicated how the study’s independent variables (scope of e-procurement, effect of e-procurement and challenges e-procurement) influenced the dependent variable (banking industry). The results were presented using figures and tables.

The study showed that the effectiveness of e-procurement in the organization includes information sharing within and across the firm and that internet-based technologies facilitate process of e-procurement integration within and across the firms. E-tendering procedure facilitates the ability of the organization to select a suitable supplier and it allows the firm to recommend tenders from a limited number of firms that are carefully selected.

The study indicated that e-procurement has allowed the firm to reduce the costs of coordinating operational transactions, has increased the firm’s internal process efficiencies, thus increasing process efficiency, has improved the ability of the firm in obtaining better offers from its suppliers as well as compare the offers from suppliers and access them in every phase of the process, has drastically reduced the effort of human resources in firms’ operations during the tendering process, has improved the ability of the firm to clearly divide its tendering process into phases with no possibility of an
overlap, and has allowed employees to master the dynamics of the firm’s tendering procedure.

The study revealed that the challenge faced in the implementation of e-procurement include the strategic initiative of the firm as well as supplier enablement. Lack of a critical mass of suppliers accessible through the organization’s e-procurement system limit the network’s effects and lack of better communication between the firm and its suppliers limits the implementation of e-procurement systems in the firm. Lack of information and technology strategy to integrate e-commerce in some systems impedes e-procurement implementation in the firm.

The study concludes that e-sourcing has reduced the firm’s purchase prices and has successfully been used to source indirect support services for the firm. Enterprise resource planning module is used to support the basic internal business processes of the firm as well as to track business resources such as cash, raw materials, and production capacity. Information technology is used in the firm to gather and distribute information both from and to internal and external parties and the e-procurement revolution has enhanced the status and influence of the purchasing function within the organization.

The study recommends National Bank to integrate its communication and information across all the departments within the firms as well as across all stakeholders of the firm in order for the e-procurement service/system to be effective, efficient and responsive for operations and that it standardizes all its processes in order to allow its employees to master the dynamics involved in its tendering procedures.
ACKNOWLEDGEMENT

Firstly, I would like to thank God without whom; none of this would be possible. I am sincerely grateful to my supervisor Professor Zachary Mosoti for being patient enough to guide me through this research project proposal and report. My classmates, who I respect and honor for enduring this rigorous course, I salute you all. Lastly, I would like to thank my partner and my daughter at home for pushing me to start this course, understanding, sacrificing, and supporting me this far.
DEDICATION

This research project report is dedicated to my daughter, who has been the most understanding during this time. To my partner, for being the voice of reassurance all the times I thought I could not go on.
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<td>Australian Government Information Management Office</td>
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<tr>
<td>ATMs</td>
<td>Automated Teller Machines</td>
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<td>B2B</td>
<td>Business-to-Business</td>
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<td>BC</td>
<td>Before Christ</td>
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<td>BOQ</td>
<td>Bill of Quantities</td>
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<td>CBK</td>
<td>Central Bank of Kenya</td>
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<td>CIPS</td>
<td>Chartered Institute of Procurement and Supply</td>
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<td>EDI</td>
<td>Electronic Data Interchange</td>
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<td>EPS</td>
<td>E-Procurement System</td>
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<tr>
<td>ERP</td>
<td>Enterprise Resource Planning Systems</td>
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<td>ICT</td>
<td>Information Communication and Technology</td>
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<td>IT</td>
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<td>NBK</td>
<td>National Bank of Kenya</td>
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<td>NSE</td>
<td>Nairobi Securities Exchange</td>
</tr>
<tr>
<td>NSI</td>
<td>Number of Suppliers Increased</td>
</tr>
<tr>
<td>SCM</td>
<td>Supply-Chain Management</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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<td>Sub-Saharan Africa</td>
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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

The history of banking dates back to early times where banks were the merchants of the world, who made grain loans to farmers and traders who carried goods between cities (Goldthwaite, 2015). In 2000 BC, in ancient Greece and in the Roman Empire, lenders based in the temples gave loans and accepted deposits thus performing the exchange of money (Mecagni, 2015). The development of banking grew and spread during the 15th and 16th Century across Europe, which was followed by some developments that catapulted the industry into rapid growth (Goldthwaite, 2015). Expansion into telecommunications and computing fine-tuned the banks operations capabilities enabling them to increase in size and geographical spread (Hawkins, 2008).

The early 2000s were marked by consolidation of existing banks which then opened up healthy competition into the industry of large corporates (Hawkins, 2008). It is during this time that great technical innovation was experienced, that moved the industry from what had been known over the last 30 years as traditional banking to ‘internet’ banking (Marchettini and Maino, 2015).

In Sub-Saharan Africa (SSA), the acceleration of economic growth in the 1990s has been accompanied by the increase in access of financial services in the region, particularly commercial banks which remain the back bone of financial systems (Mecagni, 2015). The region has in the last decade moved into digital banking services, however is still fundamentally grounded on traditional banking (Rolfstam, 2009). The African banking and financial landscape have been transformed and has matured due to financial liberalization and related reforms, upgrades in institutional and regulatory capacity, and more recently the expansion of cross-border banking activities in the industry (Mecagni, 2015). There has also been progress on reducing the number of state-owned banks that harbored restrictive regulations. Such institutions are common in the region stemming from young and newly independent economies (Marchettini and Maino, 2015).
There are 44 banks in Kenya, comprising of both locally and foreign owned. Of these, 3 banks still have significant shareholding by the Government of Kenya and State Corporations (Central Bank, 2016). Under the governance of the Central Bank of Kenya (CBK), established in 1966, financial inclusion in Kenya has improved in the recent years through exponential growth of branches, rural branches growing faster than branches in the urban areas, recently standing at over 1000 branches countrywide (Central Bank, 2016). The introduction of agency banking licenses would also see the number of transactions made across the country increase through facilitation of financial access (Mecagni, 2015).

The National Bank of Kenya was incorporated in 1968, and is a listed company on the Nairobi Securities Exchange (NSE). At its onset, it was owned solely by the Government of Kenya, whose aim was to enable Kenyans gain access to credit having just come into independence, and additionally control the countries young economy (National Bank, 2017). Decades later, the government gradually reduced its shareholding, which opened the door to having different leaders or ‘regimes’ steering the bank. Unfortunately, political influences just after independence would see the bank report losses and subsequently warrant cries from shareholders for transformational leadership that would steer the bank into profit making. Developing a sales culture that would positively impact the baseline and introducing a framework to track productivity and results was paramount at this time. The introduction of this change began in 2013, backed by the top management recruited from top tier banks in the industry. They were propelled by proven best practices used in their former institutions of employment (National Bank, 2017).

The National Bank of Kenya (NBK) offers an array of banking services divided into different segments that would cater to the different target markets. These segments include; Personal Banking, Corporate Banking, Diaspora Banking, Insurance Agency, Business Banking, National Homes and National Amanah which caters to the Islamic faith. Under these segments, there are different accounts and digital banking solutions that enable access to the bank’s services by the customer. Having an impressive footprint around the country with 70 branches in most major towns, and over 90 automated teller machines (ATMs), the bank is known to be one of the biggest banks in the country (National Bank, 2017). Harambee Avenue Branch is the pioneer branch of the bank, and
additionally is the biggest branch. It houses over 40 employees and is home to large corporations and parastatals accounts. It is these clients that the bank generates revenue from and needs to stay competitive to deliver on the client’s expectations of service (National Bank, 2017).

Banks require numerous items in order to serve their customers in an efficient and timely manner. A bulk of it is in stationery form due to the core element of banking being serving customers wishing to transact (Rolfstam, 2009). There are many other areas in the bank that require stringent procurement processes, however we shall focus on the areas and items that affect the branch unit. Having the psychology and philosophy behind buying patterns is crucial to a business (Chaffey, 2012). It is this underpin that all is to follow in the ‘buying cycle’. In order for a company to conduct this process with the aim of cutting costs, a number of buying concepts are provided to give an intellectual base for cost reduction efforts (Buchanan, 2016).

According to the Barbieri and Zanoni (2015), procurement is the process or act of obtaining goods or services. It can be further defined as the process of finding, agreeing terms and acquiring goods, services or works from an external source, often via a tendering or competitive bidding process (Rodolfo, 2015). The process is used to ensure the buyer receives goods, services or works at the best possible price, when aspects such as quality, quantity, time, and location are compared (Chaffey, 2012). Rodolfo (2015) goes on to say that corporations and public bodies often carve out processes intended to promote fair and open competition for their business while minimizing risk, such as exposure to fraud and collusion. Barbieri and Zanoni (2015) state that, one can therefore conclude that it is important to curb the cost of procurement by introducing technology to ensure a business is being cost effective in its procurement process. Simply put, e-procurement is the process of procuring goods and services assisted electronically (Buchanan, 2016).

According to Lysons (2012), 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 (2012) 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, 2012). 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 (Lysons, 2012).

The adoption of web-based e-procurement systems in the business to business (B2B) purchasing transactions allows firms to reduce transaction costs, improve internal process efficiency and increase collaboration with suppliers (Barbieri and Zanoni, 2015). The benefits of technology-based supports for procurement activities can be organized into two broad categories: Organizational level and Inter-organizational level (Chaffey, 2012). 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 (Ellesmere, 2014).

Khanapuri et al. (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.

According to Ellesmere (2014), the five key business rationales for using e-procurement are: Cycle time – you can conclude your sourcing initiatives in the quickest time possible, Focus – you can free your buyers’ time and energy so they can focus more on value-adding areas, Governance – you can keep track of all decision making activities and
policies, plus ensure compliance, Risk – you can reduce risk and ensure appropriate goods and services are procured from reliable vendors, and Cost savings – you can improve the performance of your negotiations in the short and long term.

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 (Buchanan, 2016).

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 the organizations today (Brook, 2012). 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 e-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 (2012) 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 (2014) 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 United Kingdom (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.

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 e-procurement. As observed, no study has focused on examining effects of e-
procurement adoption and supply chain performance at National Bank, and thus, the need
for this study.

1.3 Purpose of the Study
The objective of this study was to ascertain the effects on using e-procurement within the
banking industry, focusing mainly on National Bank, Harambee Avenue Branch.

1.4 Specific Objectives
The objectives that guided this study were:
1.4.1 What is the scope of e-procurement at National Bank, Harambee Avenue Branch?
1.4.2 What is the effect of e-procurement on the supply chain management of National
Bank, Harambee Avenue Branch?
1.4.3 What challenges are encountered in adopting e-procurement at National Bank,
Harambee Avenue Branch?

1.5 Significance of the Study
1.5.1 National Bank of Kenya
This study may be of great benefit to the senior management of NBK. It may enable them
verify that there is a cost saving that this process may unlock for the business, as well as
expose the current challenges of the procurement process. Considering the number of
branches that the bank has in its network, the profit bottom line of employing this process may be significant to the business.

1.5.2 Harambee Avenue Branch
The operations team in the branch may be able to procure and receive goods and services for the benefit of the bank’s customers in a timely and efficient way if this method is considered. This study may expose the direct benefits of e-procurement to turn-around time (TAT) and efficiency. The rest of the team, in the sales department may be able to appreciate the effects of e-procurement in the timely receipt of the tools they used on a daily basis to provide sales and services to the customers.

1.5.3 Industry Competitors
Competitors may be able to relate to the benefits arising from this study and identify areas where they may gain insights on how to improve their procurement processes. This way, they may be able to benchmark themselves against National Bank and other industry players.

1.5.4 Researchers
Future scholars seeking to gather information on the effects of e-procurement on the banking industry may be able to refer to this study. It provides a reference point that may enrich them to draw on any conclusions.

1.6 Scope of the Study
The scope of this study was limited to the Harambee Avenue branch, located in the Central Business District (CBD) of Nairobi. Being the pioneer branch of the bank, and having housed the largest staff complement of 49 employees, it provided an adequate sample size for this study. The employees, being experienced, were crucial in giving concise, accurate and relevant information in the areas to be researched on. This study was conducted over a period of 5 months, commencing June 2018.

The limitations anticipated included hesitation from some of the employees attributed to attitude, vested interests and perceptions which were beyond the researcher’s control. The assurance of confidentiality was conveyed to the team at Harambee Avenue branch that
the information they provided was strictly for academic research purposes. An acknowledged letter from the University to the Head of Human Resources at the bank verified the request to use Harambee Avenue as a sample for the project.

1.7 Definition of Terms

1.7.1 Economic Growth
Economic growth is defined as an increase in the amount of goods and services produced per head of the population over a period of time (Rolfstam, 2009). It is thus, an increase in the capacity of an economy to produce goods and services, compared from one period of time to another (Bela, 2015).

1.7.2 Digital Banking
Digital banking is the digitization (or moving online) of all the traditional banking activities and programs that historically were only available to customers when physically inside of a bank branch (Frascati, 2014).

1.7.3 Internet Banking
Internet banking is a method of banking in which transactions are conducted electronically via the Internet. It is thus, is an electronic payment system that enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial institution's website (Frascati, 2014).

1.7.4 Financial Liberalization
Financial liberalization is the establishment of higher interest rates that equate the demand for, and the supply of, savings. It expresses the views that higher interest rates will lead to increased savings and financial intermediation as well as to improvements in the efficiency of using savings (Bela, 2015).

