

**INFLUENCE OF ELECTRONIC TRANSACTIONS  
TECHNOLOGIES ON PERFORMANCE OF KENYA  
POWER COMPANY**

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## DECLARATION

This research project is my original work and has not been presented for any award in any other University.

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

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## **DEDICATION**

This project report is dedicated to my father Charles Kiere, sisters Mary Muthoni and Eunice Wambui, friends and my fellow colleagues for the great support, patience and inspiration during the study.

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## **ABBREVIATIONS AND ACRONYMS**

<b>ERC</b>	Energy Regulatory Commission
<b>ICT</b>	Information and Communication Technology
<b>KENGEN</b>	Kenya Generating Company
<b>KETRACO</b>	Kenya Electricity Transmission Company
<b>KPLC</b>	Kenya Power and Lighting Company
<b>REA</b>	Rural Electricity Authority

## ABSTRACT

The growth, integration and sophistication of technology are changing our society and economy. The Internet has revolutionized the way organizations communicate with customers and suppliers and how they access information. Information and Communication Technology (ICT) has become one among key drivers of recent developments and has pervaded every business segment and also every home. According to KPLC (2006) Information Communication Technology (ICT) Services continued to support the business by maintaining and enhancing efficiency in billing, revenue collection, customer care, supply chain management, power systems operations and maintenance. This study therefore attempted to answer the question: what is the influence of electronic transaction technologies on performance of Kenya Power? The objective of this study was to determine the influence of electronic transactions on performance of Kenya Power. This study adopted a case study design which was the most appropriate in the investigation of the influence of electronic transactions technologies on performance of Kenya Power Company. The study used a structured interview guide as primary data collection instrument. The interview guide was administered through personal interviews with senior employees Kenya Power Company. Secondary data was collected by use of desk search techniques from published reports and other relevant documents. Qualitative techniques were used to analyze the qualitative data. The study found that the company has not fully computerized its activities and that there is still need to fully automate Kenya Power Company services. Electronic transactions technologies adoption has brought positive impact on business achievements at Kenya Power Company, in that it has eased working procedures, provided convenience for the customer, it has reduced congestion, boosted staff morale and facilitated decision making at higher levels of management. It can be concluded that management support and leadership is crucial in adoption of electronic transactions technologies as early adoption and creative use of electronic transaction enhance firm performance. This study recommends that finding the linkage between innovation and firm performance helps a firm understand the importance of electronic transactions technologies. It also recommends that in addressing electronic transaction technologies, organizational focus, is important when assigning the responsibility of electronic transactions. The success requires the coordination of many partners. Government participation is crucial in ensuring a focused industry is visible to reduce or remove avoidable costs of implementing electronic transactions and internet standards for firms to follow to avoid making Kenya parastatals Sector a dumping ground for the outdated technological infrastructures. This study was confined to Kenya Power Company yet the current innovation such as electronic transactions can be applicable to a wide range of institutions. There is need therefore to study adoption and use of ICT by other institutions. Another study can be carried to evaluate whether electronic transactions has helped to bring services close to people especially in rural areas.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

The growth, integration and sophistication of technology are changing our society and economy. The Internet has revolutionized the way organizations communicate with customers and suppliers and how they access information. Internal and external communications networks have been established to communicate with employees, customers, suppliers and other stakeholders. Information and Communication Technology (ICT) has become one among key drivers of recent developments and has pervaded every business segment and also every home (Kuppusamy and Santhapparaj, 2005). Matei and Savulescu (2012) explain that ICT represents a collection of technologies and applications, enabling electronic processing, storing, retrieval and transfer of information to a wide variety of users or clients.

As specified in the field of literature (Mansell et al., 2009) as well as in the recent academic researches, ICT represents a general purpose technology, since it has a powerful impact on competitiveness as it constitutes an enabling technology as well as it leads to process and product innovations and improves the business processes along the whole value chain. As such, ICT is an essential factor for productivity and economic growth, Waverman (2010) highlights that ICT should be used in view to accelerate the global development, as it represents the essential infrastructure of the 21st century.

Emerging information technology cannot deliver improved organizational effectiveness if it is not accepted and used by the targeted users. This research study will be based on the Technological Acceptance Model and Diffusion of Innovation Theory. An important factor in TAM is to trace the impact of external factors on

internal beliefs, attitudes and intentions. Two particular beliefs are addressed through TAM which are Perceived usefulness and Perceived ease of use (Davis, 1989). Rogers (1962) explains that critical factors that determine the adoption of innovation at the general level are the following; relative advantage, compatibility, complexity, trialability and observability. Diffusion of innovations is a theory that seeks to explain how, why, and at what rate new ideas and technology spread through cultures.

Providing superior service quality, introducing effectiveness and efficiency in a business internal process across the value chain in today's constantly changing business environment, are some of the key factors enabling firms to gain a lasting competitive advantage and ensure survival. As such, organizations are trying to focus more on continuous development, monitoring and evaluation of service quality practices; these involve various innovative offerings, investing in technology and service developments (Khalifehsoltani and Gerami, 2010; Mostafa et al., 2010).

### **1.1.1 Concept Electronic Transactions**

According to Expert Group on Defining and Measuring E-commerce (2000), an electronic transaction is defined as the sale or purchase of goods or services, whether between businesses, households, individuals, governments, and other public or private organizations, conducted over computer-mediated networks. The Information and Communications Act 411A seeks to address some of the challenges cited in the national ICT policy document. One of the key sections of the Information Communication Act is Part VII, is on electronic transactions. In this part, the new Act, gives legal recognition to electronic records; recognizes electronic messages as valid for the formation of contracts; and supports the use of electronic records and electronic signatures in government and its agencies. By including electronic

transactions in the converged Act, the government has correctly recognized the technological convergence that has occurred in the digital world (ROK, 2011).

