FACTORS INFLUENCING IMPLEMENTATION OF E-PROCUREMENT IN SUPERMARKETS IN NAIROBI, KENYA

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DECLARATION

I declare that this research project is my original work and has not been submitted for any degree qualification of this or any other university.

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This research project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

This study is dedicated my children Sanare and Rayon, my husband Kirimon, my mother Kiano and to all the supermarkets in Nairobi.

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I would like to acknowledge God Almighty for the strength, sound mind and provision during the period of study.

Special thanks to my supervisor Michael Chirchir for his support, guidance and patience, and advice.

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<div align="center">God bless you</div>

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ABSTRACT

Technology has changed the way supermarkets perform their operations; this has led to the introduction of new products and services that are aimed at lowering transaction costs and reaching a larger number of customers E-procurement provides the potential of increasing efficiency of payments system and expanding access to formal financial services by those who presently lack it. This study explored on the factors influencing e-procurement implementation in supermarkets in Nairobi Kenya. Thus it assessed the extent of adoption of E-procurement in supermarkets in Kenya, the factors influecing E-procurement adoption in supermarkets in Kenya and the relationship between the identified factors and level of E-procurement implementation in supermarkets in Kenya. This study was informed by the Technology Acceptance Model theory, Theory of Reasoned Action and Theory of Planned Behavior. The premise of Technology Acceptance Model is that people behavioral intention to accept and actually use a certain technology is determined by perceived usefulness and perceived ease of use. The Reasoned Action determines the consciously behavior of people and the Planned theory limits the behavior over which people have incomplete volitional control. Empirical literature reviewed shows that e-procurement has proved advantageous in organizations across the globe. Due to the small number of supermarkets in Nairobi, a census survey was done. The survey targeted 53 supermarkets drawn from Nairobi. Data was collected from the respondents using a structured questionnaire. This study found that there was a moderate extent of e-procurement implementation among the supermarkets in Nairobi. The four factors that influenced e-procurement were organizational factors, Readiness factors, Environmental factors and Technological factors. All of these factors have statistically significant relationships with e-procurement implementation. An examination of the joint relationship confirmed these findings and established that these four variables jointly account for 67.1% of the variability in procurement implementation. It was recommended supermarkets should scale down on traditional procurement activities if the benefits are to be realized. Also the government and other stakeholders need to work on incentives to encourage on technology use on running businesses. Other organizations should also be encouraged to adopt the same in order to provide faster and efficient services to their customers. It was such an uphill task for the researcher to convince the respondents to participate in the study since supermarkets are known to work under very strict confidentiality. E-procurement largely relies on the ERP system as the primary integration tool. Information technology is very dynamic and keeps on changing hence he need to replicate this study in line with major trends that may influence the performance of supermarkets in Kenya.

ABBREVIATIONS AND ACRONYMS

BOP: Bottom of pyramid

B2B: Business to Business

B2C: Business to consumer

CAK: Communication authority of Kenya

C2C: Consumer to Consumer

ERP: Enterprise Resource Planning

IT: Information Technology

MRP: Material Resource Planning

PBC: Perceived behavioural control

PEOU: Perceived ease of use

PI: Personal innovations

PR: Perceived risk

PU: Perceived usefulness

RA: Relative advantage

SMEs: Small medium enterprises

SN: Social norms

SPSS: Statistical packages for social sciences

TAM: Technology acceptance model

TRA: Theory of reasoned action

TPB: Theory of planned behaviour

UTAUT: Unified theory of accepted and use of technology

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Technology can save time and money and eliminate errors, thereby addressing certain issues associated with changing cultural and social trends; it can also minimize direct customer interaction and any associated service value to be gained (Bitner, 2001). Technology is being used by businesses today to enhance growth and competitiveness (Anyasi and Otubu, 2009). Firms are developing new and innovative products to be able to maintain existing customers and to attract new markets. One such innovation is the introduction of advanced technology in the service sector. Technology has changed the way supermarkets perform their operations; this has led to the introduction of new products and services that are aimed at lowering transaction costs and reaching a larger number of customers (Mari, 2003; Anyasi and Otubu, 2009; Ayo, Adewoye and Oni, 2010).

E-procument provides the potential of increasing efficiency of payments system and expanding access to formal financial services by those who presently lack it. At the same time, it could make service industry more convenient and cheaper to their customers (Porteous, 2006). It is clear that technology will make Kenya realize its vision of ensuring high levels of savings to finance its overall investment needs (Kenya's Vision 2030).

E-procurement has improved business operations, the operations function is that part of the organization that is concerned with the management of the business process that produces the goods and services supplied to the customer. These processes of order fulfillment and delivery are the heart of every business as they are the means by which an organization satisfies its customers. An organization can be considered to have e-operations if it uses

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information technologies (ICT) in the management of its order fulfillment and delivery processes (Fraser and McDonald 2000).

1.1.1 E-procurement

The supply management function of any organization is responsible for various aspects of procurement. Procurement is the act of obtaining or buying goods or services. This includes the preparation and processing of demands as well as the end receipt and approval of payment. The process of procurement is often part of a company's strategy because the ability to purchase certain materials will determine if operations will continue. (Emma Doolan, 2014)

The procurement process has four distinct stages or phases; information gathering or needs analysis phase, negotiation phase, settlement phase and the after sales phase (Eadie et al., 2007).With advancement in IT, internet powered by communication technologies has made online business transactions a preferred mode of doing business.(Musau, 2015)

E-procurement consists of buying and selling of products and services over electronic systems such as the internet and other computer networks (Mahadavan, 2000). Modern electronic commerce typically uses the World Wide Web at some point in the transactions lifecycle, although it can encompass a wide range of technologies such as e-mail. A small percentage of e-procument is conducted entirely electronically for virtual items such as access to premium content on a website, but most e-procurement eventually involves physical items and their transportation in at least some way.

Electronic procurement activities include the inter-organizational processes of market-based sell-buy relationships and collaboration (known as business-to-business, or B2B, commerce) and consumer-oriented activities (business-to-consumer, i.e., B2C, and consumer-to-

consumer, or C2C), as well as the intra-organizational processes that support them (Zwass, 2003). Electronic procurement as a way of doing business has significant advantages; organizations are embracing e-commerce as a means of expanding markets, improving customer service, reducing costs, and enhancing productivity (Wenninger, 2000).

1.1.2 Factors Affecting E-procurement Implementation

Technology has played pivotal role in the evolution of e-procurement (Mukhopadhyay & Kekre, 2002). Electronic procurement is frequently defined as the sourcing of goods and services via electronic means, usually through the internet (Schoenherr & Tummala, 2007). The precursors of e-procurement in the 1980s formed the basic technological trends. It began with the evolution of Material Requirement Planning (MRP), Manufacturing Resource Planning (MRP II), and then to Enterprise Resource Planning (ERP) systems in the mid-1990s (Schoenherr et al, 2007). Most organizations adopting or looking to adopt e-procurement software already have significant investments in the relevant technology systems; failure to integrate these technologies with existing platforms creates duplicative work steps and jeopardizes the reliability of e-procurement information (Davila etal, 2006). E-procurement implementation can suffer performance handicaps due to incomplete technological development of the virtualization platforms (Beauvallet et al, 2011). The World Bank blames the inadequate access and connectivity to limited absorption and usage of e-procurement technologies (World Bank, 2004). E-procurement implementation is affected by the lack of a widely accepted and standardized solution and this blocks the integration of different e-procurement software across the supply chain (Davila et al, 2006).Without widely accepted standards for coding, technical, and process specifications, e-procurement technology adoption will be slow and will fail to deliver much of the benefits expected (Davila et al, 2006). Companies fear buying into a "closed" technology that cannot communicates with other technologies and thus limits access to a broader network of supply

chain constituencies (Davila et al, 2006). The European Commission (EC) states that the level of information technology infrastructure and usage in developing countries still remains an impediment to a full integration of e-procurement (EU, 2012). Dholakia et al (2011) suggested that skills and knowledge of employees influence the future adoption of a new technology in a large extent.