1.7.5 Cross Border Banking
Cross-border financing refers to any financing arrangement that crosses national borders. Cross border financing could include cross border loans, letters of credit or bankers’ acceptances (Frascati, 2014), for example, issued in Kenya, for the benefit of a person in Italy.
1.7.6 Financial Inclusion
Financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable way (World Bank, 2016).

1.8 Chapter Summary
This chapter provides a focus on the background of the problem, statement of the problem, purpose of study, specific objectives, and significance of the study, scope of the study and the definition of terms. In the next chapter, literature review was provided. The research methodology was provided in chapter three, in chapter four, the study focused on the results and findings of the study and in chapter five the study discussed, concluded and made recommendations on these findings.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

Chapter two reviews literature on the effects on using e-procurement within the banking industry. Specifically, the chapter provides literature on the scope of e-procurement, effect of e-procurement on the supply chain management, and the challenges encountered in adopting e-procurement practices.

2.2 Scope of E-Procurement

Integration of information across firms within supply chains is a requirement for efficient, responsive operations (Mabert et al., 2013); integrated information has been described as the glue that holds supply chains together (Child and Faulkener, 2016). Firms in diverse industries use electronic procurement (e-procurement) in an attempt to increase the efficiency of the purchasing/supply management function and to reduce costs. Presutti (2013) defined e-procurement as a technology solution that facilitates corporate buying using the internet. Min and Galle (2013) defined e-procurement as business-to-business purchasing practice that utilizes electronic commerce to identify potential sources of supply, to purchase goods and services, to transfer payment, and to interact with suppliers. E-procurement is part of a broader concept called information technology (IT), which is defined as the development, installation, and implementation of computer systems and applications.

While many firms adopt e-procurement in an attempt to achieve the proposed benefits of lower costs and improved efficiency, it should be noted that the use of e-procurement does not guarantee positive outcomes for buyers or suppliers. Emiliani and Stec’s (2015) study of reverse auction use in the wood pallet industry found that suppliers realized few, if any benefits from participation, suppliers engaged in retaliatory pricing when the opportunity presented itself, buyers encountered unanticipated costs, and less-than-optimal buyer-supplier relationships resulted. Some additional challenges associated with the effectiveness of e-procurement include information sharing within and across firms, overcoming the “silo mentality” within the firm, sharing proprietary information with supply chain members, and intellectual property matters. Astute decision-makers recognize that successful implementation of e-procurement applications relies not only on...
the capabilities of the application itself, but also on non-technical factors such as realignment of the procurement function, integration of the e-procurement system with other relevant systems, redesign of the procurement process, realignment of the purchasing organization, and integrating suppliers at an early stage (Puschmann and Rainer, 2015).

A wide variety of Internet-based technologies are available to firms attempting to improve their business position (for example, on-line catalogs, and online auctions). Internet-based technologies vary in many respects, including the ability to facilitate process integration within and across firms (Holt et al., 2015). According to Emiliani and Stec’s (2015), to integrate is to “make into a whole by bringing all parts together; to unify or to make part of a larger unit”. Some firms adopt technologies that involve applications within a single function (e.g. electronic requisitions), while others use e-procurement applications that provide for process integration across multiple functions within a single firm, for example, enterprise resource planning systems (ERP), yet others use e-procurement applications that facilitate integration across organizations, for example, electronic data interchange (EDI).

### 2.2.1 E-Tendering

E-tendering is a process where a quotation is submitted by a contractor when so required by the client for renovation, new works or execution of part, an entire project or for the materials and components to be supplied by a vendor (Doloi, 2011). With e-tendering, interested parties or companies offer to build, sell goods or render services for a consideration, in response to an invitation to do so. Generally, the whole essence of E-tendering procedure according to Eriksson and Westerberg (2011), is to select a suitable contractor at a time appropriate to the circumstances and to obtain from him at the appropriate time, an acceptable tender or offer upon which a contract can be let.

E-tendering originated from pre-contract communication between architects and builders (Adewoyin, 2010). By the end of the eighteenth century, the architect’s role was consolidated into construction designer and “leader” of the project coalition, hence establishing traditional procurement. These formative years played a leading role in the evolution of E-tendering practice, affecting both the architect and the builder in terms of
preparation of pre-contract documents, evaluation of tenders and the manner of estimating cost, time allowed and method of tender submission, respectively. Early in the nineteenth century, the Bill of Quantities (BOQ) was introduced thereby becoming the means of providing a common basis upon which contractors could compile their bids (Chou, 2011). Holt et al. (2015) gave an account of pre-construction contracts, which were typically traditionally procured and assigned via the open E-tendering system.

The report of Simon Committee (2014) recommended that tenders should only be called from a limited number of firms carefully selected as being capable of, and likely to do the work to standard, as it has been noted that open E-tendering often lead to unscrupulous vendors being awarded contracts. It was also observed that the open system of E-tendering was conducive to the purchase of inferior materials and speeding up of the work, making good craftsmanship impossible. The Simon committee initiated the move away from the open E-tendering and encouraged the prequalification of contractors. The advent of the standing list therefore commenced and in the committee's view, formed a satisfactory basis for selecting contractors to tender.

The Latham's (2014) report recommended that clients should base their choice of contractor on value for money with proper weighting of selection criteria for skill, experience and previous performance rather than accepting the lowest tender (Holt et al., 2015). Holt et al. (2015) stated that 87 per cent of clients base their selection decisions on price. They also pointed out that bid selection is nearly always based on lowest tender but this may not always be the most economical solution in the long term. The tender process should obtain for the client the most competitive price for the construction at prevalent market condition (Williamson et al., 2014).

2.2.2 E-Sourcing
Experiential research shows that many large companies in the United States (US) and Europe use reverse e-sourcing and that supply managers expect continued expansion in the future (Kaufmann and Carter, 2014). In reverse e-sourcing, suppliers compete dynamically, in real-time, for a buyer's business and typically bid down the price of an item to be purchased. Using the internet, suppliers submit multiple electronic bids during a fixed time period, often 30 minutes or less. E-sourcing can reduce purchase prices, save
time, streamline the bidding process, and enable suppliers from anywhere in the world to compete for a buyer's business (Smart and Harrison, 2013). Risks of e-sourcing include damaging supplier relationships, switching to suppliers who are not capable, underestimating the total costs associated with using suppliers with lower purchase prices, and negatively impacting the supply market in the long run by driving out qualified suppliers (Smeltzer and Carr, 2013). To attain the greatest benefits, purchasing processes should be evaluated and improved before adopting e-procurement tools such as e-sourcing (Presutti, 2013).

Although clearly not appropriate for every purchase, e-sourcing can be an effective tool if risks are carefully assessed and e-auctions are used judiciously (Kaufmann and Carter, 2014). Supply managers are using e-sourcing for commodity-type items and one-time purchases (Handfield et al., 2012). E-sourcing has successfully been used to source indirect materials, production materials, and support services (Gabbard, 2013). Empirical research on e-sourcing consists primarily of case studies (Carter et al., 2014), in-depth analysis involving surveys within a few firms, and quasi-experiments (Jap, 2013). The research is emerging in several areas. Case studies of e-sourcing participants have identified the benefits of and problems with e-auctions (Smeltzer and Carr, 2013). Lower purchase prices, lower transactions costs, lower inventory levels, and inclusion of a wider pool of suppliers are the primary benefits for buying organizations from e-sourcing (Carter et al., 2014).

2.2.3 Enterprise Resource Planning

ERP is a cross-functional enterprise system driven by an integrated suite of software modules that supports the basic internal business processes of a company, (Al-Mashari et al., 2013). ERP gives a company an integrated real-time view of its core business processes, such as production, order processing and inventory management, tied together by ERP application software and a common database maintained by a database management system. ERP systems track business resources such as cash, raw materials, and production capacity and the status of commitments made by the business such as customer orders, purchase orders, and employee payroll, no matter which department (manufacturing, purchasing or sales) has entered into the system (Dezdar, 2010).
ERP system solutions are currently in high demand by both manufacturing and service organizations, because they provide a tightly integrated solution to an organization’s information system needs (Dezdar, 2010). ERP allows employees to manage their company with one system that integrates the entire business process and creates an enterprise-wide view of significant corporate information (Carter et al., 2014). Today, organizations face a new challenge of increasing competition, expanding markets and enhancement in customer expectations and thus ERP systems have been developed to provide a total business system in order to improve business performance, (Al-Mashari et al., 2013).

Even though the use of ERP systems is growing and becoming more popular, these systems are still somewhat unfamiliar in the private sector industry, (Nah et al., 2013). Many firms know how beneficial ERP systems are, but they still hesitate to adopt these systems due to their high set up cost and risk. Without a doubt, a successful ERP set up and implementation is essential for the benefits to be experienced, therefore cost and risk elements are always considered top priority in the ERP related research area. It is obvious that several other important factors must be considered for successful implementation, but most firms have no idea what factors should be considered most heavily (Zhang et al., 2015).

2.2.4 Information Technology

IT enables the gathering and distributing of purchasing information both from and to internal and external parties using Internet technology (McFarlan, 2014). Is the use of Internet technology to buy goods and services from a number of known or unknown suppliers? Nelson et al. (2011) and purchasing accounts for the majority of organizational spending. As such, the advent of web-based electronic procurement has been heralded as a ‘revolution’ because of its potential to reduce the total cost of acquisition (Croom, 2010; Rai et al., 2012). The e-procurement revolution is expected to enhance the status and influence of the purchasing function within organizations (Osmonbekov et al., 2012).

Existing literature has emphasized the important contribution of e-procurement in reducing total purchasing costs. These benefits broadly arise through lower prices from suppliers and reduced costs in the ‘requisition to payment’ process (Kameshwaren et al.,
2014; Mishra et al., 2014). Whilst it is having been widely contended that e-procurement will have considerable implications for the design of the procurement process, Lancioni et al. (2010) note that the precise nature of these changes remains unclear. Yen and Ng (2013) carried out a case study investigation of textile and apparel e-commerce implementation in Hong Kong. Kennedy and Deeter-Schmelz (2011) conclude that ‘organizational characteristics and organizational influences’ are significant motivators to the use of e-procurement. In other words, the extent to which e-procurement is used and developed is strongly influenced by the general disposition of the organization as a whole. The relationship between user perceptions and the level of compliance has been noted by a number of authors (de Boer et al., 2012; Croom and Johnston, 2013).

2.3 Effect of E-Procurement on the Supply Chain Management
Supply chain performance refers to the evaluation of supply chain management, and includes both tangible (cost) and intangible (capacity utilization) factors (Croom and Johnson, 2013; Eng, 2014; Presutti, 2013; Tan et al., 2012). 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 (Presutti, 2013). 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 (Eng, 2014).

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, 2011). E-procurement system can improve the effectiveness of operation processes and the transparency of the supply chain (Puschmann and Alt, 2015). 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, 2013), the consequences of e-procurement can be inferred from the technological applications associated with supply chain management.

The term partner relationships refer 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., 2015; Liker and Choi, 2014; Panayides and So, 2015; Skjøtt-Larsen et al., 2013). Information sharing refers to good-quality information flow between an enterprise and its partners (suppliers, the same tier manufactures and channel members) in the supply chain (Lee et al., 2014; Monczka et al., 2016; Tan et al., 2012). Supply chain integration is defined as the coordination and activity integration of supply chain processes between an enterprise and its partners (suppliers, the same tier manufactures and channel members) in the supply chain (Tan et al., 2012; Zhang et al., 2015).

2.3.1 Information Sharing 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, 2014). 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, 2014).

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, 2014). 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 Wruster, 2011).

Malone et al. (2014) 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 (2012) 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 supply-chain management (SCM) are examined in three dimensions: unit cost reduction, increased efficiency, and streamlined operations. Croom and Johnson (2013) identified three main elements of internal service performance, namely: cost (efficiency and expenditure), process conformance and internal customer satisfaction.

2.3.2 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, 2014). As Croom (2010) and De Boer et al. (2012) mentioned that internal process efficiencies and automation are seen to be key drivers for increasing process efficiency. Tan et al., (2012) supported that supply chain integration influence majorly in product quality and customer service levels. Narasimhan and Das (2011) and Narasimhan and Kim (2012) 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.

2.3.3 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 Chartered Institute of Procurement and Supply (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.

Better organization and archiving of offers from suppliers. Offers, documents and answers to eligibility requirements, are automatically organized by the platform, in the same way for each supplier (De Boer et al., 2012). 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, 2016).

2.3.4 Human Resource Reduction and 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, 2012).

The process 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, 2012). 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, 2016).

2.3.5 Simplification of Administration Services

Administrative simplification involves 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, 2016).

The process increases transparency of 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, 2016).

2.4 Challenges Encountered in Adopting E-procurement Practices

The past research studies have identified challenges faced in the implementation of e-procurement which included; challenges associated with strategic initiative, legal infrastructure (Jerome, 2010), supplier enablement Filipe (2009), technological integration and security issues Barcelo (2009). One challenge is to realize that the Internet is not the strategy but rather the tool for developing e-procurement.

According to research by Aberdeen group (2014), it was discovered that supplier enablement is one of the top three challenges for e-procurement implementation. Suppliers do not fit into organizational plans or may want to do things their way (Croom and Brandon-Jones (2014). This may be because organizational processes and systems do not match those used by most of their other customers or because organizational business is insufficient to justify organization’s investment in the system (Lundvall, 2014).