The most important benefits of electronic transactions derive from their effective and efficient use. The use of electronic transactions allows the companies to enhance their efficiency and to make them more competitive. Intensifying the collaboration and partnerships with the relevant stakeholders, by a rapid pace of financial transactions and achieving more dynamic and transparent processes, electronic transactions consequently can speed up the flow of products and services (Liang and Lu, 2010). As the demand for electricity continues increase, and pressure to become more efficient grows, energy service companies are looking to partners to assist work together to improve efficiency and timely company performance. For example Kenya Power has partnered with Mobile Network operators, Technology companies such as IBM as well as banking institutions to come up with multiple products that utilize electronic transactions electronic transactions, some of these products include: the EasyPay system which conveniently allows for their customers to pay bills through agents who are all over the country (Kenya Power, 2014).

A research conducted by Mwai (2013), established that KPLC has fully adopted ICT systems in all its business operations the some of the technologies the researcher points out include; e-procurement, CCTV surveillance in remote areas, detection of power outages, emergency operation and monitoring, Online querying of bills and payment history, record management and payments, processing of loans, leave, petty cash, advances and accounting processes. The main reason for continued in investment on ICT has been to ensure enhanced efficiency in operation and enhancing Competence.

According to KPLC (2006) Information Communication Technology (ICT) Services continued to support the business by maintaining and enhancing efficiency in billing, revenue collection, customer care, supply chain management, power systems operations and maintenance. ICT was also instrumental in the development and implementation of the E-bill facility and it has resulted to other innovations that will enable customers to pay their bills through mobile telephony as well as through other partners, such as selected supermarket. The upgrading of the ICT infrastructure is one of the main organizations strategies which enable the Company to enhance customer service and satisfaction (KPLC, 2007).

### **1.1.2 Concept of Performance**

According to Richard et al. (2009) organizational performance encompasses three specific areas of firm outcomes: financial performance product; market performance and shareholder return. According to Kaplan and Norton (2000) Financial Performance is indicated by Profitability, Return on Investment, Revenue and Cash flow. While nonfinancial performance on the other hand help round out the company's strengths in areas like customer service, product quality and employee satisfaction. These measures will reflect the long-term viability and health of the organization. Financial performance is a subjective measure of how well enterprises utilize their assets from their business concept to generate incomes. It is used to gain a general measure of an entity`s overall financial viability over time, and can also be use it for comparison of firms in the same sector or industry or gauge the industries aggregates (Nyakundi, Nyamita and Tinega, 2014).

ICT is highly correlated to performance of organizations. In general, the concept of organizational performance is based upon the idea that an organization is the

voluntary association of productive assets, including human, physical, and capital resources, for the purpose of achieving a shared purpose (Jensen and Meckling, 1976; Simon, 1976).

### **1.1.2 Electronic Transactions Technologies and Firm Performance**

Today, ICT has brought dramatic change in the organizations. Among the most powerful sources of innovation in the last century is the introduction of the Internet which connects millions of computers and other devices worldwide. It has changed the way firms do business, including their product offerings, organizational boundaries and structures, value chains and marketing channels. This development has enabled businesses to work and to re-structure their business operations to align them to the new technologies to attain efficiency in their operations, and offer better services to customers (Jagdev and Browne, 1998). Enterprise Resource Planning systems, Customer Relationship Management systems, Supply Chain Management systems as well as innovation of products that help with the delivery of services to customers electronically, are good examples of integration of ICT in the various business functions along the value chain, which has led to improved business collaborations. Innovation plays an important role in enhancing and sustaining the performance of firms to adapt to the change (Gopalaskrishnan & Damanpour, 1997).

Non-Financial performance enables to measure the accountability of an entity for the results of its policies, operations and activities quantified for an identified period. In the public sector the nature of financial performance is a function of what the public sector entity is held accountable for accomplishing in financial terms in the identified period (Adams and Mehran, 2003). Multiple perspectives of both financial and non-financial performance considered together provide a comprehensive picture of a

public sector entity's achievement in relation to the multiple accountabilities expected of it.

Electronic business influences firm performance by enabling organizational learning and knowledge management (Parker, 2003). Electronic transactions innovations has provided new capabilities that produce value by creating more efficiency in processes, enabling easier access of products and services, making value and supply chains more efficient, and extending reach to a wider customer base. Firms that adopt electronic transactions technologies early will cumulate more knowledge and thus can survive in a changing business environment (Mustonen-Ollila and Lyytinen, 2004). Electronic transactions technologies also influence firm performance by changing business process (Wu, et al, 2003). It changes business communications, procurement processes, management of human resource capital as well as delivery of services to customers. Better communications within and across organization functions enhance collaboration and create values (Gibson and Edwards, 2004). Automatic procurement allows a firm to search and locate potential suppliers in a larger pool and thus can find high quality suppliers (Rayport and Jaworski, 2004) Receipt of payments from customers as well as payment of suppliers via online channels make transaction more accurate, timely and less expensive, and result in better relations with stakeholders and more revenues for the firm (Laudon and Traver, 2004).

### **1.1.3 Kenya Power Company**

Kenya Power owns and operates most of the electricity transmission and distribution system in the country and sells electricity to over 3.6 million customers. The Company's key mandate is to plan for sufficient electricity generation and transmission capacity to meet demand; building and maintaining the power

distribution and transmission network and retailing of electricity to its customers. The Government has a controlling stake at 50.1% of shareholding with private investors at 49.9%. Kenya Power is listed on the Nairobi Securities Exchange Kenya Power (2015).

Current implementation of the policy on divesture and privatization led to significant reduction of Government stake in KPLC and KENGEN it became necessary to create Kenya Electricity Transmission Company, Geothermal Development Corporation and Rural electrification Authority as vehicles for Government investment in electricity generation, expansion of the national grid, and access to electricity. These key stakeholders to Kenya power are tasked with the following responsibilities: Kenya Electricity Generating Company (KENGEN): manages and develops all public power electricity generating facilities. It sells electricity in bulk to Kenya Power. Energy Regulatory Commission (ERC): reviews electricity tariffs and enforces safety and environmental regulations in the power sector as well as safeguarding the interests of electricity consumers. ROK (2011) Rural Electricity Authority (REA): implements rural electrification projects on behalf of the government. Kenya Electricity Transmission Company (KETRACO): is mandated to construct new transmission lines with government funding to accelerate infrastructure development. Geothermal Development Company (GDC): is tasked with developing steam fields to reduce upstream power development risks so as to promote rapid development of geothermal electric power Kenya Power (2015).