Implementing a new technology needs skills and knowledge to operate in the organizations and most organization do not implement because organizations employees are not familiar with new technology. Implementing e-procurement necessitates knowledgeable and skilled employees, such reasons may cause delay in e-procurement implementation. Lack of appropriate abilities and skills can limit workers' productivity. Competence based theorists frequently suggest that firms' abilities to acquire, assimilate and exploits new technological knowledge is directly related to their portfolio of human resources Chaffey (2009). Lack of IT skills makes it difficult to implement supplier relationships. This is more so where the supplier has adopted e-procurement while the buyer employs the traditional approaches. Thus for a company to achieve its e-procurement objectives, the implementation project should proceed in alignment with the business processes.

1.1.3 Supermarkets in Nairobi, Kenya

Kenya was the first country in the region to have experienced the proliferation of modern food retailing within urban centres and many of these supermarkets are expanding into regional countries such as Tanzania, Uganda, Rwanda, and Burundi. If successful outlets such as Nakumatt, Naivas, Tusky's, and Uchumi have the capacity to streamline their procurement processes into efficient supply chain systems, they could provide market alternatives at the farm gate and stimulate the agricultural sector by creating incentive for capital investment. This would have positive implications for food security and poverty

alleviation in some of the most economically marginalized communities in East Africa. Improving access to markets for farmers must be a critical element of any strategy to enable them to enhance their food security and increase their incomes. (Wagner 2016)

Today, procurement strategies are more a part of a business's success than ever before. Not only has technology given companies the opportunity to truly make purchasing more efficient and inexpensive, but companies are now spending a larger percentage of their revenue on products and services than they were thirty years ago.

Higgins (2002) in his study on e-procurement implementation has showed that several supermarkets have implemented e-procurement technology and thus most supermarkets have heavily invested in technology for among other reasons, to reach more customers, provide services anywhere anytime and reduce cost of providing services. Performance of supermarkets in Kenya has been revolutionized by the adoption of e-procurement. As supermarkets become more of a convenient one-stop shopping environment, consumers will more than likely convert to transacting all personal finances online. For instance, once a customer has gone through all of the trouble of setting up electronic bill payments, he or she is likely to switch to a potential competitor.

According to Neven and Reardon (2004) supermarkets have rapidly penetrated urban food retail in Kenya and are spreading well beyond their initially tiny market niche among the urban middle class into the food markets of lower-income groups. Having penetrated processed and staple food markets much earlier and faster than fresh foods, they have recently begun to make inroads into the fresh fruits and vegetables category. Supermarkets in Kenya already buy about half the volume of produce exported, and thus represent a

significant new 'dynamic market' opportunity for farmers. The important changes in their procurement systems bring significant opportunities and challenges for small farmers, and have implications for agricultural diversification and rural development programmes and policies.

1.2 Research Problem

E-Procurement is more than just a system for making purchases online. It provides an organized way to keep an open line of communication with potential suppliers during a business process. E-Procurement helps with the decision-making process by keeping relevant information neatly organized and time-stamped (Ginner, 2011). Most contemporary organizations are faced with a lot of competition and there is need for them to reduce costs and increase their profitability. E-procurement has not only the ability to reduce the costs and increase profitability but also to enhance integration both within the firm and across the entire supply chain (Pearcy, Parker and Giunipero, 2008). E-procurement that has proven successful in kenya (Economist Intelligence Unit, 2006). Kenyan supermarkets are increasingly seeking to provide general services online. Developing countries especially Africa has not been sufficiently researched and the available research activity is usually concentrated on other service industries(Molla & Licker, 2005).

According to Kenya Economic Survey 2012, supermarkets have played a significant role in Kenya's economy. They have generated employment to thousands of Kenyans wholesale and retail trade sector which supermarkets are part of was second in driving Kenya's growth in the last five years. Thus there is need to ensure the supermarkets growth and continuity. However in recent times there have been reports of supermarkets facing market challenges resulting to low returns and closure. Their performance is dwindling and this has been attributed to competitive pressures. Uchumi Supermarket in Kenya is one such example. One

way to address this issue is to address the issue of procurement practices, accrue benefits to the organizations (Buvik and John, 2000).

Batenburg (2007) conducted a study on e-procurement adoption by European countries. The study concluded that there is indeed a country differences in e-procurement adoption, and that firms from countries with a low uncertainty avoidance such as Germany and the UK are the early adopters of e-procurement, while countries that are less reluctant to change such as Spain and France have lower adoption rates. Nguyen (2011) in his study on the adoption of E procurement in grocery supermarkets in Hanoi (Vietnam) show that e procurement has increasingly been applied in the grocery supermarkets to reduce costs. The research found out the hindrances of applying e-procurement as well as solutions to improve this business method in supermarket management. Dewan and Kraemer (2000) in the study of information and economic performance showed that differences in country-contexts can lead to different ICT use and impact patterns but this study did not address how different countries can develop common implementation framework to address the impact of E-procurement adoption to growth and performance in the service sector.

Makali (2015) conducted a study on e-procurement and procurement performance in supermarkets in Nairobi. In the study it assesses the adoption of e-procurement in the supermarkets in Nairobi, to evaluate procurement performance in the supermarkets in Nairobi and to determine the contribution of e-procurement to procurement performance in supermarkets in Nairobi. The study concludes the Ict sector should enhance Ict in retail industry in Kenya .The study recommends that the supermarkets or retail industry adopting e-procurement ought to scale down on traditional procurement activities if the benefits of e-procurement are to be realized. Mambo (2015) conducted a research on the factors

influencing e-procurement in the National government (Kenya).In her study she found out that The Kenyan government has recognized adoption of ICT in service delivery to the public and its citizens in the Constitution. She concludes that the process is still very slow and findings show that most of the procurement processes in public institutions are still manual with the internet only being used for e-mails and web browsing. Musau, (2015) did a study on how inventory optimization challenges influenced e-procurement performance in state corporations. Masinge (2010) conducted a study on the factors influencing the adoption of E-procurement services at the bottom of the pyramid (BOP) in South Africa, and added perceived cost, trust and perceived risk constructs to TAM. In the study, the five facets of perceived risk included; security/privacy risk, performance risk, time/convenience risk, financial risk and social risk. The results of the study revealed that perceived usefulness (PU), perceived ease of use (PEOU), perceived cost, and customer's trust had a significant effect on the adoption of M-banking at the BOP while perceived risk (PR) was found to have no significant effect .

Although these studies focus on the e-procurement in various sectors of the economy both public and private, most of them focus on the adoption thus this study focuses on adoption and implementation of e- procurement on supermarkets in Kenya and hence seeks to answer the following research questions: What is the extent of e-procurement adoption in supermarkets in Kenya? And what are the factors influencing E-procurement adoption in supermarkets in Kenya?