Supplier enablement is becoming a bigger challenge because forcing suppliers to adopt organizational preferred trading method can be problematic, particularly if there are no alternatives readily to hand (Filipe, 2009). Most suppliers are not e-procurement enabled because they are not information communication and technology (ICT) compliant. Moreover, complex purchasing cannot be put in place without considerable personal contact between the parties concerned (Lysons, 2012).
2.4.1 Technology Usefulness
Some studies used the technology acceptance model or theory of planned behavior in order to understand the adoption of new technology in public and private sector setting (Aboelmaged, 2010; Wahid, 2010). Although those models suggest perceived usefulness and perceived ease of use as critical antecedents to users’ technology adoption process, those models are not specific on the implementation of a new technology such as e-procurement system. Our speculative framework draws on Croom and Brandon-Jones (2014), which is found useful to understand key challenges of e-procurement implementation in organizations.

According to Schumpeter (1939), innovations are essential to explaining economic change, and the entrepreneur is the central innovator. Schumpeter (1939) totally disagreed with the policy implications of Keynes's (1936) ideas and theories, because they were opposed to what was appearing as the driving force in the economy that is, private initiative rather than public policy (Spiegel, 2011). He found that innovations were discontinuous in the time axis, due to the abilities and qualities required in human resources to manage and develop it (Schumpeter, 1939). He tried to explain how the innovation appeared and the change happened, through a virtuous spiral of mutual attraction (swarms or clusters), where a successful entrepreneur attracted new entrepreneurs to a geographical area, with a multiplier effect but not independently one of another (Schumpeter, 1939). Innovation systems are categorized depending on the focus of the researcher, like sectors, technological systems as well as localized systems: the so-called regional systems of innovation (Fischer, 2011). However, number of suppliers increased (NSI) fits best into our framework, as it connects micro, meso and macro levels of analysis (Lundvall, 2014). It comprises the market of innovation: the national or regional system of institutions and organizations that exchange innovative goods and services oriented to innovative firms (Fischer, 2011; Lundvall, 2014).

2.4.2 Innovation Diffusion
The Innovation diffusion theory is a model grounded in business study. Since 1940’s the social scientists coined the terms diffusion and diffusion theory (Dean, 2014). This theory provides a framework with which we can make predictions for the time period that is necessary for a technology to be accepted. We can see innovation diffusion as a set of
four basic elements: the innovation, the time, the communication process and the social system. Here, the concept of a new idea is passed from one member of a social system to another (Clemons and Row, 2012). Clemons (2012) redefined a number of ideas for use to examine individual technology acceptance such as relative advantage, ease of use, image, compatibility and results demonstrability. An example of the advantage of the improvement of a system is that in cheque clearing, it has allowed for better communication between banks to settle payments. It resulted in less time taken to realize value on the cheques.

Transaction cost theory could serve as a good starting point for the analysis, which explains why certain tasks are performed by firms and others by markets (Coase, 2014). Transaction costs can be divided into coordination costs and transaction risk (Clemons and Row, 2012). Coordination costs are the direct costs of integrating decisions between economic activities (such as search and bargaining costs). Transaction risk is associated with the exposure to being exploited in the relationship (Clemons and Row, 2012).

Uncertainty and asset specificity are two factors, which increase coordination costs and transaction risk, respectively (Williamson et al., 2014). The use of information technology has facilitated the reduction of coordination costs, which has been extensively documented in the literature (Bakos, 2011). For example, electronic market places, facilitated through IT, reduce the cost of searching for obtaining information about product offerings and prices (Bakos, 2011). Similarly, collaboration facilitated by information sharing can lower transaction costs (in particular coordination costs) as companies can thereby reduce supply chain uncertainty and thus the cost of contracting (Koopmans, 2014).

Uncertainty in the context of supply chains and more specifically in manufacturing is caused by supply uncertainty, demand uncertainty, new product development uncertainty, and technology uncertainty (Koh, 2012). Sutcliffe and Zaheer (2016) classified uncertainty as primary, competitive, and supplier uncertainty. Primary uncertainty is consistent with Koopmans (2014) and Williamson et al. (2014) and refers to the “lack of knowledge of states of nature” (Sutcliffe and Zaheer, 2016). Competitive uncertainty
arises from the innocent or strategic actions of potential or actual competitors (Sutcliffe and Zaheer, 2016).

2.4.3 Stakeholders’ Willingness
According to Tan et al. (2012), successful e-Procurement system is required to have suppliers willing and able to trade electronically. A study conducted by the Australian Government Information Management Office (AGIMO) in 2010, showed that supplier adoption is important to the overall success of an e-procurement program. The study concluded that the more suppliers in the system, the more inclined buyers will be to use it. If suppliers are not correctly involved, then a low adoption rate can constrain users from leveraging the full associated capabilities from e-procurement solutions.

The lack of a critical mass of suppliers accessible through the organization’s e-procurement system might limit the network effects that underlie these technologies, delaying the acceptance and adoption of the solution (Paulo, 2009). According to a study by Lin et al. (2010) about the adoption of e-commerce by the health care organizations in Australia, there were complains about loss of interpersonal relationships with suppliers and customers via the use of e-procurement systems.

2.4.4 Communication
Therefore, those organizations that had fewer problems in adopting and implementing e-procurement systems were those that had better communication with key stakeholders throughout the entire supply chain and had listened to their concerns (Wahid, 2010). Several interview participants also mentioned that having effective supply chain management in their organizations was not good enough (Paulo, 2009). Benefits only would come about if these management processes could be extended to the suppliers. Some participating health care organizations had some difficulties or simply failed to integrate their e-procurement system with other functions throughout the supply chain (Wahid, 2010).

Most organizations did not have an IT strategy to integrate their e-commerce with other systems. For example, many health care organizations, such as hospitals and pharmaceutical companies, had purchased their own IT/ e-procurement systems;
therefore, it was not surprising to see that their systems within the same organizations were unable to communicate, let alone between hospitals or different health care organizations across the entire supply chain (Lin et al., 2010).

2.4.5 Vendor/Supplier Support
Vendor/supplier support also can play a critical role in successful adoption and implementation of e-procurement systems for organizations. Case study results revealed that while e-procurement systems’ vendors/suppliers were closely involved in the decisions leading to funding of the project, there was a general lack of interest from the vendor once the systems were purchased and implemented (Croom and Brandon-Jones, 2014). For example, a significant number of organizations mentioned that it often was difficult to get the various e-procurement software and hardware vendors/suppliers and external consultants to resolve software problems. Effective coordination and communication among the organizations, various vendors/suppliers, and external consultants were noted as being essential (Lin et al., 2010).

In the early days of e-procurement, buying enterprises and solution providers underestimated the time, effort, and resources required to enable suppliers to transact business electronically (Tan et al., 2012). Though tremendous progress has been made in supplier enablement, all involved parties – end users, suppliers, and solution providers – continue to work to make enablement as simple and cost effective as possible. A survey by Aberdeen group (2010) identified various approaches applicable in supplier enablement with their benefits and trade-offs as buyer managed approach, supplier managed approach, Supplier network approach and Alternative approach.

2.5 Chapter Summary
This chapter has reviewed literature on the effects on using e-procurement within the banking industry. Specifically, the chapter provides literature on the scope of e-procurement, effect of e-procurement on the supply chain management, and the challenges of adopting e-procurement practices that could be anticipated at National Bank, Harambee Avenue Branch. The next chapter presents the research methodology of the study.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that was used in the study. It describes the research design, the population, sampling design and sample size. It also presents the data collection methods and the procedures that were used to collect the data including questionnaire validity and reliability. The chapter also discusses the data analysis methods that were utilized.

3.2 Research Design

Research design is the conceptual structure within which the research is conducted which constitutes the blue print for the collection, measurement and analysis of data (Kothari and Garg, 2014). Research design is also defined as the determination and statement of the general research approach or strategy adopted of the particular project; it is the heart of planning (Cooper and Schindler, 2013). According to Kothari and Garg (2014), the formidable problem that follows the task of defining the research problem is the preparation of the design of the research project popularly known as the research design. Decisions regarding what, where, when, how much, by what means concerning an inquiry or a research study constitute research design. Cooper and Schindler (2013) state that descriptive research designs are concerned with finding out who, what, where, when or how much while trying to measure the types of activities, how often, when, where and by whom.

The descriptive research design addresses the questions posed by exploratory research thus offering solutions to different business issues (Kumar, 2016). Descriptive studies attempt to identify and explain variables that exist in a given situation and to describe the relationship that exists between these variables in order to provide a picture of a particular phenomenon (Cooper and Schindler, 2013). Descriptive research is considered appropriate because subjects are normally observed in their natural set up and can result in accurate and reliable information (Zimmerman and Britt, 2012).
This study adopted the survey approach which is defined as a method of collecting data from people about who they are, how they think - motivations and beliefs and what they do (Malhotra and Birks, 2013). A survey form consists of standardized questions that come in the form of questionnaires and are used by a researcher to collect data (Zimmerman and Britt, 2012). This study used a survey format to collect data by applying the use of questionnaires that were guided by the research objectives.

3.3 Population and Sampling Design

3.3.1 Population

Population is the entire group of individuals, events or objects that have common desirable observable characteristics (Zimmerman and Britt, 2012). Population is the group the researcher wants to generalize on or learn about (Malhotra and Birks, 2013). Population is the total elements on which inferences can be made (Cooper and Schindler, 2013). The primary population of study came from National Bank and specifically Harambee Avenue Branch which as at July 2018 housed 49 employees as shown on Table 3.1.

Table 3.1 Population Distribution

<table>
<thead>
<tr>
<th>Department / Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Branch Manager</td>
<td>1</td>
</tr>
<tr>
<td>Premium Centre Manager</td>
<td>1</td>
</tr>
<tr>
<td>Branch Operations Manager</td>
<td>1</td>
</tr>
<tr>
<td>Customer Service Manager</td>
<td>1</td>
</tr>
<tr>
<td>Relationship Manager</td>
<td>1</td>
</tr>
<tr>
<td>Premium Service Manager</td>
<td>1</td>
</tr>
<tr>
<td>Cash Team Leader</td>
<td>2</td>
</tr>
<tr>
<td>Customer Service Executive</td>
<td>7</td>
</tr>
<tr>
<td>Sales Team Leader</td>
<td>1</td>
</tr>
<tr>
<td>Business Relationship Officer</td>
<td>1</td>
</tr>
<tr>
<td>Business Banker</td>
<td>4</td>
</tr>
<tr>
<td>Direct Sales Representatives</td>
<td>15</td>
</tr>
<tr>
<td>Tellers</td>
<td>13</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>49</strong></td>
</tr>
</tbody>
</table>

Source: National Bank (2018)
3.3.2 Sampling Design
Sampling design is a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt in selecting items for the sample (Kumar, 2016). Saunders, Lewis and Thornhill (2012) further explains that sample design lays down the number of items to be included in the sample which includes the size of the sample, the sample frame, and the sampling technique. According to Kumar (2016), sample design is determined before data is collected.

3.3.2.1 Sampling Frame
A sample frame refers to a list of elements from where the sample size of the study will be drawn and is closely connected to the population (Cooper and Schindler, 2013). Turner (2013) defines a sampling frame as the set of sources from which the sample is chosen. The definition also includes the purpose of sampling frames, which is to offer a way for selecting the actual members of the target population that to be interviewed within the study. A sampling frame can additionally be outlined because the complete list of all the cases within the population from that a likelihood sample is drawn from (Saunders, Lewis and Thornhill, 2012). The sample frame for the study came from National Bank’s human resource department.

3.3.2.2 Sampling Technique
A sampling technique is the practice of picking elements from the population that will signify the population of study (Sanni and Durodola, 2012). A sampling technique is the name or other identification of the specific process by which the entities of the sample have been selected (Yin, 2009). Th study applied a census sampling technique.

Census sampling was used on the selected population for the study. Saunders, Lewis and Thornhill (2012) define a census as a study of every unit, everyone or everything, in a population. It is also known as a complete enumeration, which means a complete count. Data collection through the census method was chosen because it gave an opportunity to the researcher to have an intensive study about the effects on using e-procurement within National Bank. This technique also facilitated the collection of knowledgeable data.
3.3.2.3 Sample Size

Sample size is the set of elements where data is collected from (Cooper and Schindler, 2013). A decent specimen size ought to give data that is nitty gritty and thorough. A sample size is a limited part of a factual populace whose properties are to be examined to pick up data about the whole populace under review (Hanneman and Kposowa, 2012). Since the study applied a census to the population, it meant that the sample size of the study was 49 respondents that were distributed as shown on Table 3.2.