Kenya Power has invested heavily in technology, it has ICT systems that comprise an open integrated suite of front end applications, systems running on the back-end that are developed along the areas of specialization and then overall linked together through interfaces. In addition to the ICT infrastructure company has in conjunction

with technology companies, banking institutions and mobile service providers developed products that enhance use of electronic transactions Kenya Power (2014). Efficiency of the transmission and distribution network continues to be enhanced in both technical and non-technical aspects. Technical improvements include re-conducting of lines, installation of capacitors, and construction of additional feeders and substations. Non-technical improvements include introduction of electronic meters, improvement of meter reading accuracy, fraud control and adoption of new ways of billing via electronic transactions which will lead to resolution of billing and payment anomalies (World Bank, 2006).

## **1.2 Research Problem**

Firms operate in a dynamic business environment. A number of forces in the environment affect business in various ways and influence their competitiveness and survival. These forces bring about uncertainty for organizations in their quest for success and survival. Firms, therefore, have to come up with strategies aimed at ensuring continuous survival and competitive advantage and one of them is adoption ICT and harnessing the capabilities that come with it. ICT plays a major role in supporting strategic objectives of an organization including development of products, services and capabilities that give a firm competitive advantage over the competitive forces it faces in its market environment (Laudon and Laudon, 1996). A fundamental assumption of extant research in improvement of both customer service and operational efficiency has been that technological innovation has a direct bearing on performance improvement (Upton and Kim, 1999).

Studies have been done in relation to electronic transaction technologies for example; Muriithi (2011) investigated the impact of ICT on service delivery at Kenya Power

and Lighting Company. The results found that the investment in ICT led to reduced transaction costs, and it could be partly attributed to a more efficient production process and a better resource allocation within the organization. Nang'ayo (2014) studied the perception of managers on ICT value at KenGen, established that ICT was beneficial to KenGen Service delivery; ICT lowers cost of operations and improves quality of service. He concludes that ICT is relevant to the strategic direction of KenGen. Asewe (2010) conducted a study on application of ICT in enhancing competitive advantage in the banking industry. The study concluded that ICT was a key contributor for enhancing competitive advantage for increasing efficiency in operations, improvements in products and services quality and lowering of costs.

From the above studies, little has been done in relation to the influence of electronic transaction technologies on performance at Kenya Power. This study therefore attempted to answer the question: what is the influence of electronic transaction technologies on performance of Kenya Power Company?

### **1.3 Objective of the Study**

To determine the influence of electronic transactions technologies on performance of Kenya Power Company.

### **1.4 Value of the Study**

This study will be useful to Kenya Power and practitioners; it will provide more insights on the importance of adoption and use of electronic transaction technologies and how they influence operational efficiency as well as improved customer satisfaction. Policy makers might use the empirical findings of this study in policy setting and creating an enabling environment for adoption electronic transaction

technologies. This will provide a platform for the implementation of these technologies to boost efficiency and performance.

The study will also contribute to the existing literature on electronic transaction technologies as a tool for achieving competitiveness. Students will learn the benefits of adopting electronic transactions, to increase efficiency. In addition, the study will serve as a point of reference for further research to researchers interested in this field of research and other related topics.

## **1.5 Definition of Key Terms**

### **Electronic payments**

Baddeley (2004) define electronic payment as any exchange of funds initiated via an electronic communication channel, while Abrazhevich (2004) define electronic payment as payments made through electronic signals linked directly to deposit or credit accounts. Electronic payment represents any kind of non-cash payment that does not involve a paper cheque. Electronic payment is the transfers of an electronic value of payment from a payer to payees through electronic payment mechanisms which allows customers to remotely access and manage their bank accounts and transactions, executed through an electronic network (Gefen, 2003).

### **Digicash or Tokens**

The Digicash system involves the creation of electronic coins in the form of digitally signed numbers in exchange for money from the user's bank account. Each of these coins can be spent, once and only once, with a service provider who accepts them. When the coin is spent, it is immediately sent by the recipient to the issuing bank for online verification and logging to ensure it is not spent again before confirming receipt to the payer, who then discards the used coins. The appropriate amount is credited to the recipient's bank account (Gefen, 2003).

## **Mobile Banking**

The term mobile banking is defined as banking transactions using mobile devices such as cellphones, PDAs (Personal Digital Assistants), smart phones and other devices (except for laptops) (Lee and Chung, 2009). Most mobile banking implementations have a banking application installed on users' SIM. Once signed up, an electronic account is created which enables the user to deposit and withdraw funds or transfer money from their account to other users (Tobbin, 2010). It is effectively a channel whereby a customer interacts with a bank via a mobile device notably the mobile phone. It depicts the ultimate convergence of mobile technology and the broader range of banking services such as account-based savings or credit facilities. For the developed world, most of what is termed as mobile banking is an extension of existing banking services to existing customers. The mobile phone is only used as another channel to an existing bank account.

Porteous (2006) distinguishes “additive” mobile banking models from the “transformational” models, and defines transformational mobile banking services as “those in which the financial product linked to the use of the phone is targeted at the unbanked, who are largely low income people”. Porteous (2006) stressed that a service becomes transformational when it causes a shift in the access frontier. By additive, mobile banking complements services offered by the banking system, such as checkbooks, ATMs, voicemail and landline interfaces, smart cards, point-of-sale networks, and Internet resources.