1.3 Research Objective

i) To determine the extent of adoption of E-procurement in supermarkets in Kenya.

ii) To determine the factors influecing E-procurement adoption in supermarkets in Kenya.

iii) To determine the relationship between the identified factors and level of E-procurement implementation in supermarkets in Kenya.

1.4 Value of the Study

The study would be helpful to managers in understanding the degree to which these factors hinder the adoption E-procurement innovation. This study will also help managers to find the information of value in benchmarking the performance of their supermarkets against that of other supermarkets and that of other peers.

The management will benefit in finding the information of interest in their efforts to formulate policies relating adoption of E-procurement. It will also help them to develop framework to supermarkets to identify what is required to have an effective services despite the challenges encountered.

The study will help in the management of the procurement development in the domain of E-procurement thus facilitate data survey in E-procurement. Researchers will benefit through accessing information from the findings and references that they require to develop their study by detailing literature on E-procurementthus stimulating more research on E-procurement innovation.

It will assist learning institutions in providing reference and literature to future students seeking to carry out further research in this field or in a related area. This will aid in development of knowledge in this line of study. Since there are certain areas in this study which may not be covered exhaustively thus future researchers will have a point of reference from which to start and study further on E-procurementadoption in supermarkets.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews selected literature and examines both theoretical and empirical literature. The literature reviewed examines how various studies have analyzed the concept of E-procurement adoption. In this context the researchers will be in a position to give their opinion and a critical analysis of the theories presented in the past studies. This chapter covers the theories governing E-procurement implementation, past empirical studies and factors impacting E-procurement implementation in supermarkets in Kenya and conceptual framework.

2.2 Theorical Foundation of E-procurement Adoption and Implementation

This section will review theories that have been found relevant in E-procurement adoption; these theories are; Technology Acceptance Model (TAM), Theory of Reasoned Action, Theory of Planned Behaviour.

2.2.1 Technology Acceptance Model (TAM)

The TAM, firstly proposed by (Davies, 1986), was conceived to predict (Fishbein&Ajzen, 1975), and explain an individual's IT/IS acceptance (Hu, et al., 2008). The Technology Acceptance Model (TAM) is an extension of the Theory of Reasoned Action (TRA). TRA was originally proposed by Fishbein and Ajzen in 1975 in an attempt to understand behaviour and predict outcomes. TRA assumes that a person takes into account the implications of his/ her action before deciding whether or not to engage in certain behaviour. It also sets that the main determinant of person′s behaviour is behaviour intention.

The premise of TAM is that people behavioural intention to accept and actually use a certain technology is determined by two constructs namely; perceived usefulness and perceived ease of use (Davis, 1989). User′s attitude and belief as proposed by TAM is perceived to be an

important factor which influences the use of new technology. A person whose attitudes toward information technology are positive will have higher acceptance of the use of technology in question, compared to another person whose attitudes toward that technology are negative. Many empirical researches (e.g. Davis, et al., 1989; Agarwal &Karahanna, 2000; Venkatesh, et al., 2003, 2007; Adams, et al., 1992; Segars& Grover, 1993) have shown support for TAM. Thus, the technology acceptance model is generally referred to as the most influential theory in IT and Information Systems (Benbasat& Bark, 2007).

The Unified theory of acceptance and use of technology (UTAUT) represents a shift from fragmented view of IT adoption or acceptance to a unified integrated single theory (Abu Shanab, et al., 2010). Kaasinen, et al., (2002) and Keat and Mohan (2004) modified the value component (from perceived usefulness) and added two components: trust and perceived ease of adoption. In a study by Quan, et al., (2010) the "attitudes" construct was removed for simplification. O′cass& French (2003) are of the opinion that TAM should not be confined solely to the adoption of technological perspective, and that other non-computer based technological adoption should be encouraged to add a marketing flavour to the findings, and to be more specific. The researcher concluded that most of the technology acceptance models have been extensively tested in the developed countries.

2.2.2 Theory of Reasoned Action

Fishbein and Ajzen,(1975) is well established social psycho-logical model that is concerned with the determinants of consciously intended behaviours. From a theoretical point of view, the TRA is intuitive, parsimonious and insightful in its ability to explain behaviour (Bagozzi, 1982). The TRA assumes that individuals are usually rational and will consider the implications of their actions prior to deciding whether to perform given behaviour (Ajzen and Fishbein, 1980).

Fishbein (1980), the TRA assumes that most behaviours of social relevance are under volitional control and are thus predictable from intention. The theory also suggests that because many extraneous factors influence stability of intention, the relationship between intention and behaviour depends on factors:a) the measure of intention must correspond to the behavioural criterion in action, target, context and time; and b) intention does not change before the behaviour is observed (Ajzen and Fishbein, 1980). The TRA specifies that behavioural intention is a function of two determinants: a personal factor termed attitude toward behaviour and a person's perception of social pressures termed subjective norm (Fishbein and Ajzen, 1975).

In the TRA, behaviour is determined by behavioural intentions, thus limiting the predictability of the model to situations in which intentions and behaviour are found when the temporal gap between their expressions is minimal. To take the extreme case of overcoming this, however, measuring intention and behaviour simultaneously fails to ensure a true test of the model's power to predict the future. At best, it corroborates the attitudinal basis of current behaviour. Davies, Foxall and Pallister (2002) suggested that in order to test TRA behaviour should be measured objectively and unobtrusively, without signal in any way its connection to the prior intention measurement phase. A further requirement of the TRA is the behaviour must be under volitional control. Hence, the TRA is ill equipped to predict situations in which individuals have low levels of volitional control (Ajzen, 1991).

2.2.3 Theory of Planned Behaviour

The theory of planned behaviour (Ajzen, 1991), an extension of the TRA, tackles the original model's limitations in dealing with behaviours over which people have incomplete volitional control. The TPB suggests that in addition to attitudinal and normative influence, a third element, perceived behavioural control (PBC), also influences behavioural intentions and

actual behaviour. The TPB extends the TRA to account for conditions in which individuals do not have full control the situation. According to the TPB, human action is guided by three kinds of considerations: a) behavioural beliefs about the likely outcomes of the behaviour and the evaluations of these outcomes; b) normative beliefs about the normative expectations of others and motivation to comply with these expectations; and c) control beliefs about the resources and opportunities possessed (or not possessed) by the individual and also the anticipated obstacles or impediments toward performing the target behaviour (Ajzen, 1991).

Eagly and Chaiken (1993) pointed out, the assumption of a causal link between PBC and intention presumes that people decide to engage in behaviour because they feel they can achieve it. Second, the operation of the theory is troubled by the problem of measuring PBC directly, as opposed to to recording control beliefs (Davies et al., 2002; Manstead and Parker, 1995). Third, the theory introduces only one new variable when there is evidence that other factors add predictive power over and above the measures formally incorporated in the TPB (Davies et al., 2002). For example, Manstead and Parker argued that personal norms and effective evaluation of behaviour may account for variance in behavioural intentions beyond that accounted for by the TPB (CF. Davies et al., 2002). Ajzen (1991) himself described the model as open to further expansion.