<table>
<thead>
<tr>
<th>Department / Category</th>
<th>Number</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Branch Manager</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Premium Centre Manager</td>
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<tr>
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<td>1</td>
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<tr>
<td>Relationship Manager</td>
<td>1</td>
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</tr>
<tr>
<td>Premium Service Manager</td>
<td>1</td>
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<td>7</td>
</tr>
<tr>
<td>Sales Team Leader</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Business Relationship Officer</td>
<td>1</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>49</strong></td>
<td><strong>49</strong></td>
</tr>
</tbody>
</table>

3.4 Data Collection Methods

Data collection is the process of acquiring subjects and gathering information needed for a study; and methods of collection varies depending on the study design (Sansoni, 2011). Data collection is critical to research, and often it is a prominent factor in determining the cost and success of a research project (Wilcox et al., 2012). How data is collected has a sizeable impact on how data is managed, and ultimately how the research is performed (Sansoni, 2011).
Sanni and Durodola (2012) state that one of the main primary data collection instruments in research is the survey questionnaire. Modes of data collection by questionnaire differ in several ways, including the method of contacting respondents, the medium of delivering the questionnaire to respondents, and the administration of the questions (Wilcox et al., 2012). These are likely to have different effects on the quality of the data collected (Sanni and Durodola, 2012). A questionnaire is a document designed with the purpose of seeking specific information from the respondents (Sansoni, 2011). Cooper and Schindler (2013) explain that a questionnaire is an instrument delivered by to the participant via personal or non-personal means that is completed by the participant.

The data collection method is based on a structured approach due to the target population and the nature of work (Sansoni, 2011). For this study, a formal letter of introduction was used to introduce the researcher as well as highlight the set timeframe to complete the questionnaire attached to the questionnaires. In addition, the introductory letter included the purpose of the questionnaire, benefits that would come from it, information that was being sought, how the information would be used, confidentiality/anonymity and contact details for queries and complaints.

Cooper and Schindler (2013) explain that questions may be structured in questionnaires therefore presenting participants with a fixed set of choices; often called closed questions. On the other hand, questions can also be unstructured therefore not limiting the responses, but still providing a frame of reference for participants’ answers; often called open ended questions. The questionnaires contained closed-ended questions. The questionnaire contained four sections that focused on determining the demographics of the population, the scope of e-procurement, the effect of e-procurement, and finally, the challenges in adoption of e-procurement practices.

3.5 Research Procedures
The researcher carried out a pilot study before the questionnaire was administered and employed in the final and actual data collection process. The importance of piloting was to detect ambiguity, evaluate the type of answers given to determine whether they would help the researcher in achieving the laid down objectives. Saunders, Lewis and Thornhill (2012) note that pilot studies help the researcher in identifying questions that can make
the respondents uncomfortable and uneasy. Such questions can then be removed, paraphrased or replaced in the final survey instrument design. Again, the pilot study is important in identifying ethical issues that may arise during the actual data collection process. As such pilot studies are critical instruments for ensuring the validity and reliability of the research process and findings (Robson, 2007). Pilot studies allow the researcher to study the research setting and seek advice on how the data collection instrument can be improved upon (Saunders, Lewis and Thornhill, 2012).

The researcher administered a pretest sample to the respondents in the pilot study. According to Mugenda and Mugenda (2003) a pre-test sample should be between 1% and 10% depending on the sample size. The findings from the pilot study were then used to refine the questionnaire for final administration. For this study, a sample of 5 respondents were used in the pilot study. Reliability and validity were tested using the Cronbach Alpha test which according to Wilcox et al. (2012) is a scientific method that ensures research questions can achieve the set objectives of a study. They further note that questionnaire items should attain a threshold of ≥0.7. Thus, the study tested the questionnaire, and reliable questions were retained for the study once they met the required threshold.

3.6 Data Analysis Methods

Data analysis is an exploration method for the goal, efficient and subjective portrayal of the show substance of a correspondence (Cooper and Schindler, 2013). Onwuegbuzie, Leech and Collins (2012) states that data analysis provides a distinct insight includes a procedure of changing a mass of crude information into tables, graphs, with recurrence dispersion and rates, which are an imperative piece of understanding information. For this study, data was broken down using Microsoft Excel and Statistical Package for Social Sciences (SPSS).

To ensure ease of analysis, the questionnaires were coded accordingly to each study variable on the SPSS program. Descriptive statistics, which include measures of central tendencies (frequencies, means and standard deviations) (Sansoni, 2011), were used to analyze the collected data. This analysis was used to determine views of commonality and deviations from the study variables. Inferential analysis (correlations and regressions)
were used to describe the degree of relationship between the study variables. Regression analysis employed the use of simple regression that indicated how the study’s independent variables influenced the dependent variable. The results were presented using figures and tables.

3.7 Chapter Summary

This chapter has discussed the methodology and research design that was adopted in the research process highlighting the population and sampling design where the sampling frame, sampling technique and sample size have been discussed. The chapter has described in detail the data collection methods that were applied, as well as the research procedures that were followed during the study. Finally, the chapter has explained the data analysis methods that were used and how the analyzed data was. The next chapter discusses the study’s results and findings.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

This study focused on the effects of using e-procurement within the banking industry. The chapter provides study results and findings for the scope of e-procurement, effect of e-procurement on the supply chain management, and the challenges of adopting e-procurement practices that could be anticipated at National Bank, Harambee Avenue Branch.

4.1.1 Response Rate

The researcher managed to collect 28 questionnaires that were complete and valid for the study from the targeted 44 respondents. As such, it can be stated that the study’s response rate was 63.6%.

![Figure 4.1 Response Rate](image)

4.1.2 Reliability Results

Table 4.1 indicates that the study questionnaire was reliable and valid. The respective Cronbach alpha of 0.956, 0.950 and 0.838 for the questionnaire items: Scope of e-procurement, Effect of e-procurement on the supply chain management and Challenges of adopting e-procurement practices is >0.7 thus denoting the reliability.

<table>
<thead>
<tr>
<th>Questionnaire Section</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope of e-procurement</td>
<td>.956</td>
</tr>
<tr>
<td>Effect of e-procurement on the supply chain management</td>
<td>.950</td>
</tr>
<tr>
<td>Challenges of adopting e-procurement practices</td>
<td>.838</td>
</tr>
</tbody>
</table>
4.2 General Information

4.2.1 Gender

Figure 4.2 presents the results for the gender where respondents were asked to state their gender. It shows that, from the responses received, 54% of them were female and 46% were male, this being indicative of the fact that National Bank Harambee Avenue had more female employees.

![Figure 4.2 Gender](image)

4.2.2 Education

Figure 4.3 presents the results for the education level where respondents were asked to state their highest level of education. It shows that, from the responses received, 75% of the respondents had university degrees, 14.3% had their Master’s degrees and 10.7% had their diplomas, this being indicative of the fact that National Bank Harambee Avenue had well educated employees.

![Figure 4.3 Education](image)
4.2.3 Years in Organization

Figure 4.4 presents the results for the number of years the respondents had been with the bank and they had been asked to indicate. It shows that, from the responses received, 42.8% of the respondents had been with the bank for 6-10 years, 28.6% had been with the bank for 11-15 years, 21.4% had been with the bank for 1-5 years and 3.6% had been with the bank for 16-20 years and 21 years and above respectively, this being indicative of the fact that the respondents had been with National Bank Harambee Avenue for a long time making them the best candidates for the study.

![Figure 4.4 Years in Organization](image)

4.2.4 Position in the Organization

Figure 4.5 presents the results for the position in the bank where respondents were asked to state their management level. It shows that, from the responses received, 39.3% were low level managers, 35.7% were regular staff and 25% were mid-level managers, this being indicative of the fact that all cadre of employees were considered in this study.

![Figure 4.5 Position in the Organization](image)
4.2.5 E-Procurement Adoption
Figure 4.6 presents the results for the e-procurement adoption in the bank where respondents were asked to how the bank had adopted the e-procurement system. It shows that, from the responses received, 57.1% stated effectively, 35.7% were neutral, 3.6% stated very effectively and another 3.6% stated very ineffectively, this being indicative of the fact that the bank had effectively adopted the e-procurement system.

![Figure 4.6 E-Procurement Adoption]

4.2.6 E-Procurement Utilization
Figure 4.7 presents the results for the e-procurement utilization in the bank where respondents were asked to how the bank had utilized its e-procurement system. It shows that, from the responses received, 60.7% stated effectively, 28.6% were neutral, 7.1% stated ineffectively and 3.6% stated very ineffectively, this being indicative of the fact that the bank had effectively utilized its e-procurement system.

![Figure 4.7 E-Procurement Utilization]
4.3 Scope of E-Procurement

4.3.1 Scope of E-Procurement at National Bank

Table 4.2 shows that the effectiveness of e-procurement in the organization includes information sharing within and across the firm since 67.9% agreed, 25% were neutral and 7.1% disagreed with a mean of 3.64 and a standard deviation of 0.678. Internet-based technologies facilitate process of e-procurement integration within and across the firms since 85.7% agreed and 14.3% were neutral with a mean of 4.04 and a standard deviation of 0.576.

E-tendering procedure facilitates the ability of the organization to select a suitable supplier since 78.6% agreed and 21.4% were neutral with a mean of 3.86 and a standard deviation of 0.525. E-tendering allows the firm to recommend tenders from a limited number of firms that are carefully selected since 71.5% agreed, 25% were neutral and 3.6% disagreed with a mean of 3.71 and a standard deviation of 0.600. E-sourcing has reduced the firm’s purchase prices since 71.4% agreed, 17.9% were neutral and 10.7% disagreed with a mean of 3.71 and a standard deviation of 0.937. E-sourcing has successfully been used to source indirect support services for the firm since 67.9% agreed and 32.1% were neutral with a mean of 3.82 and a standard deviation of 0.670.

Enterprise Resource Planning module is used to support the basic internal business processes of the firm since 85.7% agreed and 14.3% were neutral with a mean of 4.07 and a standard deviation of 0.604. Enterprise Resource Planning systems in the firm, track business resources such as cash, raw materials, and production capacity since 64.3% agreed, 25% were neutral and 10.7% disagreed with a mean of 3.71 and a standard deviation of 0.897.

Information Technology is used in the firm to gather and distribute information both from and to internal and external parties since 78.6% agreed, 14.3% were neutral and 7.1% disagreed with a mean of 3.89 and a standard deviation of 0.786. The e-procurement revolution has enhanced the status and influence of the purchasing function within the organization since 71.4% agreed, 25% were neutral and 3.6% disagreed with a mean of 3.79 and a standard deviation of 0.686.
Table 4.2 Scope of E-Procurement at National Bank

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness of e-procurement in the organization includes information sharing within and across the firm</td>
<td>0</td>
<td>7.1</td>
<td>25</td>
<td>64.3</td>
<td>3.6</td>
<td>3.64</td>
<td>.678</td>
</tr>
<tr>
<td>Internet-based technologies facilitate process of e-procurement integration within and across the firms</td>
<td>0</td>
<td>0</td>
<td>14.3</td>
<td>67.9</td>
<td>17.9</td>
<td>4.04</td>
<td>.576</td>
</tr>
<tr>
<td>E-tendering procedure facilitates the ability of the organization to select a suitable supplier</td>
<td>0</td>
<td>0</td>
<td>21.4</td>
<td>71.4</td>
<td>7.1</td>
<td>3.86</td>
<td>.525</td>
</tr>
<tr>
<td>E-tendering allows the firm to recommend tenders from a limited number of firms that are carefully selected</td>
<td>0</td>
<td>3.6</td>
<td>25</td>
<td>67.9</td>
<td>3.6</td>
<td>3.71</td>
<td>.600</td>
</tr>
<tr>
<td>E-sourcing has reduced the firm’s purchase prices</td>
<td>3.6</td>
<td>7.1</td>
<td>17.9</td>
<td>57.1</td>
<td>14.3</td>
<td>3.71</td>
<td>.937</td>
</tr>
<tr>
<td>E-sourcing has successfully been used to source indirect support services for the firm</td>
<td>0</td>
<td>0</td>
<td>32.1</td>
<td>53.6</td>
<td>14.3</td>
<td>3.82</td>
<td>.670</td>
</tr>
<tr>
<td>Enterprise Resource Planning module is used to support the basic internal business processes of the firm</td>
<td>0</td>
<td>0</td>
<td>14.3</td>
<td>64.3</td>
<td>21.4</td>
<td>4.07</td>
<td>.604</td>
</tr>
<tr>
<td>Enterprise Resource Planning systems in the firm, track business resources such as cash, raw materials, and production capacity</td>
<td>0</td>
<td>10.7</td>
<td>25</td>
<td>46.4</td>
<td>17.9</td>
<td>3.71</td>
<td>.897</td>
</tr>
<tr>
<td>Information Technology is used in the firm to gather and distribute information both from and to internal and external parties</td>
<td>0</td>
<td>7.1</td>
<td>14.3</td>
<td>60.7</td>
<td>17.9</td>
<td>3.89</td>
<td>.786</td>
</tr>
<tr>
<td>The e-procurement revolution has enhanced the status and influence of the purchasing function within the organization</td>
<td>0</td>
<td>3.6</td>
<td>25</td>
<td>60.7</td>
<td>10.7</td>
<td>3.79</td>
<td>.686</td>
</tr>
</tbody>
</table>

4.3.2 Correlation Analysis for Scope of E-Procurement Factors

Table 4.3 shows the correlation relationship between the study variables. It shows that e-tendering was significant to the banking industry (R=0.745, P<0.01). E-sourcing was insignificant to the banking industry (R=0.356, P>0.05). Enterprise resource planning was insignificant to the banking industry (R=0.086, P>0.05). Information technology was significant to the banking industry (R=0.519, P<0.01).
Table 4.3 Correlation Analysis for Scope of E-Procurement Factors

<table>
<thead>
<tr>
<th></th>
<th>Banking Industry</th>
<th>E-Tendering</th>
<th>E-Sourcing</th>
<th>ERP</th>
<th>Information Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td>.745**</td>
<td>1</td>
<td>.418*</td>
<td>.581**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>.000</td>
<td>.063</td>
<td>.027</td>
<td>.665</td>
<td>.001</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.01 level (2-tailed)

4.3.3 Regression Analysis for Scope of E-Procurement Factors

Table 4.4 shows the regression analysis for scope of e-procurement significant factors (e-tendering and information technology) and how they influence the banking industry. The table presents the model summary of the regression analysis results and it shows that e-tendering and information technology impact the banking industry by 58.4%.