## **Mobile Payment**

This technology commonly referred to as e-cash, is made available to consumers by registering to a remittances service in shop, on the internet or directly through mobile phone. Some network providers for example Vodafone and Roshan in Afghanistan,

Smart Communication in the Philippines, Safaricom in Kenya, Orange in various countries in Africa may also offer to their customers the possibility of transferring funds in addition to the standard mobile services provided (Mwakugu, 2007). Once transferred, the money can be withdrawn from any ATM, used to get communications credits (airtime), or spent at partner shops in the recipient's country. This technology dramatically reduces processing time. While the classical transfer could take up to one week, the mobile transfer is done in a matter of seconds. Beneficiaries get better accessibility to funds as mobile transfer solutions solve the problem of the poor banking infrastructures in developing countries through the increase of physical points to cash out money.

### **Pre-paid Model**

Prepaid models involves debiting money into a user account by the bank, the tokens are issued to user then the user sends the tokens to the retailer, verifies the token, bank logs use of tokens, bank credits retailer's account, and bank the confirms to the retailer and the retailer issues. This allows the transfer between users as well as to retailers, of pre-paid tokens which can then be exchanged for money at the issuing bank (Ratha and Riedberg, 2005). Tobbin (2010) posits that the pre-paid process incurs central transaction processing costs that impose a minimum economic transaction value. The central processing must occur as part of the critical transaction path and hence runs the risk of becoming a bottleneck for all the transactions. In the Digicash implementation, the security overheads that is blinding and random number generation can be transparent to the user if the interface software is well designed. This process enhances efficiency and flexibility to the users since they can access their account and make payment at their convenience.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter covers the theoretical framework of the study, the influence of electronic transactions adopted by firms on organizational Performance.

#### **2.2 Theoretical Foundation**

This section covers the theories that anchor this study which are; Technology Acceptance Model (TAM) and Diffusion of Innovation Theory (DIT).

##### **2.2.1 Technology Acceptance Model**

Technology Acceptance Model (TAM) was propounded by Davies in 1986. This model was designed to forecast the user's acceptance of information technology and usage in an organizational setting. Liang and Lu (2010) argue that most firms adopt modern technologies to cope with the changes in the external environment in order to accommodate the changing needs of the customers. Davis (1989) argues that technology acceptance model proposes the importance of a firm to accommodate the changing needs of its customers through responding to changes in both internal and external environment. To achieve this goal, this model uses perceptions as opposed to real usage, the model suggest that users are most affected by perceptions and attitudes in their decisions on how and where to use technology.

Britton and McGonegal (2007) indicate that perception is the degree to which a person believes that using a particular system will lead to improved performance. Some of the attributes of perception by most users about technology is perceived ease

of use which is explained as the degree to which a person believes that using a particular system would result to improved efficiency and effectiveness.

In line with Technology Acceptance Model (TAM) Davis (1989) puts forth that attitude is a key component when using technology or a service. The relevance of this theory is to explain the user's acceptance of information technology and usage in an organizational context. Acceptance is the first process in technology use and has a bipolar implication. First of all acceptance is a precursor to adoption and hence this theory complements the preceding theories. Secondly, acceptance dictates the attitude and perception of the users which eventually affects efficiency of use and hence performance.

Strategic adoption as well as operational efficiency and hence productivity of systems are a function of acceptance of the technology. It is thus plausible to conclude that without acceptance, the rest of the theories would be redundant and invalid. Though acceptance is an initial phase, it is also an attitude shaping facet that influences adoption and effectiveness of use (Liang and Lu, 2010).

### **2.2.2 Diffusion of Innovation Theory**

Rogers (1962) posit that diffusion of innovations is a theory that seeks to explain how, why, and at what rate new ideas and technology spread through cultures. Rogers (1962) explains that critical factors that determine the adoption of innovation at the general level are the following are; relative advantage, compatibility, complexity, trialability and observability. Relative advantage refers to the degree to which an innovation is perceived as providing more benefits than its predecessor. It results in increased efficiency, economic benefits and enhanced status. Previous research has concluded that relative advantage of an innovation is positively related to the rate of

adoption. When a user perceives relative advantage or usefulness of a new technology over an old one, they tend to adopt it. In the context of ICT adoption, benefits such as immediacy, convenience and affordability to customers have been reported. Thus, it is assumed that, when customers perceive distinct advantages offered by ICT, they are more likely to adopt it (Roberts and Amit, 2003).

Compatibility refers to the degree to which a service is perceived as consistent with users' existing values, beliefs, habits and present and previous experiences (Chen et al., 2004). Compatibility is an important feature of innovation as conformance with user's lifestyle can propel a rapid rate of adoption (Rogers, 2003). Observability of an innovation describes the extent to which an innovation is visible to the members of a social system, and the benefits can be easily observed and communicated (Rogers, 2003). Moore and Benbasat (2005) simplified the original construct by redefining observability into two constructs: visibility and result demonstrability. According to Ram and Sheth (1989) trialability is defined as the capacity to experiment with new technology before adoption. Potential adopters who are allowed to experiment with an innovation will feel more comfortable with it and are more likely to adopt it. Perceived risk refers to the degree of risks in using an innovation.

### **2.3 Organizational Performance**

Organizational performance encompasses three specific areas of firm outcomes: financial performance (profits, return on assets (ROA), return on investment (ROI), product market performance (sales, market share.); and shareholder return (total shareholder return and economic value added). Operational performance is part of the organizational performance measures that demonstrates the fulfillment of operational goals within different value chain activities that might lead to subsequent

organizational performance (Kaplan and Norton, 2000). The key indicators include growth in market share, product quality and marketing effectiveness. In contrast, organizational performance can also be defined as the economic outcomes resulting from the interplay among an organization's attributes, actions and environment. The balanced score card is the most popular tool used to measure organizational performance. It measures track activities in four main perspectives to give a more balanced evaluation of an organization's performance. These perspectives are namely: financial perspective, internal process, innovation and growth perspective and customer perspective (Kaplan and Norton, 2001).