2.3 Factors that Influence the Implementation of E-procurement
2.3.1 Organizational Factors

E-procurementis more evident in bigger organizations than smaller. Small to medium enterprises (SMEs) often lag behind larger organizations in e-procurement adoption (ISM/Forrester Research, 2003). Reasons for this include owners' attitude, resource poverty,

limited IT infrastructure, limited knowledge and expertise with information systems (Harland et al., 2007).

However, E-procurement can be viable for SMEs through web-based enterprise cooperation's (Berlak and Weber, 2004) or if the SMEs can see the business case for e-adoption (Harland et al., 2007). Some types of organizational operations seem to lend themselves to e-procurement. The use of E-procurementapplications often goes hand-in-hand with repetitive purchases from suppliers, reducing human intervention and paperwork and often resulting in improved performance for buyers and suppliers (Melville et al., 2004; Sanders, 2005; Subramani, 2004). Reutilization and repetition in the procurement system will increase the efficiency in this process and result in a higher level of electronic integration between buyers and suppliers (Choudhury et al., 1998). Make-to-order supply chains differ from make-for-stock supply chains, impacting on implementation of e-business (Gosain et al., 2005).

2.3.2 Readiness Factors

Organizational readiness and external pressure impact on e-business strategy (Mehrtens et al., 2001b). Many firms are experiencing a number of major problems in implementing e-business projects, due to hasty decisions in the presence of considerable media and software vendor hype, and often no theoretical basis behind the determination of which applications are most appropriate (Cox et al., 2001). To attain the greatest benefits, purchasing processes should be evaluated and improved before adopting e-procurement tools (Presutti, 2003). Internet technologies enable integration with trading partners, yet amplify the need for fundamental organizational change (Power and Singh, 2007).

B2B seller competence depends on change disposition (Rosenzweig and Roth, 2007). Lack of readiness has been attributed mainly to human readiness (Osmonbekov et al., 2002). Internal

barriers to e-adoption are more significant than customer or supplier barriers (Frohlich, 2002), suggesting supply management professionals need to ensure their own organizations are ready for e-adoption (Hartley et al., 2006).

2.3.3 Environmental Context

Environmental context play a crucial role in technology adoption and some factors in this category are arguably more influential than others, especially when countries under study have an authoritative government leadership. Five factors relevant for E-procurementadoption are included in our framework as briefly outlined (Duncan 1973). Competitive pressure can strongly influence any bank to develop and adopt E-procurement initiatives and it may affect the bank's perception towards E-procurementservices as implied in previous studies. Government policies and regulations can either directly or indirectly affect the adoption of e-banking in terms of creating a favourable environment and impetus for institutions and their customers so that the services can be diffused with the community (Davis 1989).

2.3.4 Information and Communications Technology

Both the local and foreign owned banks felt that this was a challenge and barrier to E-procurement adoption and implementation but the impact was felt more in the local supermarkets. Foreign owned banks have well established LAN's and WAN's and enterprise-wide ICT whereas local banks do not have well-established ICT capabilities. In some cases local banks are not even convinced that it is necessary to invest in advanced ICT infrastructure. Since E-procurementadoption involves the use of a set of ICT related skills and knowledge, we observe that a high level of ICT resources will positively impact the adoption and implementation of E-procurement(duncan 1973).

Both local and foreign suermarkets believe that there are many benefits of adopting and implementing E-procurement Duncan (1989). In fact, all the benefits in the questionnaire were applicable to both types of supermarkets. This is partly the reason why foreign supermarkets are using many of the E-procurementapplications that are available and supported by the current infrastructure of their respective banks. From the local supermarkets' standpoint, it seems the perceived benefits do not outweigh the other factors that have to be taken into consideration before adopting and implementing E-procurement. He also argued that both local and foreign supermarkets reported that compatibility is a barrier and challenge to E-procurement adoption and implementation. Foreign supermarkets overcome this by the influence they have from their other branches abroad whose beliefs and practices are different from the local people. The need for change to adapt to a dynamic environment can explain the impact of perceived compatibility on the adoption and implementation (Hastings, 2012).

2.4 Benefits of E-procurement Implementation

E-procurement has become one of the most successful applications of electronic commerce (ecommerce), having been implemented by many companies seeking better business processes (Aberdeen Group, 2001). Kalakota and Robinson (2000) have identified benefits in cost saving, improved efficiency, measurement and single data entry;however, these are the three catalysts driving growth in the e-procurement area. E-Procurement is the procedure that involves goods procurement automation by use of internet.This process leads to significant reduction in both cost and time. Quinnox (2012), noted that e-procurement is a very comprehensive phenomenon which includes making strategic initiatives and it can be used in reorganizing the entire purchasing process. A properly implemented e-Procurement system can connect companies and their business processes directly with suppliers while managing all interactions.

According to Morgan (2016), traditionally the role of the purchasing manager has focused on cost containment, which makes sense since spending on purchased goods and services can represent up to 70% of a company's cost of doing business. However, the opportunities for the role of the procurement manager are much greater than simply saving money having a broader view of procurement can contribute much more to the overall health and growth of an organization.

He further argued that, manual systems have operated on manual data entry from hardcopy documents. This method is tremendously time-consuming and redundant for employees across all departments within the procurement process. With an easy-to-use automated purchasing software program, a company can keep all current and historical records up-to-date at all times. This allows managers to assess company performance instantly and make faster decisions that subsequently provide more accuracy throughout the sourcing and invoicing process.

2.5 Challenges of E-procurement Implementation

Mbarika, Okoli, Byrd and Datta (2005) studied the impact of digital divide on social groups; they found that the existence of international digital divide between countries evident in electronic commerce, one only needs to examine the major ecommerce sites to detect the inequality. The main obstacles that prevent developing countries from leveraging the internet are lack of adequate communication infrastructure, technical know-how, and information processing about the economy and environment. The lack of adequate banking infrastructure is also considered as one of the problems faced by developing countries in building E-procurementsolutions (Khalfan & Akbar, 2006).

A number of general inhibitors (e.g. sector independent) have been identified by a range of authors (e.g. Deise, 2000; Srivivasan 2004; and Issa et al 2008) these inhibitors include the security implications for an organization transacting over the internet, the lack of interoperability with existing solutions (e.g. Enterprise Resource Planning) and the unwillingness of suppliers to embrace this aspect of e-commerce.

Alongside these general inhibitors a number of specific inhibitors have been identified which relate to a specific sector. For example Panayiotou et al; (2004) has noted that the inhibiting factors affecting the adoption of e-procurement in the Greek public sector includes the complexity of goods/services procured, the need for transparency in procurement, the challenges posed by public policy and the regulatory and legal constraints faced by supermarket organizations.

2.6 Summary of the Literature Review

The emergence of e-procurement also significantly lowered barriers to entry in the selling of many types of goods; accordingly many home based proprietors are able to use the internet to sell goods. Often small sellers use online auction sites such as e-bay or sell via large corporate websites such as amazon.com, in order to take advantage of the exposure and set up convenience of such sites.

Previous studies carried in various areas have revealed a number of factors that influence the implementation of e-procurement. Some of these factors are classified under organizational factors, readiness factors, environmental factors and information communication technology factors. This study is based on a number of theories including Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), and Technology and technology acceptance model.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology used in the study. It discussed the research design, the population and samples, data analysis, data collection instrument and data presentation techniques that will be used to answer the research questions.