Table 4.4 Regression Model Summary for Scope of E-Procurement Factors

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.784</td>
<td>.615</td>
<td>.584</td>
<td>.24320</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), E-Tendering, Information Technology

Table 4.5 shows the regression analysis for scope of e-procurement significant factors (e-tendering and information technology) and how they influence the banking industry. The table presents the analysis of variance between e-tendering and information technology and the banking industry, and the F value of 19.931 df (2,25) had a P value that was <0.01 which meant that the regressions were suitable for the study.


Table 4.5 Regression ANOVA for Scope of E-Procurement Factors

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>2.358</td>
<td>2</td>
<td>1.179</td>
<td>19.931</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>1.479</td>
<td>25</td>
<td>.059</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3.836</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), E-Tendering, Information Technology
b. Dependent Variable: Banking Industry

Table 4.6 shows the regression analysis for scope of e-procurement significant factors (e-tendering and information technology) and how they influence the banking industry. The regression coefficients in the table has a P value of <0.01 for e-tendering meaning that it has a significant relationship with the banking industry. The P value of >0.05 for information technology shows that it had an insignificant relationship with the banking industry. Thus:

\[
\text{Banking Industry} = 0.900 + 0.603 \text{ E-Tendering} + 0.153 \text{ Information Technology} + \epsilon
\]

From this study results, it can be inferred that a single unit increase in e-tendering would improve the banking industry by 60.3% which is significant. The results also show that a single unit increase in information and technology would improve the banking industry by 15.3% which is less significant.

Table 4.6 Regression Coefficients for Scope of E-Procurement Factors

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>.900</td>
<td>.464</td>
<td></td>
<td>1.939</td>
</tr>
<tr>
<td>E-Tendering</td>
<td>.603</td>
<td>.127</td>
<td>.640</td>
<td>4.734</td>
</tr>
<tr>
<td>Information Technology</td>
<td>.153</td>
<td>.078</td>
<td>.265</td>
<td>1.956</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Banking Industry

4.3.4 Correlation Analysis for Scope of E-Procurement at National Bank

Table 4.7 presents the correlations relationship between the scope of e-procurement and the banking industry. The table shows that the scope of e-procurement was significant to the banking industry (R=0.745, P<0.01).
Table 4.7 Correlation Analysis for Scope of E-Procurement at National Bank

<table>
<thead>
<tr>
<th>Banking Industry</th>
<th>Scope of E-Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking Industry</td>
<td>1</td>
</tr>
<tr>
<td>Scope of E-Procurement</td>
<td>.745**</td>
</tr>
<tr>
<td></td>
<td>.000</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed)

4.3.5 Regression Analysis for Scope of E-Procurement at National Bank

Table 4.8 shows the regression analysis for scope of e-procurement and how it influences the banking industry. Table 4.8 presents the model summary of the regression analysis results and it shows that the scope of e-procurement impacts the banking industry by 53.8%.

Table 4.8 Regression Analysis for Scope of E-Procurement at National Bank

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.745</td>
<td>.556</td>
<td>.538</td>
<td>.25607</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Scope of E-Procurement

Table 4.9 shows the regression analysis for scope of e-procurement and it influences the banking industry. The table presents the analysis of variance between scope of e-procurement and the banking industry, and the F value of 32.504 df (1,26) had a P value that was <0.01 which meant that the regression analysis was suitable for the study.

Table 4.9 ANOVA for Scope of E-Procurement at National Bank

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>2.131</td>
<td>1</td>
<td>2.131</td>
<td>32.504</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>1.705</td>
<td>26</td>
<td>.066</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>3.836</td>
<td>27</td>
<td>.066</td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Scope of E-Procurement
b. Dependent Variable: Banking Industry

d. Table 4.10 shows the regression analysis for scope of e-procurement and its influence in the banking industry. The regression coefficients in the table has a P value of <0.01 for
the scope of e-procurement meaning that it has a significant relationship with the banking industry. Thus:

**Banking Industry = 1.106 + 0.702 Scope of E-Procurement + \varepsilon**

From this study results, it can be inferred that a single unit increase in the scope of e-procurement would improve the banking industry by 70.2% which is very significant.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.106</td>
<td>.476</td>
<td>2.324</td>
<td>.028</td>
</tr>
<tr>
<td>Scope of e-Procurement</td>
<td>.702</td>
<td>.123</td>
<td>.745</td>
<td>5.701</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Banking Industry

### 4.4 Effect of E-Procurement on Supply Chain Management

#### 4.4.1 Effect of E-Procurement on Supply Chain Management at National Bank

Table 4.11 shows that e-procurement’s influence on partner relationships on the supply chain performance has been positive since 60.7% agreed, 35.7% were neutral and 3.6% disagreed (mean 3.89, standard deviation 0.678). The e-market place provides the organization with a mechanism to control, coordinate, and economize on transaction costs since 78.6% agreed and 21.4% were neutral (mean 4.04, standard deviation 0.693). E-procurement has allowed the firm to reduce the costs of coordinating economic transactions since 85.7% agreed and 14.3% were neutral (mean 3.96, standard deviation 0.508). E-procurement has increased the firm’s internal process efficiencies, thus increasing process efficiency since 82.2% agreed, 14.3% were neutral and 3.6% disagreed (mean 3.93, standard deviation 0.663). E-procurement has improved the ability of the firm in obtaining better offers from its suppliers since 64.3% agreed, 32.1% were neutral and 3.6% disagreed (mean 3.79, standard deviation 0.787).

E-procurement has improved the ability of the firm to compare the offers from suppliers and access them in every phase of the process since 60.7% agreed and 39.3% were neutral (mean 3.82, standard deviation 0.772). E-procurement has drastically reduced the effort of human resources in firms’ operations during the tendering process since 85.7% agreed, 10.7% were neutral and 3.6% disagreed (mean 3.96, standard deviation 0.637). E-procurement has improved the ability of the firm to clearly divide its tendering process
into phases with no possibility of an overlap since 75% agreed, 21.4% were neutral and 3.6% disagreed (mean 3.79, standard deviation 0.630). E-procurement has allowed employees to master the dynamics of the firm’s tendering procedure since 60.7% agreed, 25% were neutral and 21.4% disagreed (mean 3.46, standard deviation 0.744). E-procurement has increased the process of transparency of information about current tendering procedures and their rules since 60.7% agreed, 32.1% were neutral and 7.1% disagreed (mean 3.57, standard deviation 0.690).

Table 4.11 Effect of E-Procurement on Supply Chain Management at National Bank

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>Std</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-procurement’s influence on partner relationships on the supply chain performance has been positive</td>
<td>0</td>
<td>3.6</td>
<td>35.7</td>
<td>53.6</td>
<td>7.1</td>
<td>3.64</td>
<td>.678</td>
</tr>
<tr>
<td>The e-market place provides the organization with a mechanism to control, coordinate, and economize on transaction costs</td>
<td>0</td>
<td>0</td>
<td>21.4</td>
<td>53.6</td>
<td>25</td>
<td>4.04</td>
<td>.693</td>
</tr>
<tr>
<td>E-procurement has allowed the firm to reduce the costs of coordinating economic transactions</td>
<td>0</td>
<td>0</td>
<td>14.3</td>
<td>75</td>
<td>10.7</td>
<td>3.96</td>
<td>.508</td>
</tr>
<tr>
<td>E-procurement has increased the firm’s internal process efficiencies, thus increasing process efficiency</td>
<td>0</td>
<td>3.6</td>
<td>14.3</td>
<td>67.9</td>
<td>14.3</td>
<td>3.93</td>
<td>.663</td>
</tr>
<tr>
<td>E-procurement has improved the ability of the firm in obtaining better offers from its suppliers</td>
<td>0</td>
<td>3.6</td>
<td>32.1</td>
<td>46.4</td>
<td>17.9</td>
<td>3.79</td>
<td>.787</td>
</tr>
<tr>
<td>E-procurement has improved the ability of the firm to compare the offers from suppliers and access them in every phase of the process</td>
<td>0</td>
<td>0</td>
<td>39.3</td>
<td>39.3</td>
<td>21.4</td>
<td>3.82</td>
<td>.772</td>
</tr>
<tr>
<td>E-procurement has drastically reduced the effort of human resources in firms’ operations during the tendering process</td>
<td>0</td>
<td>3.6</td>
<td>10.7</td>
<td>71.4</td>
<td>14.3</td>
<td>3.96</td>
<td>.637</td>
</tr>
<tr>
<td>E-procurement has improved the ability of the firm to clearly divide its tendering process into phases with no possibility of an overlap</td>
<td>0</td>
<td>3.6</td>
<td>21.4</td>
<td>67.9</td>
<td>7.1</td>
<td>3.79</td>
<td>.630</td>
</tr>
<tr>
<td>E-procurement has allowed employees to master the dynamics of the firm’s tendering procedure</td>
<td>0</td>
<td>14.3</td>
<td>25</td>
<td>60.7</td>
<td>0</td>
<td>3.46</td>
<td>.744</td>
</tr>
<tr>
<td>E-procurement has increased the process of transparency of information about current tendering procedures and their rules</td>
<td>0</td>
<td>7.1</td>
<td>32.1</td>
<td>57.1</td>
<td>3.6</td>
<td>3.57</td>
<td>.690</td>
</tr>
</tbody>
</table>
4.4.2 Correlations for E-Procurement and Supply Chain Management Factors

Table 4.12 shows the correlation relationship between the study variables. It shows that information sharing was significant to the banking industry (R=0.691, P<0.01). Supply chain integration was significant to the banking industry (R=0.409, P<0.01). Supplier appraisal was insignificant to the banking industry (R=0.149, P>0.05). Human resource reduction was insignificant to the banking industry (R=0.010, P>0.05). Administration simplification was insignificant to the banking industry (R=0.282, P>0.01).

<table>
<thead>
<tr>
<th></th>
<th>Banking Industry</th>
<th>Information Sharing</th>
<th>Supply Chain Integration</th>
<th>Supplier Appraisal</th>
<th>HR Reduction</th>
<th>Administration Simplification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking Industry</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Sharing</td>
<td>.691**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Chain Integration</td>
<td>.409*</td>
<td>.331</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Appraisal</td>
<td>.149</td>
<td>.283</td>
<td>.392*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HR Reduction</td>
<td>.010</td>
<td>.189</td>
<td>.208</td>
<td>.437*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>.282</td>
<td>.375*</td>
<td>.203</td>
<td>.485**</td>
<td>.357</td>
<td>1</td>
</tr>
<tr>
<td>Simplification</td>
<td>.146</td>
<td>.049</td>
<td>.301</td>
<td>.009</td>
<td>.062</td>
<td></td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.01 level (2-tailed)

4.4.3 Regression Analysis for E-Procurement and Supply Chain Management Factors

Table 4.13 shows the regression analysis for e-procurement and supply chain management significant factors (information sharing and supply chain integration) and how they influence the banking industry. The table presents the model summary of the
regression analysis results and it shows that information sharing and supply chain integration impact the banking industry by 47.5%.

Table 4.13 Model Summary for E-Procurement and Supply Chain Management Factors

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.717</td>
<td>.513</td>
<td>.475</td>
<td>.27325</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Information Sharing, Supply Chain Integration

Table 4.14 shows the regression analysis for e-procurement and supply chain management significant factors (information sharing and supply chain integration) and how they influence the banking industry. The table presents the analysis of variance between information sharing and supply chain integration and the banking industry, and the F value of 13.190 df (2,25) had a P value that was <0.01 which meant that the regressions were suitable for the study.

Table 4.14 ANOVA for E-Procurement and Supply Chain Management Factors

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>1.970</td>
<td>2</td>
<td>.985</td>
<td>13.190</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>1.867</td>
<td>25</td>
<td>.075</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>3.836</td>
<td>27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Information Sharing, Supply Chain Integration

b. Dependent Variable: Banking Industry

Table 4.15 shows the regression analysis for e-procurement and supply chain management significant factors (information sharing and supply chain integration) and how they influence the banking industry. The regression coefficients in the table has a P value of <0.01 for information sharing meaning that it has a significant relationship with the banking industry. The P value of >0.05 for supply chain integration shows that it had an insignificant relationship with the banking industry. Thus:

$$\text{Banking Industry} = 1.650 + 0.418 \text{ Information Sharing} + 0.139 \text{ Supply Chain Integration} + \varepsilon$$
From this study results, it can be inferred that a single unit increase in information sharing would improve the banking industry by 41.8% which is significant. The results also show that a single unit increase in supply chain integration would improve the banking industry by 13.9% which is less significant.