### **2.3.1 Influence of Electronic Transactions on Organizational Performance**

Electronic transactions enable the organization to achieve real-time visibility into transaction status. This in turn enables faster decision-making and improved responsiveness to changing customer and market demands, and allows businesses to adopt a demand-driven business model rather than a supply-driven one. Effective implementation of electronic transactions shortens the lead times for product enhancements and on-time delivery of services which leads to improved organizational performance (Billey, 2013). Scot (2008) argues that use of electronic transactions enables the organization to create a transaction database that stores transaction information in the data base. This ensures that the information is secure and easy to retrieve for customers whenever it's needed. This improves organizational efficiency and performance.

Electronic transactions enhance integration and information sharing between the organization and the customers this increases customer satisfaction. Electronic transactions improve flexibility and convenience of customers since they can be able

to transact using their mobile phones without necessarily visiting the service provider. This is consistent with the suggestions of Gefen (2003) who argued that electronic payment is the transfers of an electronic value of payment from a payer to payees through electronic payment mechanisms which allows customers to remotely access and manage their bank accounts and transactions, executed through an electronic network. Electronic transactions enable the firm to reduce errors since there is no need to enter a transaction amounts at both the cash register and processing terminals. This improves accountability because it is easy to confirm whether you have received the proper amount of credit for each transaction.

Use of electronic transactions lowers transaction costs this is because electronic processing is faster and less expensive than paper processing. It leads to faster Billing and thus easy to build and process a batch of transactions as often as needed; this is great for recurring billing. This contributes to increased costs savings and hence organizational performance. This is line with the findings of Tobin (2010) who posits that the pre-paid process incurs central transaction processing costs that impose a minimum economic transaction value. The central processing must occur as part of the critical transaction path and hence runs the risk of becoming a bottleneck for all the transactions. In the Digicash implementation, the security overheads that is blinding and random number generation can be transparent to the user if the interface software is well designed. This process enhances efficiency and flexibility to the users since they can access their account and make payment at their convenience. E-cash lowers considerably the costs of the transactions, since fixed labor costs are significantly reduced and infrastructures are shared by operators. UN News Center (2007) points out that compared to 15-20 per cent commissions in classic transfer process, mobile remittances cost only around 1 per cent. The World Bank, in the

Economic Prospect 2006 Report estimated that reducing remittance commission charges by 2-5% could increase the flow of formal remittances by 50-70%". This technology dramatically reduces processing time. Electronic transactions allows you to send multiple transactions as a batch, thus reducing authorization time to as low as three seconds per transaction. It is worth noting that multiple registers can share a single modem and phone line, thus saving money. This in turn leads to improved organizational performance.

## **2.4 Empirical Review**

Meru (2011) studied the challenges facing implementing the strategy of mobile-based transaction systems by Kenya Power Company Limited. This study adopted a case study design. A case study approach was necessary considering the nature of the target informants. The key findings of the study revealed that the challenges to implementation of the mobile based transactions systems strategy by KPLC include: delay in roll out of plan; down times by the mobile operators; delays in executing transactions, network issues, customer reload of wattage units; poor customer buy-in; last minute rush to make payments; high cost of transactions; dented KPLC brand; change management; decentralized decision making, poor adoption of the service, and poor communication approaches to customers.

Billey (2013) studied the impact of electronic transaction technologies on performance of German service firms. A longitudinal study was carried out on the relationship between electronic transaction technologies and performance. Panel data for ten years was used and the results of the analysis found that adoption of electronic transaction technologies led to improved performance of German service firms.

Scott (2008) examined the role of electronic transactions as a tool for enhancing

efficiency of manufacturing firms in America. A cross-sectional survey was carried out and data was collected using a semi-structured questionnaire. The results of the analysis revealed that the use of electronic transactions minimized costs of manufacturing firms.

Juma (2013) investigated the influence of electronic transactions services on customer service delivery in banking industry, a case of Bungoma County. The study used a descriptive research design and primary data was collected through a semi-structured questionnaire. A sample size of 174 correspondents was used while analysis of data was carried out using content analysis. The findings concluded that adoption of electronic banking led to improved service delivery and the reduction of costs.

Although much has been done in to electronic transactions and how it impacts on performance, most studies have concentrated on the challenges of electronic transactions, role of electronic transactions and the influence of electronic transactions customer services. This study sought to bridge this gap by finding an answer to the question: what is the influence of electronic transaction technologies as a tool for achieving competitiveness at Kenya Power?

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The chapter provides the research methodology that was used to achieve the objectives of the study. It consists of the research design, data collection tools and data analysis techniques

#### **3.2 Research Design**

Maxwell (2005) postulated that a research design is a detailed outline of how an investigation will take place, this includes how data will be collected, what instruments will be employed, how the instruments will be used and the intended means for analyzing the data collected. The study used a case study research design.

Cresswell (2009) explains that a case study is an in-depth investigation of an individual, institution or phenomenon whose key goal is to determine the factors and relationships that led to the behavior under investigation. A case study is most appropriate when the study is focusing on a single organization. This is because it analyzes information in a systematic way to arrive at logical and plausible conclusions.

#### **3.3 Data Collection**

Primary data is raw information that is collected from the field. The benefit of primary data is that it focuses on specific issues of the study. An interview guide is a tool for data collection that answers open ended questions prepared by the researcher to interview the respondents. Primary data was collected by interviewing six (6) heads of departments at Kenya Power, Kenya. They were namely head of information

technology; head of marketing department; head of administration department; head of operations department; head of internal audit department and the head of finance departments. This is because they are highly involved in the implementation of e-transaction and thus have a deeper understanding of how electronic transactions impacts on performance.

The interview guide contained three sections: section A which contained questions on the general information about the company and the respondents. Section B which contained questions on the adoption of electronic transactions technologies by Kenya Power to improve company performance. Section C which contained questions on the influence of electronic transactions on performance at Kenya Power. A face to face interview was conducted with the six (6) heads of departments that are responsible for the implementation of electronic transactions practices at Kenya power. Appointments will be sought from the departmental heads to ensure that the interview sessions are conducted at their convenient time that will ensure adequate and ample time to respond to the questions.