3.2 Research Design

Descriptive research design was used in the study to help in identifying the factors affecting adoption and implementation of E-procurementin supermarkets in Kenya. Churchill (1991) notes that the descriptive study was used to describe the characteristics of certain goods make specific predictions or estimate proportions of people who behave in a certain way.

3.3 Population and Sample

The target population of this study comprised all the supermarkets in Nairobi Kenya. There were 53 supermarkets in Nairobi. (Appendix II). Given the relatively small population size, a census survey was proposed.

3.4 Data Collection

The researcher collected primary data from procurement managers, operations and Information and Technology (IT) managers in all 53 supermarkets in Nairobi Kenya and any other persons carrying the same responsibility. They were considered appropriate because of their knowledge concerning E-procurement adoption, implementation, and its integration with supermarkets activities.

The data was collected by use of a structured questionnaire that will be administered by drop and pick later method. The questionnaire was in the form of Likert scale where respondents were required to indicate their views on a scale of 1 to 5. The questionnaire contained 3 sections: Section A contained questions on the general information and company profile;

section B contained questions on the extent of adoption of E-procurement in the organisation whereas section C will contained questions on the factors influencing adoption of E-procurement.

3.5 Data Analysis

The data collected was sorted and coded then entered using the Statistical Packages for Social Sciences (SPSS) as it used more than one variable. The statistical package for social science (SPSS) version 21 was used to analyze and interpret the collected data. Data collected was analysed using descriptive analysis technique. Factor analysis was also used to determine the factors while correlation analysis is establish the relationship between the factors. Thus the regression analysis was used to determine the relationship between independent variables and the dependent variables. The regression variable was as follows;

$Y=a+bx$

Where;

Y is dependent variable

a is constant

b are coefficient of the variable

x is the independent variable

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

This chapter contains data analysis and interpretation of findings. The objective of this study was to determine the factors influencing E-procurement implementation in supermarkets in Nairobi in Kenya. Data was collected from operations managers and Information and Technology managers in the respective supermarkets. Data analysis was done using frequencies, factor analysis, correlation and regression as the primary tools of analysis. Results are presented in tables as presented below.

4.2 Response rate

The study comprised all 53 supermarkets in Nairobi. The table below represents the response rate.

Table 4.1: Response rate

	Target(count)	Received(count)	Response rate
Response rate	53	43	81%

Source: Research data (2016)

From the above table 53 Supermarkets were targeted, 43 of them responded to the questionnaires which gave 81% response giving a relatively high representation. (Letting, 2011).

4.3 Data Findings

4.3.1 Age

The respondents were asked to indicate their age. The table below indicates the

respondent's age and percentage of representation.

Table 4.2 Respondents age

Respondents age	Frequency	Percent
18-25	7	16.28%
26-30	14	32.56%
31-35	10	23.26%
36-40	4	9.30%
41-45	3	6.98%
46-50	3	6.98%
51 and above	2	4.65%
TOTAL		**100%**

Source: Research data (2016)

From the analysis of the findings, it was found that most of the participants in this study are

between 26 and 35 years of age with a rating of 55.82%. 27.91% for all respondents involved

in this study are above 35 years of age and only 16.28% are between 18-25 years of age. This

analysis therefore shows that majority of the respondents are middle age and has knowledge

of the activities in the supermarkets.

4.3.2 Education level
Table 4.3: Respondents education level

Education level	Frequency	Percent
Certificates	6	13.95%
Diploma	8	18.6%
Degree	25	58.14%
Masters degree	4	9.30%
PhD	0	0%
TOTAL	**43**	**100%**

Source: Research data (2016)

From the data analysis concerning the respondents' level of education, it was revealed that most respondents are degree holders with a rating of 58.14%. 18.6% of the participants are diploma holders 23.25% of the sampled respondents are certificate and master holders. There were no respondents with a PhD. These findings indicate that the respondents were highly educated and thus understood the questions.

4.3.3 Positions
Table 4.4: Respondents by position

	Frequency	**Percent**
Procurement managers	20	46.5%
Operations managers	8	18.6%
Information and Technology managers	10	23.3%
Other	5	11.6%
Total	**43**	**100**

Source: Research data (2016)

From the table above, majority (46.5%) of the respondents were heads of procurement managers, 23.3% were Information and technology managers and 18.6% were operations managers while 11.6% were from other departments. The respondents therefore show that most the persons represented have relative knowledge of e-procurement especially from procurement department.

4.3.4 Working experience
Table 4.5: Respondents no of years worked in the supermarkets

Number of Years	Frequency	Percent
Below 5 years	21	48.83%
6-10 years	7	16.28%
11-15 years	6	13.95%
16-20 years	5	11.6%%
21-25 years	3	6.98%
26-30 years	1	2.33%
31-35years	0	0%
Above 35 years	0	0%
Total	**43**	**100%**

Source: Research data (2016)

From the analysis the responses show that most respondents have been working in their respective organization below 5 years with a rating of 48.83% and 16.28% have worked between 6 and 10 years. The findings also revealed that 34.86% of the sampled respondents have worked between 11-30 years. The results therefore reveal that majority of the employees have worked less than 5 years and hence are have little knowledge on how to embrace the use of e-procurement technology in their supply chain functions.

4.4 E-procurement Implementation

One of the objectives of this study was to establish the extent of e-procurement in supermarkets in Nairobi .The respondents were asked to rate their levels of agreement with various statements in a scale of 1 – 5. The mean ratings were computed and ranked as displayed in the table below.

Table 4.6: Extent of E-procurement implementation

	N	MINIMUM	MAXIMUM	MEAN	STANDARD DEVIATION
The e-procurement processes are efficient and effective	43	1	5	4.206	1.0171
Company staffs use requisition online	43	1	5	4.172	1.0469
The company has adopted e-procurement	43	1	5	4.137	1.0152
The company has fully automated the e-procurement system	43	1	5	4.103	1.0121
The suppliers have fully adopted e-procurement	43	1	5	4.093	0.8610
The management have fully implemented in the e-procurement system	43	1	5	4.089	0.966
There is online submissions of proposals	43	1	5	4.074	0.8545
All departments share same information	43	1	5	4.034	0.8334
VALID N	43				

Source: Research data (2016)

From the analysis of the findings, it was found that all the factors highlighted for this study were greatly realized with a round off weighted mean of 4. The indicators rated from 4.0 to 4.2 indicating that the supermarkets have a moderate extent in e-procurement implementation. Such factors which were highly rated includes e-procurement processes are efficient and effective with a mean of 4.206, company staffs use requisition online at a mean of 4.172 while the level at which the company has adopted e-procurement was at 4.137 , the company has fully automated the e-procurement system at a mean of 4.093 , the suppliers have fully adopted e-procurement at, the management have fully implemented in the e-procurement system(4.089), there is online submissions of proposals at (4.074) and all departments share same information at (4.034). These findings thus indicate that e-procurement has a moderate implementation in supermarkets in Nairobi.

4.5 Factors influencing E-procurement implementation

The study sought to find out the factors that influence e-procurement implementation. The respondents were asked to rate their levels of agreement with 43 items which were indicators of the factors influencing e-procurement, on a scale of $1-5$ where 1 was Strongly disagree and 5 was strongly agree. The 50 items were subjected to factor Analysis with varimax rotation and the results obtained were as shown in the table below.