Table 4.15 Regression Coefficients for E-Procurement and Supply Chain Management Factors

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  (Constant)</td>
<td>1.650</td>
<td>.455</td>
<td>3.628</td>
<td>.001</td>
</tr>
<tr>
<td>Information Sharing</td>
<td>.418</td>
<td>.099</td>
<td>.624</td>
<td>.000</td>
</tr>
<tr>
<td>Supply Chain Integration</td>
<td>.139</td>
<td>.101</td>
<td>.203</td>
<td>.182</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Banking Industry

4.4.4 Correlations for E-Procurement and Supply Chain Management

Table 4.16 shows the correlation analysis between e-procurement and supply chain management and the banking industry. The table shows that e-procurement and supply chain management was significant to the banking industry (R=0.684, P<0.01).

Table 4.16 Correlations for E-Procurement and Supply Chain Management

<table>
<thead>
<tr>
<th></th>
<th>Banking Industry</th>
<th>E-Procurement Supply Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking Industry</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>E-Procurement Supply Management</td>
<td>.684**</td>
<td>1</td>
</tr>
<tr>
<td>Management</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed)

4.4.5 Regression Analysis for E-Procurement and Supply Chain Management

Table 4.17 shows the regression analysis for e-procurement and supply chain management and its influence in the banking industry. The table presents the model summary of the regression analysis results and it shows that e-procurement and supply chain management impact the banking industry by 44.8%.

Table 4.17 Model Summary for E-Procurement and Supply Chain Management

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.684</td>
<td>.468</td>
<td>.448</td>
<td>.28016</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), E-Procurement Supply Management
Table 4.18 shows the regression analysis between e-procurement and supply chain management and the banking industry. The table presents the analysis of variance between e-procurement and supply chain management and the banking industry, and the F value of 22.875 df (1, 26) had a P value that was <0.01 which meant that the regression analysis was suitable for the study.

Table 4.18 ANOVA for E-Procurement and Supply Chain Management

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1.796</td>
<td>1</td>
<td>1.796</td>
<td>22.875</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>2.041</td>
<td>26</td>
<td>.078</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3.836</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), E-Procurement Supply Management

b. Dependent Variable: Banking Industry

Table 4.19 shows the regression analysis between e-procurement and supply chain management and the banking industry. The regression coefficients in the table has a P value of <0.01 for e-procurement and supply chain management meaning that it has a significant relationship with the banking industry. Thus:

Banking Industry = 1.649 + 0.555 E-Procurement and Supply Management + \( \varepsilon \)

From this study results, it can be inferred that a single unit increase in e-procurement and supply chain management would improve the banking industry by 55.5% which is very significant.

Table 4.19 Regression Coefficients for E-Procurement and Supply Chain Management

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1   (Constant)</td>
<td>1.649</td>
<td>.454</td>
<td>.454</td>
<td>3.635</td>
</tr>
<tr>
<td>E-Procurement Supply Management</td>
<td>.555</td>
<td>.116</td>
<td>.684</td>
<td>4.783</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Banking Industry
4.5 Challenges Encountered in Adopting E-procurement Practices

4.5.1 Challenges of Adopting E-procurement Practices at National Bank

Table 4.20 shows that the challenge faced in the implementation of e-procurement include the strategic initiative of the firm since 71.4% agreed and 28.6% were neutral with a mean of 3.82 and a standard deviation of 0.612. Supplier enablement is a challenge for the firm’s e-procurement implementation since 57.2% agreed, 35.7% were neutral and 7.1% disagreed with a mean of 3.64 and a standard deviation of 0.826. Lack of a critical mass of suppliers accessible through the organization’s e-procurement system limit the network’s effects since 67.9% agreed, 28.6% were neutral and 3.6% disagreed with a mean of 3.68 and a standard deviation of 0.612.

Lack of better communication between the firm and its suppliers limits the implementation of e-procurement systems in the firm since 71.5% agreed, 25% were neutral and 3.6% disagreed with a mean of 3.86 and a standard deviation of 0.756. Lack of information and technology strategy to integrate e-commerce in some systems impedes e-procurement implementation in the firm since 82.2% agreed, 14.3% were neutral and 3.6% disagreed with a mean of 3.93 and a standard deviation of 0.663. Lack of vendor/supplier support plays a critical role in the unsuccessful adoption and implementation of e-procurement systems in the organizations since 78.6% agreed, 17.9% were neutral and 3.6% disagreed with a mean of 3.89 and a standard deviation of 0.685.

Lack of innovative solutions in the firm impedes the successful implementation of e-procurement since 64.2% agreed, 25% were neutral and 10.7% disagreed with a mean of 3.57 and a standard deviation of 0.879. Lack of individual technology acceptance of employees in the firm impedes the successful implementation of e-procurement since 67.9% agreed, 25% were neutral and 7.2% disagreed with a mean of 3.61 and a standard deviation of 0.786. Coordination costs of integrating decisions between the firm’s economic activities impedes the successful implementation of e-procurement since 75% agreed, 21.4% were neutral and 3.6% disagreed with a mean of 3.75 and a standard deviation of 0.585. Uncertainty in the context of supply chains of the firm impede successful implementation of e-procurement since 82.1% agreed, 14.3% were neutral and 3.6% disagreed with a mean of 3.86 and a standard deviation of 0.591.
Table 4.20 Challenges of Adopting E-procurement Practices at National Bank

<table>
<thead>
<tr>
<th>Challenge</th>
<th>SD</th>
<th>D %</th>
<th>N %</th>
<th>A %</th>
<th>SA %</th>
<th>Mean</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The challenge faced in the implementation of e-procurement include the strategic initiative of the firm</td>
<td>0</td>
<td>0</td>
<td>28.6</td>
<td>60.7</td>
<td>10.7</td>
<td>3.82</td>
<td>.612</td>
</tr>
<tr>
<td>Supplier enablement is a challenge for the firm’s e-procurement implementation</td>
<td>0</td>
<td>7.1</td>
<td>35.7</td>
<td>42.9</td>
<td>14.3</td>
<td>3.64</td>
<td>.826</td>
</tr>
<tr>
<td>Lack of a critical mass of suppliers accessible through the organization’s e-procurement system limit the network’s effects</td>
<td>0</td>
<td>3.6</td>
<td>28.6</td>
<td>64.3</td>
<td>3.6</td>
<td>3.68</td>
<td>.612</td>
</tr>
<tr>
<td>Lack of better communication between the firm and its suppliers limits the implementation of e-procurement systems in the firm</td>
<td>0</td>
<td>3.6</td>
<td>25</td>
<td>53.6</td>
<td>17.9</td>
<td>3.86</td>
<td>.756</td>
</tr>
<tr>
<td>Lack of information and technology strategy to integrate e-commerce in some systems impedes e-procurement implementation in the firm</td>
<td>0</td>
<td>3.6</td>
<td>14.3</td>
<td>67.9</td>
<td>14.3</td>
<td>3.93</td>
<td>.663</td>
</tr>
<tr>
<td>Lack of vendor/supplier support plays a critical role in the unsuccessful adoption and implementation of e-procurement systems in the organizations</td>
<td>0</td>
<td>3.6</td>
<td>17.9</td>
<td>64.3</td>
<td>14.3</td>
<td>3.89</td>
<td>.685</td>
</tr>
<tr>
<td>Lack of innovative solutions in the firm impedes the successful implementation of e-procurement</td>
<td>3.6</td>
<td>7.1</td>
<td>25</td>
<td>57.1</td>
<td>7.1</td>
<td>3.57</td>
<td>.879</td>
</tr>
<tr>
<td>Lack of individual technology acceptance of employees in the firm impedes the successful implementation of e-procurement</td>
<td>3.6</td>
<td>3.6</td>
<td>25</td>
<td>64.3</td>
<td>3.6</td>
<td>3.61</td>
<td>.786</td>
</tr>
<tr>
<td>Coordination costs of integrating decisions between the firm’s economic activities impedes the successful implementation of e-procurement</td>
<td>0</td>
<td>3.6</td>
<td>21.4</td>
<td>71.4</td>
<td>3.6</td>
<td>3.75</td>
<td>.585</td>
</tr>
<tr>
<td>Uncertainty in the context of supply chains of the firm impede successful implementation of e-procurement</td>
<td>0</td>
<td>3.6</td>
<td>14.3</td>
<td>75</td>
<td>7.1</td>
<td>3.86</td>
<td>.591</td>
</tr>
</tbody>
</table>

4.5.2 Correlations for Challenges of Adopting E-Procurement Practice Factors

Table 4.21 shows the correlation relationship between the study variables. It shows that technology usefulness was significant to the banking industry (R=0.612, P<0.01). Innovation diffusion was significant to the banking industry (R=0.429, P<0.01). Stakeholders willingness was significant to the banking industry (R=0.426, P<0.01).
Communication was insignificant to the banking industry (R=0.163, P>0.05). Vender/supplier support was insignificant to the banking industry (R=0.350, P>0.01).

**Table 4.21 Correlations for Challenges of Adopting E-Procurement Practice Factors**

<table>
<thead>
<tr>
<th></th>
<th>Banking Industry</th>
<th>Technology Usefulness</th>
<th>Innovation Diffusion</th>
<th>Stakeholders Willingness</th>
<th>Communication</th>
<th>Vender/Supplier Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking Industry</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology Usefulness</td>
<td>.612**</td>
<td>.001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation Diffusion</td>
<td>.429*</td>
<td>.043</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stakeholders Willingness</td>
<td>.426*</td>
<td>.542**</td>
<td>.566**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>.163</td>
<td>.408*</td>
<td>.346</td>
<td>.599**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Vender/Supplier Support</td>
<td>.350</td>
<td>.166</td>
<td>.550**</td>
<td>.405*</td>
<td>.409*</td>
<td>1</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed)**

* Correlation is significant at the 0.01 level (2-tailed)

**4.5.3 Regression Analysis for Challenges of Adopting E-Procurement Practice Factors**

Table 4.22 shows the regression analysis for challenges of adopting e-procurement practice factors (technology usefulness, innovation diffusion and stakeholder’s willingness) and how they influence the banking industry. The table presents the model summary of the regression analysis results and it shows that technology usefulness, innovation diffusion and stakeholder’s willingness impact the banking industry by 34.7%.

**Table 4.22 Model Summary for Challenges of Adopting E-Procurement Practice Factors**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.648</td>
<td>.419</td>
<td>.347</td>
<td>.30464</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Technology Usefulness, Shareholders Willingness, Innovation Diffusion
Table 4.23 shows the regression analysis for challenges of adopting e-procurement practice factors (technology usefulness, innovation diffusion and stakeholder’s willingness) and how they influence the banking industry. The table presents the analysis of variance between technology usefulness, innovation diffusion and stakeholder’s willingness and the banking industry, and the F value of 5.779 df (3,24) had a P value that was <0.01 which meant that the regressions were suitable for the study.

Table 4.23 ANOVA for Challenges of Adopting E-Procurement Practice Factors

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>1.609</td>
<td>3</td>
<td>.536</td>
<td>5.779</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>2.227</td>
<td>24</td>
<td>.093</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>3.836</td>
<td>27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Technology Usefulness, Shareholders Willingness, Innovation Diffusion
b. Dependent Variable: Banking Industry

Table 4.24 shows the regression analysis for challenges of adopting e-procurement practice factors (technology usefulness, innovation diffusion and stakeholder’s willingness) and how they influence the banking industry. The regression coefficients in the table has a P value of <0.01 for technology usefulness meaning that it has a significant relationship with the banking industry. The P value of >0.05 for innovation diffusion shows that it had an insignificant relationship with the banking industry. The P value of >0.05 for stakeholder’s willingness shows that it had an insignificant relationship with the banking industry. Thus:

**Banking Industry = 2.115 + 0.295 Technology Usefulness + 0.140 Innovation Diffusion + 0.015 Stakeholder’s Willingness + ε**

From this study results, it can be inferred that a single unit increase in technology usefulness would improve the banking industry by 29.5% which is slightly significant. The results also show that a single unit increase in innovation diffusion would improve the banking industry by 14% which is less significant. The results also show that a single unit increase in stakeholder’s willingness would improve the banking industry by 1.5% which is very insignificant.
Table 4.24 Regression Coefficients for Challenges of Adopting E-Procurement Practice Factors

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>2.115</td>
<td>.457</td>
<td></td>
<td>4.624</td>
</tr>
<tr>
<td>Technology Usefulness</td>
<td>.295</td>
<td>.106</td>
<td>.516</td>
<td>2.770</td>
</tr>
<tr>
<td>Innovation Diffusion</td>
<td>.140</td>
<td>.122</td>
<td>.217</td>
<td>1.145</td>
</tr>
<tr>
<td>Stakeholders Willingness</td>
<td>.015</td>
<td>.136</td>
<td>.024</td>
<td>.113</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Banking Industry

4.5.4 Correlations for Challenges of Adopting E-Procurement Practices

Table 4.25 shows the correlation analysis between challenges of e-procurement practices and the banking industry. The table shows that challenges of e-procurement practices were significant to the banking industry (R=0.603, P<0.01).