### **3.4 Data Analysis**

Content analysis was used to relate the findings of this study with the literature review to find out whether the literature is consistent with the findings of the analysis. The objective of the study was analyzed using content analysis. To establish whether electronic transactions improve performance, the study used both interviews and company's financial records. According to Creswell (2009) qualitative content analysis involves a process designed to condense raw data into categories or themes based on valid inference and interpretation.

The study chose this form of analysis because qualitative content analysis pays attention to unique themes that illustrate the range of the meanings of the phenomenon rather than the statistical significance of the occurrence of particular texts or concepts. According to Maxwell (2005) enables the researcher to obtain detailed information about the organization especially on the variables under study.

## **CHAPTER FOUR**

### **DATA ANALYSIS, RESULTS AND DISCUSSION**

#### **4.1 Introduction**

This chapter presents a detailed discussion of the research findings in an attempt to achieve the research objective. The overall objective of this study was to determine the influence of electronic transactions technologies on performance of Kenya Power Company. Data analysis is carried out based on the objective of the study.

#### **4.2 General Information**

This chapter presents the findings of the study and the analysis of the data collected from interviews which were conducted with heads of selected departments of Kenya Power Company. The interviewees to the interview were heads of departments (divisions) from six departments. The departments were the head of information technology; head of marketing department; head of administration department; head of operations department; head of internal audit department and the head of finance departments. According to the data found, all the six heads of department projected in the previous chapter were interviewed which makes a response rate of 100 %. This was achieved after the researcher booked appointments with the heads of department despite their tight schedules and making phone calls to remind them of the interview. There was total co-operation during the interviews.

It was revealed from the study that most respondents had been working for Kenya Power Company for more than ten years. This period was adequate enough for the respondents to determine influence of electronic transactions technologies on performance of Kenya Power Company. All respondents held senior positions in the company. Their role in the organization was important so as to ascertain the

respondents level of understanding to questions posed. All respondents had at least a first degree level of education. The level of education was important so as to ascertain the respondents level of understanding to questions posed. The researcher found out that most respondents were well versed with the questions posed.

#### **4.4 Adoption of Electronic Transactions Technologies**

Respondents admitted that Kenya Power Company had adopted electronic transactions technologies, including but not limited to the following; Electronic payments, digi-cash or tokens, mobile banking, electronic banking, mobile payment and pre-paid model. All the respondents agree that Kenya Power Company has embraced electronic transaction technology in its operations and new technologies are continuously being introduced, indicating that Kenya Power Company has entrenched electronic transactions in its operations. In addition, the study sought to establish the extent to which electronic transactions technologies adoption at Kenya Power Company has improved company performance. It was found that, electronic transactions technologies adoption has to great extent improved company performance, for instance, fast and convenient delivery of services, efficient incident reporting, improved customer and supplier relations, improved operations processes, more satisfied human resource capital etc.

The respondents reported that top management was responsible for coming up with product innovation strategies which were communicated to staff at all levels of the organization, and active provision guidance were evident at Kenya Power Company and that the management was committed to the adoption of electronic transactions technologies. Communication of operational changes is in tandem with Durban's (2004) explanation that leadership encompasses interpersonal influence directed

through communication toward goal attainment. Durbin further explains that this kind of influence goes beyond giving orders and directions by encouraging participation and inclusion of all members. Management commitment to the adoption of electronic transactions technologies as a critical factor to the adoption of electronic transactions technologies according to Umble (2003) boost its acceptance among employees and ensures support and championing of the project. On the contrary, one respondent reported that, sometimes changes are not communicated to staff. This is a shortcoming that could hinder the adoption of electronic transactions technologies.

Delegation of responsibilities to employees and integration of their ideas was reported by the respondents and they indicated that the management support influenced the perception of the employees to use electronic transaction in business and propagate the benefits of using electronic transaction channels and products to customers as well as suppliers. The ability to influence the employee's perceptions on the use electronic transactions technologies in business transactions shows that leadership is offered by the Kenya Power Company management. This is in line with Kim and Reene (1992) and Koontz (1984) description of leader's as the ability to influence others. Also adds that delegation of responsibilities and integration of employees are evidence for the leadership characteristics exhibited by the Kenya Power Company management as recorded by Cope and Wandell (2004).

The respondents reported that there was an increase in the customer numbers and the collection of revenues through electronic transaction had increased. This implies that more customers are becoming aware of the benefits derived from the use of electronic transactions. These findings imply leadership commitment to the adoption of electronic transactions. Chatterji (2002) explains that managements' belief about the

benefits of electronic transaction compels them to spend time and resources in the establishment of processes advertisement to create public awareness of the new products, conduct workshop forums for their suppliers to educate them and activities which would promote business environment.

In addition, there is need to spend time shaping the vision and strategies for the adoption and use of electronic transaction technologies and leveraging it into the business processes and activities. Among them will include doing a thorough market research to understand the changing needs of the customers, and come up with strategies of incorporating these customer needs in the value chain. According to Rashid and Al-quirim (2001), there are great benefits that derive from combining management and leadership in the implementation of electronic transaction within the organization. While the development of strategic plans that is adaptable to changing market trends were reported to influence the adoption of electronic transaction. This means that in the adoption of electronic transaction technologies at Kenya Power Company is a mix of leadership and management in the implementation cycle.

#### **4.5 Influence of Electronic Transactions on Performance**

In regard to the impact of electronic transactions technologies on business operations, it was found that electronic transactions technologies have brought positive impact on distribution business at Kenya Power Company, and that these systems have eased working procedures and led to efficient delivery of services. In addition, the study sought to establish the influence to which electronic transactions technologies adoption at Kenya Power Company has improved performance. It was found that, electronic transactions technologies adoption has improved company performance, for instance, fast delivery of services, efficient incident reporting, improved customer and

supplier relations, improved revenue collection which has led to increase in profits as well as timely processing of contractual payments and refunds etc.