Table 4.7: Factor loadings and univariate descriptive of identified factors

	Factor loadings	Underlying factor	Mean	Std. Deviation
	Organizational factors			
The size of the firm		0.864	3.099	1.254
The management support		0.831	3.523	1.860
Financial Resources available to the firm		0.717	3.525	1.860
Multiple access levels		0.232	3.025	1.254
Lack of managerial support		0.233	4.033	0.725
The cost of implementation		-0.316	4.026	0.725
Increase customization online		-0.298	4.207	0.715
The top management support		-0.019	4.172	0.787
Poor infrastructure in the firm		0.142	4.138	0.772
	Readiness Factors			
Marketing e-readiness availability		0.080	2.103	0.825
Supporting industrial e-readiness		0.290	2.093	0.833
Lack of personal contact with customers		0.877	2.035	0.954
The cost of implementation		0.767	2.897	1.025
Lack of awareness by employers		0.362	2.132	0.845
Lack of management support for change		0.154	2.090	0.824

Easy and improved records management		0.394	2.075	0.825
Transparency in the supply chain		-0.053	2.089	0.654
Easy authentication of suppliers		0.167	3.474	0.524
Lack of cooperation from suppliers		0.165	2.474	0.524
Improved decision making		0.325	3.031	0.855
There is reduction in inventory levels		0.323	3.494	1.254
There is reduction in lead time		0.811	3.006	0.976
Increase customer convenience		0.729	3.412	1.255
Increase customer loyalty		0.652	4.103	0.754
	Environmental Factors			
Request for proposals done on time		0.290	4.079	0.954
The procurement process is efficient		0.280	3.150	1.865
Ability to link directly to existing procurement systems and transactions		0.270	3.015	1.925
Competitive pressure from competitors and other stakeholders		0.320	3.038	1.855
Legal framework in the company		0.300	3.426	1.049
National IT infrastructure available to the firm		0.320	3.256	1.255
National culture towards e-procurement		0.310	3.584	1.097
Perceive benefits of e- procurement		0.260	4.215	0.854
Perceive complexity of the process		0.330	3.025	1.255
Quality customer service		0.250	3.456	1.756
	Technological Factors			

Use of signatory in electronic document		0.210	4.021	0.757
Lack of technical standards		-0230	4.255	0.525
Lack of adequate internet access		0.240	4.025	0.625
Cost associated with adopting website		0.280	3.026	1.865
Rise in security and authentication issues		-0.053	4.165	0.785
Lack of system integration to fit in the supply chain		0.167	3.025	1.925
Data protection by the firm		0.445	3.650	1.118
Online marketing on e- procurement		0.325	3.212	1.025
The level of taxation		0.323	4.513	0.865
Amount of paper work		0.811	4.252	0.758
Data retention		0.729	3.954	1.265
Internet connection failure		0.652	3.569	1.255
Improved decision making		-0.053	3.655	1.119
Internet speed availability		0.167	3.567	1.092

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Source: Research data (2016)

From the table above, there were four underlying factors. The first underlying factor was

organization factors which has 9 underlying factors. This factors ranges from 3.02 to 4.2

which show that organizational factors moderately influence implementation of e-

procurement in Supermarkets. The second underlying factor was readiness factors which has

15 underlying variables. These factors ranges from 2.075 to 3.494, this implies that there is

little readiness in implementing the e-procurement systems. This is a major challenge in

implementing the e-procurement. Another underlying factor was environmental factors which

has 10 underlying variables. These variables have a mean ranging from 3.025 to 4.215 .This

shows that environmental factors have moderate influence in e-procurement Implementation

in supermarkets in Kenya. Finally the last underlying factor was technological factors which

have 14 variables. These variables ranges from a low mean of 3.025 to 4.513 thus showing

that there is a relatively high technological readiness to e-procurement implementation.These

findings are consistent with those of Kangongo & Gakure (2013) who concluded that

technical compatibility and expertise of the implementation team are key determinants in the

e-procurement implementation.

4.6 The relationship between the identified factors and the level of E-procurement implementation

The study sought to establish the joint relationship between the factors identified from factor

analysis with e-procurement implementation. A multivariate linear regression equation was

fitted to the data with the identified factors as the independent variables and e-procurement

implementation as the dependent variable. The results were as shown in the tables below.

The table below shows the coefficients estimates.

4.8: Coefficient Analysis

model	Unstandardized coefficients		standardized coefficients		
	B	std error	beta	t	sig
constant	.942	.308		3.056	.004
Organizational factors	.762	.223	.743	3.382	.001
Readiness factor	.742	.252	.865	3.509	.002
Environmental factors	.863	.246	.326	3.459	.001
Technological factors	**.**033	.197	.426	1.499	.001

Source: Research data (2016)

From the above table EI = .942 + -.762*OF - .742 RF + .863* EF+.033TF

Where EI =E-procurement Implementation, OF=Organizational Factors, RF=Readiness

Factors, EF=Environmental Factors and TF=Technological Factors

From the above table, organizational factors have a positive value of (β =.762) which shows a statistically positive significance, Readiness factor (β=.742), Environmental factors a positive value of (β=.863) and technological factors (β =.033).all these have a statistically positive relationship with e-procurement implementation.

Table 4.8: Model Summary

MODEL	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.820	.671	.614	.61545

Source: Research data (2016)

Table 4.8 indicates that there is an R2 value of 67.1%. This value indicates that the 4 independent variables explain 67.1% of the variance in the factors for e procurement Implementation. It's very clear that these independent variables contribute to a large extent to e-procurement Implementation. It is therefore in order to conclude that these variables significantly influence e-procurement implementation in supermarkets given the unexplained variance is only 32.9%.

Table 4.9: Anova

model		Sum of squares	df	mean square	f	sig
1	Regression	8.32	4	2.05	4.83	.001
	Residual	15.60	38	.35		
	Total	23.92	42			

Source: Research data (2016)

From the above table F is 4.83 and the p value is 001.This therefore indicates that the model

is statistically significant and the identified factors have a significant relationship with e-

procurement implementation. It is therefore a suitable prediction model for e-procurement

implementation.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the summary of the findings, conclusions, and recommendations. It first gives the summary of the findings about the research done, conclude on the findings found in the research , give policy recommendations and finally give the limitations of the study together with the suggestions for further study.

5.2 Summary of findings

The objective of this study was to investigate the extent of e-procurement implementation and the factors influencing e-procurement implementation in supermarkets. From the study it was found that there was a moderate extent of e-procurement implementation among the supermarkets in Nairobi. From the analysis of the findings it was found that four factors; organizational factors, Readiness factors, environmental factors and technological factors influenced the implementation of e-procurement. The four factors showed that they have a statistically significant influence in e-procurement implementation. An examination of the joint relationship confirmed these findings and established that these four variables jointly account for 67.1% of the variability in procurement implementation.

5.3 Conclusions

This study concludes that the four independent variables explain 67.1% of the variance in the e-procurement implementation in supermarkets. It is clear that they contribute to a large extent to the level of performance that is achieved in the supermarkets in Kenya. The extent of e-procurement is moderate among the supermarkets in Nairobi. It therefore suffices to conclude that e-procurement adoption is essentially influenced by the selected factors under this study.