Table 4.25 Correlations for Challenges of Adopting E-Procurement Practices

<table>
<thead>
<tr>
<th></th>
<th>Banking Industry</th>
<th>Challenges of e-Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking Industry</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Challenges of e-Procurement</td>
<td>.603**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed)

4.5.5 Regression Analysis for Challenges of Adopting E-Procurement Practices

Table 4.26 shows the regression analysis for challenges of adopting e-procurement practices and how they influence the banking industry. The table presents the model summary of the regression analysis results and it shows that challenges of adopting e-procurement practices impact the banking industry by 33.9%.

Table 4.26 Model Summary for Challenges of Adopting E-Procurement Practices

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.603</td>
<td>.363</td>
<td>.339</td>
<td>.30646</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Challenges of e-Procurement
Table 4.27 shows the regression analysis for challenges of adopting e-procurement practices and how they influence the banking industry. The table presents the analysis of variance between challenges of adopting e-procurement practices and the banking industry, and the F value of 14.848 df (1,26) had a P value that was <0.01 which meant that the regressions were suitable for the study.

**Table 4.27 ANOVA for Challenges of Adopting E-Procurement Practices**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>1</td>
<td>1.394</td>
<td>14.848</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>26</td>
<td>.094</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>27</td>
<td>3.836</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Challenges of e-Procurement  
b. Dependent Variable: Banking Industry

Table 4.28 shows the regression analysis for challenges of adopting e-procurement practices and how they influence the banking industry. The regression coefficients in the table has a P value of <0.01 challenges of adopting e-procurement practices meaning that it has a significant relationship with the banking industry. Thus:

**Banking Industry = 2.268 + 0.413 Challenges of E-Procurement Practices + ε**

From this study results, it can be inferred that a single unit increase in challenges of adopting e-procurement practices would improve the banking industry by 41.3% which is very significant.

**Table 4.28 Regression Coefficients for Challenges of Adopting E-Procurement Practices**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>2.268</td>
<td>.403</td>
<td>5.632</td>
</tr>
<tr>
<td></td>
<td>Challenges of e-Procurement</td>
<td>.413</td>
<td>.107</td>
<td>3.853</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Banking Industry
4.6 Chapter Summary
This chapter has provided the study results and findings for the scope of e-procurement, effect of e-procurement on the supply chain management, and the challenges of adopting e-procurement practices that could be anticipated at National Bank, Harambee Avenue Branch. Section 4.2 provides demographic data, section 4.3 dwells on the scope of e-procurement, section 4.4 details the effect of e-procurement on Supply Chain Management and section 4.5 outlines the challenges encountered in adopting e-procurement practices. The next chapter provides the study’s discussion, conclusions and recommendations.
CHAPTER FIVE
5.0 DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
This study focused on the effects of using e-procurement within the banking industry. This section concludes the study by providing the summary, discussions, conclusions and recommendations based on the study objectives.

5.2 Summary
This study focused on the effects of using e-procurement within the banking industry. Specifically, the study examined the scope of e-procurement, effect of e-procurement on the supply chain management, and the challenges of adopting e-procurement practices that could be anticipated at National Bank, Harambee Avenue Branch.

This study used descriptive research design. The primary population of the study came from National Bank and specifically Harambee Avenue Branch which as at July 2018 housed 49 employees. The sample frame for the study came from National Bank’s human resource department. Census sampling was used to select the desired number of respondents for the study. Data for the study was collected using a questionnaire. In this study, data was broken down using Microsoft Excel and SPSS, and it was analyzed descriptively. Descriptive statistics, which included measures of central tendencies (frequencies, means and standard deviations) were used to analyze the collected data. Inferential analysis (correlations and regressions) were used to describe the degree of relationship between the study variables. Regression analysis employed the use of simple regression that indicated how the study’s independent variables influenced the dependent variable. The results were presented using figures and tables.

The study showed that the effectiveness of e-procurement in the organization includes information sharing within and across the firm and that internet-based technologies facilitate process of e-procurement integration within and across the firms. E-tendering procedure facilitates the ability of the organization to select a suitable supplier and it allows the firm to recommend tenders from a limited number of firms that are carefully selected. The study also showed that e-sourcing has reduced the firm’s purchase prices and has successfully been used to source indirect support services for the firm. Enterprise
resource planning module is used to support the basic internal business processes of the firm as well as to track business resources such as cash, raw materials, and production capacity. IT is used in the firm to gather and distribute information both from and to internal and external parties and the e-procurement revolution has enhanced the status and influence of the purchasing function within the organization.

The study indicated that e-procurement’s influence on partner relationships on the supply chain performance has been positive and the e-market place provides the organization with a mechanism to control, coordinate, and economize on transaction costs. E-procurement has allowed the firm to reduce the costs of coordinating economic transactions, has increased the firm’s internal process efficiencies, thus increasing process efficiency, has improved the ability of the firm in obtaining better offers from its suppliers as well as compare the offers from suppliers and access them in every phase of the process, has drastically reduced the effort of human resources in firms’ operations during the tendering process, has improved the ability of the firm to clearly divide its tendering process into phases with no possibility of an overlap, has allowed employees to master the dynamics of the firm’s tendering procedure, and has increased the process of transparency of information about current tendering procedures and their rules.

The study revealed that the challenge faced in the implementation of e-procurement include the strategic initiative of the firm as well as supplier enablement. Lack of a critical mass of suppliers accessible through the organization’s e-procurement system limit the network’s effects and lack of better communication between the firm and its suppliers limits the implementation of e-procurement systems in the firm. Lack of information and technology strategy to integrate e-commerce in some systems impedes e-procurement implementation in the firm as well as the fact that vendor/supplier support plays a critical role in the unsuccessful adoption and implementation of e-procurement systems in the organizations. The study showed that lack of innovative solutions in the firm impedes the successful implementation of e-procurement as well as individual technology acceptance of employees in the firm impedes the successful implementation of e-procurement. Coordination costs of integrating decisions between the firm’s economic activities impede the successful implementation of e-procurement.
5.3 Discussion

5.3.1 Scope of E-Procurement

The study showed that the effectiveness of e-procurement in the organization includes information sharing within and across the firm since 67.9% agreed, 25% were neutral and 7.1% disagreed with a mean of 3.64 and a standard deviation of 0.678. This agrees with Emiliani and Stec (2015) that, some additional challenges associated with the effectiveness of e-procurement include information sharing within and across firms, overcoming the “silo mentality” within the firm, sharing proprietary information with supply chain members, and intellectual property matters.

The study revealed that, internet-based technologies facilitate process of e-procurement integration within and across the firms since 85.7% agreed and 14.3% was neutral with a mean of 4.04 and a standard deviation of 0.576. Similar observations were made by Holt et al. (2015) that, a wide variety of Internet-based technologies are available to firms attempting to improve their business position, including the ability to facilitate process integration within and across firms.

The study showed that e-tendering procedure facilitates the ability of the organization to select a suitable supplier since 78.6% agreed and 21.4% were neutral with a mean of 3.86 and a standard deviation of 0.525. These results agree with those of Eriksson and Westerberg (2011) who note that, generally, the whole essence of e-tendering procedure is to select a suitable contractor at a time appropriate to the circumstances and to obtain from him at the appropriate time, an acceptable tender or offer upon which a contract can be let.

The study revealed that e-tendering allows the firm to recommend tenders from a limited number of firms that are carefully selected since 71.5% agreed, 25% were neutral and 3.6% disagreed with a mean of 3.71 and a standard deviation of 0.600. The results agree with those of the report done by the Simon Committee (2014) which recommended that tenders should only be called from a limited number of firms carefully selected as being capable of, and likely to do the work to standard, as it has been noted that open e-tendering often lead to unscrupulous vendors being awarded contracts.
The study showed that e-sourcing has reduced the firm’s purchase prices since 71.4% agreed, 17.9% were neutral and 10.7% disagreed with a mean of 3.71 and a standard deviation of 0.937. These results are similar to those of Smart and Harrison (2013) who stated that, e-sourcing can reduce purchase prices, save time, streamline the bidding process, and enable suppliers from anywhere in the world to compete for a buyer’s business.

The study revealed that e-sourcing has successfully been used to source indirect support services for the firm since 67.9% agreed and 32.1% were neutral with a mean of 3.82 and a standard deviation of 0.670. These results are comparable to those of Gabbard (2013) who detected that, e-sourcing has successfully been used to source indirect materials, production materials, and support services. Similarly, Handfield et al. (2012) observe that, supply managers are using e-sourcing for commodity-type items and one-time purchases.

The study showed that the ERP module is used to support the basic internal business processes of the firm since 85.7% agreed and 14.3% were neutral with a mean of 4.07 and a standard deviation of 0.604. These results coincide with those of Al-Mashari et al. (2013) who state that, ERP is a cross-functional enterprise system driven by an integrated suite of software modules that supports the basic internal business processes of a company and it gives a company an integrated real-time view of its core business processes.

The study showed that ERP systems in the firm, track business resources such as cash, raw materials, and production capacity since 64.3% agreed, 25% were neutral and 10.7% disagreed with a mean of 3.71 and a standard deviation of 0.897. The results agree with those of Dezdar (2010) who state that, the ERP systems track business resources such as cash, raw materials, and production capacity and the status of commitments made by the business such as customer orders, purchase orders, and employee payroll, no matter which department (manufacturing, purchasing or sales) has entered into the system.
The study indicated that IT is used in the firm to gather and distribute information both from and to internal and external parties since 78.6% agreed, 14.3% were neutral and 7.1% disagreed with a mean of 3.89 and a standard deviation of 0.78. The results agree with those of McFarlan (2014) who state that, IT enables the gathering and distributing of purchasing information both from and to internal and external parties using IT and it is the use of IT to buy goods and services from a number of known or unknown suppliers.

The study showed that the e-procurement revolution has enhanced the status and influence of the purchasing function within the organization since 71.4% agreed, 25% were neutral and 3.6% disagreed with a mean of 3.79 and a standard deviation of 0.686. The results coincide with those of Osmonbekov et al. (2012) who state that, the e-procurement revolution is expected to enhance the status and influence of the purchasing function within organizations, and existing literature has emphasized the important contribution of e-procurement in reducing total purchasing costs.

### 5.3.2 Effect of E-Procurement on Supply Chain Management

The study revealed that e-procurement’s influence on partner relationships on the supply chain performance has been positive since 60.7% agreed, 35.7% were neutral and 3.6% disagreed with a mean of 3.89 and a standard deviation of 0.678. The results are comparable to those of Puschmann and Alt (2015) that, e-procurement system can improve the effectiveness of operation processes and the transparency of the supply chain and it can enable companies to improve the efficiency of value creation processes in the supply chain.

The study showed that the e-market place provides the organization with a mechanism to control, coordinate, and economize on transaction costs since 78.6% agreed and 21.4% were neutral with a mean of 4.04 and a standard deviation of 0.693. These results agree with the findings of Eng (2014) that, information sharing is about the information flow, the timeliness of information availability, and the openness and transparency, 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.
The study indicated that the e-procurement has allowed the firm to reduce the costs of coordinating economic transactions since 85.7% agreed and 14.3% were neutral with a mean of 3.96 and a standard deviation of 0.508. The results coincide with those of Malone et al. (2014) who 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.

The results indicate that e-procurement has increased the firm’s internal process efficiencies, thus increasing process efficiency since 82.2% agreed, 14.3% were neutral and 3.6% disagreed (mean 3.93, standard deviation 0.663). These results align with observations made by Croom (2010) and De Boer et al. (2012) who mentioned that internal process efficiencies and automation are seen to be key drivers for increasing process efficiency. Tan et al., (2012) supported that supply chain integration influence majorly in product quality and customer service levels.

The study showed that e-procurement has improved the ability of the firm in obtaining better offers from its suppliers since 64.3% agreed, 32.1% were neutral and 3.6% disagreed (mean 3.79, standard deviation 0.787). These results align with those of De Boer et al. (2012) who perceived that, e-procurement provides firms with better organization and archiving of offers from suppliers. Offers, documents and answers to eligibility requirements, are automatically organized by the platform, in the same way for each supplier.

The study showed that e-procurement has improved the ability of the firm to compare the offers from suppliers and access them in every phase of the process since 60.7% agreed and 39.3% were neutral (mean 3.82, standard deviation 0.772). Similar observations were made by Ochieng (2016) who noted that, e-procurement makes it 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.
The study showed that e-procurement has drastically reduced the effort of human resources in firms’ operations during the tendering process since 85.7% agreed, 10.7% were neutral and 3.6% disagreed (mean 3.96, standard deviation 0.637). The results are similar to those of Thatcher (2012) who observed that, 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.

The study revealed that e-procurement has improved the ability of the firm to clearly divide its tendering process into phases with no possibility of an overlap since 75% agreed, 21.4% were neutral and 3.6% disagreed (mean 3.79, standard deviation 0.630). These results coincide with those of Ochieng (2016) who states that, 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.

The results of the study showed that e-procurement has allowed employees to master the dynamics of the firm’s tendering procedure since 60.7% agreed, 25% were neutral and 21.4% disagreed (mean 3.46, standard deviation 0.744). These results are similar to those of Barratt and Rosdahl (2012) who state that, administrative simplification involves 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.