From the findings, the respondents indicated that electronic transactions technologies has led to a decrease in customer complaints which means it had led to improved service delivery facilitated effective access to services in a flexible and convenient yet less costly way. Again respondents felt that, electronic transactions technologies systems has led to improved quality of service to both customers and suppliers, and provided effective means of communication within Kenya Power Company. More so, it seems that electronic transactions technologies systems provides convenient customer feedbacks, and that, it has reduced congestion, boosted staff morale and facilitated decision making at higher levels of management. In general, it was established that electronic transactions technologies adoption has had positive impact on the performance at Kenya Power Company.

From the findings, the respondents indicated that resource availability affects the adoption of electronic transactions technologies. However, the availability of resources required in the adoption of electronic transactions technologies was reported to be adequate by the respondents. The respondents cited bureaucracy at Kenya Power Company as a hindrance to the adoption of electronic transactions technologies. The respondents explained that failure to include the adoption of electronic transactions technologies in organization budget was reported as another challenge faced in the adoption of electronic transactions technologies.

The respondents explained that the adoption of electronic transaction requires time financial resources and employee willingness to change to ensure adoption in all management levels and business processes. This means that the adoption of electronic

transactions technologies could be handicapped by limited resource availability and employees who are not willing to change. Adoption of electronic transactions technologies is majorly a management strategy while there is an argument that human and technological factors play a major role in the adoption of electronic transactions technologies. This is in line with Rashid and Al-Qirim (2001) financial, human and technology resources play a very important role in the adoption of electronic transaction. These findings are supported by Rashid and Al-Qirim"s (2001) argument that companies find the adoption of electronic transactions technologies important hence the need to include them as budget items and set aside resources to support it. However, Thong and Yap (1995b) explain that electronic transaction adoption is hindered by the lack of sufficient resources. The respondents explained that the adoption of electronic transaction was centered on its ability to reduce costs or the need by organizations to increase profits as well as improve efficiency which will have a positive impact on the customer.

The cost reduction by electronic transactions technologies according to McIvor and Humphreys (2004), are costs associated with initiation, negotiation and enforcement of contracts referred to as external costs. Internet use in this processes results in cost reduction. This finding is in line with Ling's (2001) presupposition that businesses adopt electronic transaction only if the benefits outweigh the costs of developing and maintaining the system. In this case when costs are reduced it implies an increase in profit; however the profits must exceed cost reduction and cost of the development and maintenance. Similarly, the respondents cited that human, technological and cultural factors were determinants in the adoption of electronic transactions technologies. The findings imply that cost reduction and creation of business efficiencies by electronic transaction are the point of attraction to its adoption. Other

factors that influence the uptake of electronic technology are structure of the company, innovation and product offering. The management staff reported that the rate of rendering services had increased. They also pointed to the technologies as being prompt; reliable; and that it was convenient and efficient. Other influences noted were: enhanced coordination between the company and customer and reduced levels of corruption.

The findings show high levels of customer acceptance of Kenya Power Company electronic transaction technologies system. The positive response regarding the user-friendliness convenience, care and reliability indicate that most customers have embraced the system. Consequently, as more functions of Kenya Power Company are ICT enabled, the higher the levels of customer satisfaction. These findings are consistent with the views of Delone and Mclean (2003), and supported by Shih (2004), that electronic transaction technologies system quality is the processing quality of the technology, which is measured in terms of ease of use, functionality, availability, flexibility, reliability and response in time. Moreover, sustaining the quality of the Kenya Power Company electronic transaction technologies has increased the Kenya Power Company's customer base. This concurs with the views of other scholars, such as Burke (1997), Donthu and Garcia (1999), Sinioukov (1999), and Wirtz and Lihortzky (2003). In these views, it is suggested that system quality is key to creating a successful electronic transaction technologies.

## 4.6 Discussion

This study tests the user's acceptance of information technology and usage in an organizational setting as discussed in the Technology Acceptance model (TAM) and supported by Diffusion of innovation theory. The statistical results strongly support the theory which indicates that perception is the degree to which a person believes that using a particular system will lead to improved performance Davis (1989). Some of the attributes of perception by most users about technology is perceived ease of use which is the degree to which a person believes that using a particular system would result to improved efficiency and effectiveness. The theory indicates that characteristics of the technology itself e.g., perceived complexity influence the adoption of a technology Davis (1989). As per the respondents Kenya Power has taken this into consideration and it conducts a wide market study to understand customer needs, internal processes that require automation, new innovations that would bring in new efficiencies in its operations etc. before product innovation is carried out. This ensures that the technologies brought onboard are user friendly, recent, scalable adaptable and compatible (Rodgers, 2003).

Technology Acceptance Model further suggests that characteristics of individual users such as motivation, experience, personal traits to a large extent influence the user's perception and use of a technology Davis (1989), As such constant communication, trainings and workshops are organized by Kenya Power Company to fill in the knowledge gap on new technologies and inform the employees of the numerous benefits that are derived from use of these technologies, as well as clarify on how they will affect their job functions. The findings show that employees have to a large extent embraced electronic transactions and are propagating the same benefits to customers of Kenya power Company. Social influences within the organization are

very critical and cannot be ignored especially when it comes to adoption of a new technology. As per the research findings, it is critical for Kenya power management to identify these points of influence and educate them on the changes the new technologies bring as well as their impact on the employees and the business as a whole this will in turn create a more positive environment and ease the use and adoption of these technologies. Additionally relevant may be the organizational demographics, other characteristics of the organization itself, and the organizational environment.

The high uncertainty of technology gives rise to the need of a well-planned flexible electronic transactions strategy. A flexible strategy allows a firm to adjust its business investment according to the environmental and technological changes and become more agile to survive. New technologies in electronic transactions come and go faster than most other technologies preceding it. As a result, business purposes dominate the use of Electronic transactions (Mustonen-Ollila and Lyytinen, 2004). The high pervasiveness implies that Electronic transactions affect everyone in the organization. Education and training are important for organizations as they affect the user acceptance and usage of new technologies. For example, if a firm decides to distribute its internal announcement through e-mail, the firm should train its employees not only how to use e-mail but also how to use it correctly following an e-mail usage policy. The effectiveness of the system depends on how employees utilize it. The high communicability of electronic transaction requires collaboration of individual departments with other departments within the organisation for harmonisation. It is to the benefit of the firm to actively adopt electronic transaction technologies (Rayport and Jaworski, 2004).