5.4 Policy Recommendations

After the research on the factors influencing e-procurement implementation in supermarkets according to the findings and conclusions the following recommendations are made;

The study has confirmed that e-procurement is very significant in enhancing the performance of supermarkets and thus supermarkets should scale down on traditional procurement act ivies if the benefits are to be realized. It is also evident that e-procurement has enabled supermarkets to achieve real time processing of transactions thus the government and other stakeholders need to work on incentives to encourage on technology use on running businesses. Other organizations should also be encouraged to adopt the same in order to provide faster and efficient services to their customers.

5.5 Limitations and Suggestions for Further Research

It was such an uphill task for the researcher to convince the respondents to participate in the study. Supermarkets are known to work under very strict confidentiality in order to secure any unauthorized access to information. Most of the respondents agreed to participate on condition that the information will not be divulged to any other party other than for academic purposes only.

E-procurement largely relies on the ERP system as the primary integration tool. Information technology is very dynamic and keeps on changing hence he need to replicate this study in line with major trends that may influence the performance of supermarkets in Kenya.

REFERENCES

Anyasi, F.I., Otubu, P.A. (2009). Mobile phone technology in banking system: Its economic effect. Research Journal of Information, *Maxwell Scientific Organizational technology*, 1(1), 1-5

Ayo, C. K., Adewoye, J. O. and Oni, A.A. (2010). The State of E-banking Implementation in Nigeria: A Post-Consolidation Review, *Journal of Emerging Trends in Economics and Management Sciences,* 1 (1), 37-45.

Aberdeen Group, Inc. (2005). *Best Practices in E-Procurement*. Reducing Costs and Increasing Value through Online Buying. Boston Massachusetts.

Ajzen, I., and Fishbein, M. (1975). Belief, Attitude, Intention and Behaviour: An Introduction to Theory and Research. Reading, MA: Addison-Wesley USA.

Bitner, M. J. (2001), "Service and Technology: Opportunities and Paradoxes," Managing Service Quality, 11 (6), 375-379.

Benbasat, I., & Barki, H. (2007). Quo Vadis, TAM? Journal of Association for Information Systems, 8(4), (3).

Bailey, K., Francis, M., (2008). Managing information flows for improved value chain performance. *International Journal of Production Economics, Volume 111, (1).*

Beauvallet, G., Boughzala, Y., & Assar, S. (2011). E-procurement, from project to practice: *Empirical evidence from the French public sector*

Buvik, A., & John, G. (2000). When Does Vertical Coordination Improve Industrial Purchasing Relationships? *The Journal of Marketing*, 64(4), 52-64.

Chaffey, D. & Smith, P. R (2008) Introduction to e-marketing

Chowdhury J, Reardon J, Srivastava R. Alternative modes of measuring store image: An empirical assessment of structured versus unstructured measures. J Mark Theory Pract 1998; 6(spring):72–86.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology, *MIS Quarterly,* 13(, 3), 319-340.

Davis, F. D. (1986). *A technology acceptance model for empirically testing new end-user information systems: Theory and results*. Doctoral dissertation. Cambridge, MA: MIT Sloan School of Management.

Davila, A., M. Gupta and R. Palmer (2006). "Moving procurement systems to the Internet: The adoption and use of e-procurement technology models." *European Journal of Management*, 21 (1): 11-23

Dewan, S., & Kraemer, K. L. (2000). Information technology and productivity: Preliminary evidence from country-level data. *Management Science*, 46(4), 548-562.

Dholakia, Utpal M., Richard P. Bagozzi and Lisa Klein Pearo, "A Social Influence Model of *Journal of Electronic Commerce Research*, 9 (2):129,2008 Consumer Participation in Network-and Small-group-based Virtual Communities," *International Journal of Research in Marketing*,2:241-263, 2004.

Eagly, A.H., &Chaiken, S. (1993).The psychology of attitudes. Fort Worth, TX: Harcourt , Brace, Jovanovich.

Fishbien, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and behaviour: An Introduction to*

Theory and Research. Reading, MA: Addison – Wesley.

Fraser, J., Fraser, N. & McDonald, F (2000). The strategic challenge of electronic Commerce.

Supply Chain Management: *An International Journal* 5(2000), 7~14

Giner, A., Alberto, A. Aguilar, L., Guillermo C. & Cuauhtémoc S. (2011). *Improving E-Procurement in Supply 41*

Hanson, W. (1998) The original WWW: web lessons from the early days of radio, *Journal of Interactive Marketing*, 12(3), 46-56.

Harland C.M, Telgen J., Knight L.A., Callender G., and Thai K.V. (2007 forthcoming) in Knight, L.A., Harland, C.M., Telgen, J., Callender,G., Thai, K.V. and McKen, K.E. (Eds) *Public Procurement: International Cases and Commentary. Routledge*: London.

Higgins, E. T. (2000). Making a good decision: Value from fit. *American Psychologist,* 55, 1217-1230.

Kaasinen, V., Ikonen, A., Ahonen, V., Anttila, M., Luoma, M., & Södergård, R. (2002). Products and Services for Personal Navigation. Classification from the Users' Point of View, Publications of the NAVI Programme. Retrieved 4.1. 2005 from **http://www.vtt.fi/virtual/navi**

Keat, T., & Mohan, A. (2004). Integration of TAM based electronic commerce models or trust. *J. Am. Acad.Bus., 5*, 404-410.

Kauffman, R. and Mohtadi, H. (2002). Information Technology in B2B E-Procurement: Open Vs. Proprietary Systems. Proceedings of the 35th Hawaii International Conference on System Sciences.

Mahadevan, B. (2000), "Business models for Internet-based e-commerce: *An anatomy*," *California Management Review*, 42(4), 55-69.

Makali,S.(2015).E-procurement and procurement performance in supermarkets in Nairobi. An MBA project submitted to the University of Nairobi.

Melville, N., Kraemer, K. and Gurbaxani, V. (2004)."Review: Information Technology and Organizational Performance: An Integrative Model of IT Business Value". *MIS Quarterly*, 28(2), 283-322.

Masinge, K. (2010). Factors Influencing the Adoption of Mobile Banking Services at the Bottom of the Pyramid in South Africa, A Research Report submitted to the Gordon Institute of Business Science, University of Pretoria, South Africa.

Molla, A. and Licker, P. (2005) Perceived E-Readiness Factors in E -Commerce Adoption: An Empirical Investigation in a Developing Country, *International Journal of Electronic Commerce,* 10, 1, 83–110.

Musau, G. (2015): Inventory Optimization: A Factor Affecting E-Procurement Performance of State Parastatals in Kenya. *Journal of Business and Management,*17(4),41-50

Mukhopadhyay, T., and Kekre, S. (2002) "*Strategic and Operational Benefits of Electronic Integration in B2B Procurement Processes*," Management Science, 48(10), 1301-1313.

Mauti, M. (2012) E-procurement adoption among large scale manufacturers in Nairobi, Kenya. An MBA project submitted to the University of Nairobi.

Mambo, P. (2015) Factors influencing implementation of e-procurement in the national Government. A case of the ministry of interior and co-ordination of national government. Strategic journal of Business and change management, 46(2).

McKie, S. (2001). E-business best practices: Leveraging technology for business advantage. New York: Wiley.

Mbarika, V.W., Okoli, C., Byrd, T.A, &Datta, P. (2005). The Neglected Continent of IS Research: A Research Agenda for Sub-Saharan Africa. *Journal of the Association for Information Systems,* 6(5), 130-170.