The study revealed that e-procurement has increased the process of transparency of information about current tendering procedures and their rules since 60.7% agreed, 32.1% were neutral and 7.1% disagreed (mean 3.57, standard deviation 0.690). The results coincide with those of Ochieng (2016) who states that, the process increases transparency of 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.
5.3.3 Challenges Encountered in Adopting E-procurement Practices

The study showed that the challenge faced in the implementation of e-procurement include the strategic initiative of the firm since 71.4% agreed and 28.6% were neutral with a mean of 3.82 and a standard deviation of 0.612. These results agree with those of Jerome (2010) who states that, the past research studies have identified challenges faced in the implementation of e-procurement which included; challenges associated with strategic initiative, legal infrastructure.

The study indicates that supplier enablement is a challenge for the firm’s e-procurement implementation since 57.2% agreed, 35.7% were neutral and 7.1% disagreed with a mean of 3.64 and a standard deviation of 0.826. These results are similar to the research conducted by Aberdeen group (2014) where, it was discovered that supplier enablement is one of the top three challenges for e-procurement implementation. Suppliers do not fit into organizational plans or may want to do things their way.

The study showed that lack of a critical mass of suppliers accessible through the organization’s e-procurement system limit the network’s effects since 67.9% agreed, 28.6% were neutral and 3.6% disagreed with a mean of 3.68 and a standard deviation of 0.612. These results are similar to those of Paulo (2009) who states that, the lack of a critical mass of suppliers accessible through the organization’s e-procurement system might limit the network effects that underlie these technologies, delaying the acceptance and adoption of the solution.

The study showed that lack of better communication between the firm and its suppliers limits the implementation of e-procurement systems in the firm since 71.5% agreed, 25% were neutral and 3.6% disagreed with a mean of 3.86 and a standard deviation of 0.756. These results are akin to those of Wahid (2010) who states that, organizations that have fewer problems in adopting and implementing e-procurement systems are those that have better communication with key stakeholders throughout the entire supply chain and had listened to their concerns.
The study indicated that lack of information and technology strategy to integrate e-commerce in some systems impedes e-procurement implementation in the firm since 82.2% agreed, 14.3% were neutral and 3.6% disagreed with a mean of 3.93 and a standard deviation of 0.663. The study results are similar to observations made by Lin et al. (2010) that, the most organizations did not have an IT strategy to integrate their e-commerce with other systems.

The results of the study indicate that Lack of vendor/supplier support plays a critical role in the unsuccessful adoption and implementation of e-procurement systems in the organizations since 78.6% agreed, 17.9% were neutral and 3.6% disagreed with a mean of 3.89 and a standard deviation of 0.685. Similar observations were noted by Croom and Brandon-Jones (2014) that, vendor/supplier support also can play a critical role in successful adoption and implementation of e-procurement systems for organizations.

The study showed that lack of innovative solutions in the firm impedes the successful implementation of e-procurement since 64.2% agreed, 25% were neutral and 10.7% disagreed with a mean of 3.57 and a standard deviation of 0.879. These observations coincide with those of Tan et al. (2012) who note that, in the early days of e-procurement, buying enterprises and solution providers underestimated the time, effort, and resources required to enable suppliers to transact business electronically.

The study revealed that, lack of individual technology acceptance of employees in the firm impedes the successful implementation of e-procurement since 67.9% agreed, 25% were neutral and 7.2% disagreed with a mean of 3.61 and a standard deviation of 0.786. These results are similar to those of Clemons (2012) who redefined a number of ideas for use to examine individual technology acceptance such as relative advantage, ease of use, image, compatibility and results demonstrability.

The study showed that the coordination costs of integrating decisions between the firm’s economic activities impedes the successful implementation of e-procurement since 75% agreed, 21.4% were neutral and 3.6% disagreed with a mean of 3.75 and a standard deviation of 0.585. The results coincide with those of Clemons and Row (2012) who note that, coordination costs are the direct costs of integrating decisions between economic
activities (such as search and bargaining costs). Transaction risk is associated with the exposure to being exploited in the relationship.

The study revealed that Uncertainty in the context of supply chains of the firm impede successful implementation of e-procurement since 82.1% agreed, 14.3% were neutral and 3.6% disagreed with a mean of 3.86 and a standard deviation of 0.591. These results are similar to observations made by Koh (2012) that, uncertainty in the context of supply chains and more specifically in manufacturing is caused by supply uncertainty, demand uncertainty, new product development uncertainty, and technology uncertainty.

5.4 Conclusions

5.4.1 Scope of E-Procurement

The study concludes that the effectiveness of e-procurement in the organization includes information sharing within and across the firm and that internet-based technologies facilitate process of e-procurement integration within and across the firms. E-tendering procedure facilitates the ability of the organization to select a suitable supplier and it allows the firm to recommend tenders from a limited number of firms that are carefully selected. The study also concludes that e-sourcing has reduced the firm’s purchase prices and has successfully been used to source indirect support services for the firm. Enterprise resource planning module is used to support the basic internal business processes of the firm as well as to track business resources such as cash, raw materials, and production capacity. IT is used in the firm to gather and distribute information both from and to internal and external parties and the e-procurement revolution has enhanced the status and influence of the purchasing function within the organization.

5.4.2 Effect of E-Procurement on Supply Chain Management

The study concludes that e-procurement’s influence on partner relationships on the supply chain performance has been positive and the e-market place provides the organization with a mechanism to control, coordinate, and economize on transaction costs. E-procurement has allowed the firm to reduce the costs of coordinating economic transactions, has increased the firm’s internal process efficiencies, thus increasing process efficiency, has improved the ability of the firm in obtaining better offers from its suppliers as well as compare the offers from suppliers and access them in every phase of
the process, has drastically reduced the effort of human resources in firms’ operations during the tendering process, has improved the ability of the firm to clearly divide its tendering process into phases with no possibility of an overlap, has allowed employees to master the dynamics of the firm’s tendering procedure, and has increased the process of transparency of information about current tendering procedures and their rules.

5.4.3 Challenges Encountered in Adopting E-procurement Practices

The study concludes that the challenge faced in the implementation of e-procurement include the strategic initiative of the firm as well as supplier enablement. Lack of a critical mass of suppliers accessible through the organization’s e-procurement system limit the network’s effects and lack of better communication between the firm and its suppliers limits the implementation of e-procurement systems in the firm. Lack of information and technology strategy to integrate e-commerce in some systems impedes e-procurement implementation in the firm as well as the fact that vendor/supplier support plays a critical role in the unsuccessful adoption and implementation of e-procurement systems in the organizations. The study concludes that lack of innovative solutions in the firm impedes the successful implementation of e-procurement as well as individual technology acceptance of employees in the firm impedes the successful implementation of e-procurement. Coordination costs of integrating decisions between the firm’s economic activities impede the successful implementation of e-procurement and uncertainty in the context of supply chains of the firm impedes successful implementation of e-procurement.

5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 Scope of E-Procurement

The study recommends National Bank to integrate its communication and information across all the departments within the firms as well as across all stakeholders of the firm in order for the e-procurement service/ system to be effective, efficient and responsive for operations.
5.5.1.2 Effect of E-Procurement on Supply Chain Management
The study recommends National Bank to involve its partners and suppliers in its e-procurement system. This incorporation would help the bank in improving its services as well as receiving services from its suppliers. This involvement may also reduce the time and cost of developing and introducing new products in the bank.

5.5.1.3 Challenges Encountered in Adopting E-procurement Practices
The study recommends National Bank to ensure that it standardizes all its processes in order to allow its employees to master the dynamics involved in its tendering procedures and to also ensure that all its registered users have access and the ability to check the process status online.

5.5.2 Recommendations for Further Studies
The scope of this study was on the effects on using e-procurement within the banking industry and it was limited to the Harambee Avenue branch, located in the CBD of Nairobi. As such, more studies need to be conducted on other financial institutors and branches of National Bank. Other studies can also expound on other factors of e-procurement other than those captured in this study.
REFERENCES


United States International University – Africa,
P.O. Box 14634 – 00800,
Nairobi – Kenya.

Sub: Permission to Participate in this Survey.

Sir/Madam,

I wish to inform you that I am a student at the above-mentioned university and I am conducting a research on the effects of e-procurement in the banking industry with a focus on the National Bank - Harambee Avenue Branch.

In this regard, I am conducting surveys for data collection among the staff of National Bank - Harambee Avenue Branch. The main objective of this study is to make a feasibility study of e-procurement in the bank and how it may be improved.

Therefore, may I request you to kindly help me in collecting the necessary data using the pre-designed questionnaire. Information provided by you will be kept confidential and used for academic purposes only.

Regards,

Wanjiru Gikonyo.
APPENDIX II: QUESTIONNAIRE

This questionnaire has been created to enable the researcher to undertake a study on the effects of e-procurement in the banking industry. Your organization has been selected as a case study and your responses will enable the researcher to complete the study. The responses you give will be used for academic purposes only and they shall be treated with high confidentiality. Kindly take your time and fill the questionnaire as required.

Part A: General Information

1. Please indicate your gender.
   Male [ ] Female [ ]

2. Please indicate your level of education.
   Diploma [ ] Degree [ ] Master’s Degree [ ] Doctorate [ ]
   PhD [ ] Other [ ] Specify _______________________________

3. How long have you been working with the organization?
   1-5 years [ ] 6-10 years [ ] 11-15 years [ ] 15-20 years [ ]
   21 years and above [ ]

4. Kindly indicate your position in the organization.
   Senior management level [ ] Middle management level [ ]
   Lower management [ ] Regular staff [ ]

5. How has the organization managed to adopt e-procurement within its system and processes?
   Very Ineffectively [ ] Ineffectively [ ] Neutral [ ] Effectively [ ]
   Very Effectively [ ]

6. How effective is the organization utilizing its e-procurement?
   Very Ineffectively [ ] Ineffectively [ ] Neutral [ ] Effectively [ ]
   Very Effectively [ ]
**Part B: Scope of E-Procurement**

7. Please rate the following statement about the scope of e-procurement as appertains to your organization.

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness of e-procurement in the organization includes information sharing within and across the firm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet-based technologies facilitate process of e-procurement integration within and across the firms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-tendering procedure facilitates the ability of the organization to select a suitable supplier</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>E-tendering allows the firm to recommend tenders from a limited number of firms that are carefully selected</td>
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<tr>
<td>E-sourcing has reduced the firm’s purchase prices</td>
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<tr>
<td>E-sourcing has successfully been used to source indirect support services for the firm</td>
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<tr>
<td>Enterprise Resource Planning module is used to support the basic internal business processes of the firm</td>
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<tr>
<td>Enterprise Resource Planning systems in the firm, track business resources such as cash, raw materials, and production capacity</td>
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<tr>
<td>Information Technology is used in the firm to gather and distribute information both from and to internal and external parties</td>
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<tr>
<td>The e-procurement revolution has enhanced the status and influence of the purchasing function within the organization</td>
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</table>
Part C: Effect of E-Procurement on the Supply Chain Management

8. Please rate the following statement about the effect of e-procurement on the supply chain management as appertains to your organization.

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
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</thead>
<tbody>
<tr>
<td>E-procurement’s influence on partner relationships on the supply chain performance has been positive</td>
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<td>The e-market place provides the organization with a mechanism to control, coordinate, and economize on transaction costs</td>
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<tr>
<td>E-procurement has allowed the firm to reduce the costs of coordinating economic transactions</td>
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<td>E-procurement has increased the firm’s internal process efficiencies, thus increasing process efficiency</td>
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<tr>
<td>E-procurement has improved the ability of the firm in obtaining better offers from its suppliers</td>
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<tr>
<td>E-procurement has improved the ability of the firm to compare the offers from suppliers and access them in every phase of the process</td>
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<td>E-procurement has drastically reduced the effort of human resources in firms’ operations during the tendering process</td>
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<tr>
<td>E-procurement has improved the ability of the firm to clearly divide its tendering process into phases with no possibility of an overlap</td>
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<tr>
<td>E-procurement has allowed employees to master the dynamics of the firm’s tendering procedure</td>
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<tr>
<td>E-procurement has increased the process of transparency of information about current tendering procedures and their rules</td>
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</table>
Part D: Challenges of Adopting E-procurement Practices

Please rate the following statement about the challenges of e-procurement practices as appertains to your organization.

<table>
<thead>
<tr>
<th>Challenge</th>
<th>SD</th>
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<tbody>
<tr>
<td>The challenge faced in the implementation of e-procurement include the strategic initiative of the firm</td>
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<tr>
<td>Supplier enablement is a challenge for the firm’s e-procurement implementation</td>
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<tr>
<td>Lack of a critical mass of suppliers accessible through the organization’s e-procurement system limit the network’s effects</td>
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<td>Lack of better communication between the firm and its suppliers limits the implementation of e-procurement systems in the firm</td>
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<td>Lack of information and technology strategy to integrate e-commerce in some systems impedes e-procurement implementation in the firm</td>
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<td>Lack of vendor/supplier support plays a critical role in the unsuccessful adoption and implementation of e-procurement systems in the organizations</td>
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<td>Lack of innovative solutions in the firm impedes the successful implementation of e-procurement</td>
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<td>Lack of individual technology acceptance of employees in the firm impedes the successful implementation of e-procurement</td>
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<td>Coordination costs of integrating decisions between the firm’s economic activities impedes the successful implementation of e-procurement</td>
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<td>Uncertainty in the context of supply chains of the firm impede successful implementation of e-procurement</td>
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</table>

Thank You

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