Neven, D. and Reardon, T. (2004) 'The Rise of Kenyan Supermarkets and the Evolution of their Horticultural Product Procurement Systems', *Development Policy Review* 22 (6): 669-99.

O'Cass, A., & French, T. (2003). Web retailing adoption: exploring the nature of internet users' Web retailing behavior. *Journal of Retailing and Consumer Services,* 1*0*, 81-94.http://dx.doi.org/10.1016/S0969-6989(02)00004-8

Porteous, D. (2006). *The enabling environment for mobile banking in Africa*. London: DFID.

Podlogar, M. (2007). Chapter III e-Procurement Success Factors: Challenges and Opportunities for a Small Developing Country. E-Procurement in Emerging Economies Theory and Cases, Editors Pani and Agrahari. IDEA Group Publishing.

Schoenherr, T. and Tummala, V.M.R., (2006) "Electronic Procurement: a structured Literature review and directions for future research". *International Journal of Procurement Management,* 1(1/2), 8-37.

Segars, A., & Grover, V. (1993). Re-examining perceived ease of use and usefulness: a Confirmatory factor analysis *MIS Quarterly, 17*, 517-525. http://dx.doi.org/10.2307/249590

Venkatesh, V., Morris, M., & Davis, G. (2003). User acceptance of information technology: Toward a Unified View. *MIS Quarterly, 227*, 425-427.

World Bank (WB) (2004). *Electronic Government Procurement (e-GP): World Bank Draft Strategy*. Washington, DC: Author.

Wenninger, J. (2000). The Emerging Role of Banks in E-Commerce. *Current Issues in Economics and Finance, 6(3).*

Zwass, V. (2003) Electronic commerce: Structures and issues. *International Journal of Electronic Commerce*, 1, 1 (fall 1996), 3–23.

APPENDIX I: QUESTIONNAIRE

Introduction

This questionnaire has been designed for the purpose of collecting data on the factors influencing adoption of e-procurement in supermarkets in Nairobi Kenya. Your response will be accorded strict confidentiality. Please respond to the questions honestly by ticking the most appropriate response

Section A: Background information

1. Age of the respondents

   18-25 ☐   26-30 ☐   31-35 ☐   36-40 ☐   41-45 ☐   46-50 ☐

   51 and above ☐

2. What is your job title?

   ☐ IT manager   ☐ Operations manager   ☐ procurement manager

   Any other (please specify)...

3. What your highest education background?

   Secondary certificate ☐   Certificates ☐   Diploma ☐   Degree ☐

   Masters degree ☐   PhD ☐   Any other (please specify).........................

4. How long have you been in this organization?

   Below 5 years ☐   6-10 years ☐   11-15 years ☐   16-20 years ☐

   21-25 years ☐   26-30 years ☐   31-35 years ☐   over 35 years ☐

Section B: Extent of E- procurement implementation

The respondents were asked to state the extent of e-procurement implementation in their supermarkets. Answer the following questions to the scale of 1 to 5(**1 strongly Agree, 2-Agree, 3 slightly Agree, 4-Disagree, 5-Strongly Disagree).**

	1	2	3	4	5
The company has adopted e-procurement					
The suppliers have fully adopted e-procurement system					
The management have fully implemented in the e-procurement system					
The e-procurement process are fully implemented					
The e-procurement processes are efficient and effective					
Company staffs use requisition online					
There is online submissions of proposals					
All departments share same information					

Section C: Factors influencing e-procurement implementation, its benefits on implementation and the challenges on e-procurement implementation.

The respondents were to state the extent to which the factors have influenced the e-procurement adoption, the benefits that have been realized as a result of adopting e-procurement in their supermarkets and the challenges have been experienced as a result of adopting e-procurement in their firm **according to the scale (1-Stronly Agree, 2- Agree, 3-Slightly Agree, 4-Disagree, 5-Strongly Disagree).**

	1	2	3	4	5
The size of the firm					
The management support					
The level of Government support					
Lack of personal contact with customers					
Use of signatory in electronic document					
Multiple access levels					

Lack of managerial support					
The cost of implementation					
Increase customization online					
Ability to link directly to existing systems					
Quality customer service					
Financial Resources available to the firm					
The top management support					
Competitive pressure from competitors and other stakeholders					
Legal framework in the company					
National IT infrastructure available to the firm					
National culture towards e-procurement					
Perceive benefits of e-procurement					
Perceive complexity of the process					
Internet speed availability					
Marketing e-readiness availability					
Supporting industrial e-readiness					
Data protection by the firm					
Online marketing on e-procurement					
The level of taxation					
Amount of paper work					
Data retention					
Internet connection failure					
Improved decision making					
There is reduction in inventory levels					

There is reduction in lead time					
Increase customer convenience					
Increase customer loyalty					
Request for proposals done on time					
The procurement process is efficient					
Ability to link directly to existing procurement systems and transactions					
Easy and improved records management					
Transparency in the supply chain					
Easy authentication of suppliers					
Lack of cooperation from suppliers					
Lack of awareness by employers					
Lack of management support for change					
Lack of supplier adoption of e-procurement					
Lack of procurement implementation capacity					
Rise in security and authentication issues					
Lack of system integration to fit in the supply chain					
Poor infrastructure in the firm					
Cost associated with adopting website					
Lack of technical standards					
Lack of adequate internet access					
Any other(please specify and rate)					

Thank you for your co-operation.

Appendix II: List of supermarkets in Nairobi Kenya

1. Chandarana Supermarkets

2. Clean shelf Supermarkets

3. Daily Basket supermarket

4. Eastmatt Supermarkets

5. Eagles Supermarket

6. Easy Mart Supermarket Ltd

7. Ebrahim & Co Ltd Supermarket

8. Esajo Supermarket

9. Fair Price Supermarket

10. Fairdeal Shop & Save Ltd

11. Fairlane Supermarkets Ltd

12. Foodies Supermarket

13. Fourty Six Supermarket

14. Galmart Supermarket

15. G-Mart Supermarkets

16. Home Choice Supermarket Ltd

17. Home Depo Supermarket

18. Homecare Enterprises Ltd

19. Home choice Supermarket

20. Janamu Supermarket

21. Jeska Supermarket Ltd

22. Jopampa Provision Store

23. Jokies Super Market

24. Jossics Suprmarket

25. Jaharis Supermarkets

26. Kassmart Supermarkets

27. Kawangware Royal Supermarket

28. Kibao Supermarket

29. Leestar Supermarket

30. Lumumba Drive Supermarket

31. Mesora Supermarket Ltd

32. Midas Supermarket Ltd

33. Mumtaz Supermarket

34. Naivas Limited

35. Nakumatt supermarket

36. PakMatt Supermarket

37. Panje Supermarket

38. Quickmart Supermarkets

39. Rikana Supermarkets

40. StageMatt Supermarket

41. Seraben Supermarket

42. Skymart supermarket

43. Stop & Shop Supermarket

44. Sundus Supermarket

45. Tumaini Supermarkets

46. Tuskys Supermarkets

47. Uchumi Supermarkets

48. Ukwala Supermarkets

49. Uthiru Fair Price Supermarket

50. Venture Mini Supermarket

51. Waiyaki Way Supermarket

52. Wateule Supermarket

53. White Candle Supermarket

Source (Yellow pages, 2016)