This study supports the hypotheses that e-business innovativeness enhances firm performance by increasing profit ratios and lowering cost ratios. Electronic transactions provide more efficient sales channels than the traditional ones. It reaches more customers with less cost. It allows collaboration among business partners adding values to consumers (Mustonen-Ollila and Lyytinen, 2004). However, only organizations that can learn from their own and others' experiences and use the technology innovatively will survive.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

The overall objective of this study was to investigate the influence of electronic transactions technologies on performance of Kenya Power Company. This chapter covers summary of findings, conclusions and recommendations for further studies.

#### **5.2 Summary of Findings**

The study sought to establish whether Kenya Power Company has fully adopted electronic transactions technologies systems in all its business operations. Majority of the respondents responded in agreement that the company has fully computerized its activities were of contrary and that there is still need to fully automate Kenya Power Company services. The following areas were cited to require proper automation to improve on company performance: Application for electricity connections, automation at low level voltage lines, e-procurement, CCTV surveillance in remote areas, detection of power outages, emergency operation and monitoring, Online querying of bills and payment history, record management and payments, processing of loans, leave, petty cash, advances and accounting processes.

In regard to the impact of electronic transactions technologies on business operations, it was found that electronic transactions technologies has brought positive impact on business achievements at Kenya Power Company, and that electronic transactions technologies systems have eased working procedures. More so, electronic transactions technologies adoption has to great extent improved company performance. On determining impact of electronic transactions technologies on company performance, findings showed that IT systems has provided reliable company performance; and that

electronic transactions technologies has facilitated effective access to services, timely delivery of the same services; again respondents felt that, electronic transactions technologies systems has led to improved quality of service, and provided effective means of communication within Kenya Power Company.

More so, it was found that electronic transactions technologies systems provides convenient customer feedbacks, and that, it has reduced congestion, boosted staff morale and facilitated decision making at higher levels of management. In general, it was established that electronic transactions technologies adoption has had positive impact on the delivery of services at Kenya Power Company. One other objective of this study was to establish factors hindering the use of electronic transactions technologies systems at Kenya Power Company. In this regard, it was found that majority of the users experience challenges while using electronic transactions technologies systems and only few are much comfortable with electronic transactions technologies introduced by Kenya Power Company.

It was established that system failures are a challenge in use of electronic transactions technologies systems; and that Lack of trainings to users has posed a challenge; again it was noted that, Unstable infrastructure poses a challenge in use of electronic transactions technologies systems and that electronic transactions technologies security threats are a challenge in use of electronic transactions technologies systems.

### **5.3 Conclusion**

The finding of the study concludes that the adoption of electronic transactions technologies has a significant positive influence on the company performance. That might be due to lower transaction costs, e.g. distributing and providing services, better and more transparent ways of collecting revenue etc. Furthermore, it could be partly attributed to a more efficient operational process allocation within the organization. This observation is in line with the findings of Brynjolfsson and Hitt (2000) and others for organizations in developed countries that suggest that electronic transactions technologies use and investment are positively linked with quality services and productivity.

However, the mechanisms and direction of causality is not clearly established as firms with good performance are likely to spend their windfall on electronic transactions technology equipment maybe also for prestige reasons. The elasticities for investment in electronic transactions technologies and other investment don't differ much for the Kenyan organizations which mean that given the fact that the share of electronic transactions technologies in total investment is below 10% on average, an additional investment in electronic transactions technologies in absolute terms will be more productive.

From the study findings it can be concluded that the electronic transactions technologies adoption influences company performance in the organizations. Considering how fast the world is moving in the development, procurement and of information and communication technology, Kenya Power should make immediate step to catch up if it want to keep in track. Electronic transactions technologies bring a lot of advantages and have a great impact on human and business daily life.

Therefore, electronic transactions technologies development is the best choice in helping Kenya Power Company stay on the track, and that is why electronic transactions technologies development is important for Kenya Power Company's future.

From the above findings, it can be concluded that management support and leadership is crucial in adoption of electronic transactions technologies. The above findings imply the development of strategic outlook in Kenya Power Company in order to cope with the changes that come with the adoption of electronic transaction. This is in line with Teo and Tan's (2003) argument that the adoption of electronic transactions technologies results in changes in the organizations whose aim is to ensure participation and support.

## **5.4 Recommendations**

### **5.4.1 Policy Recommendations**

Managers can benefit from the findings of adopting electronic transaction technologies and the relationship between use of electronic transaction and firm performance. They should choose an appropriate level of participation in electronic transaction propagation and adoption that matches their own organization's business objectives. They can thus better plan their electronic transaction strategy. Early adoption and creative use of electronic transaction enhance firm performance. Early adoption will help the company reach more customers and gain large customer base. Early adopters will also be able to accumulate knowledge on technologies and reap more benefits.

This study recommends that in addressing electronic transaction technologies, organizational focus, is important when assigning the responsibility of electronic transaction implementation. Electronic transaction is more than a technical issue. Delivering all responsibilities to one single unit within the firm will not bring the success of implementing electronic transaction. The success requires the coordination of the different departmental units within the organization.

The study also reveals that there is evident that electronic transactions increase the firm performance. In order to give the growing trends of Information and Communication Technology (ICT) which involves electronic transaction in firms a vision in the right directions, the following strategies are recommended for further follow up and implementation; The firm must be focused in terms of their needs and using the right technology to achieve goals, rather, than acquiring technology of internet transaction because other firms have it.

Government participation in ensuring a focused industry must be visible to reduce or remove avoidable costs of implementing electronic transaction and internet standards for the firms to follow to avoid making Kenya parastatals Sector a dumping ground for the outdated technological infrastructures. Training and Manpower development is another major problem mitigating against the growth of e-transaction technologies in the country. Government must make right IT policy by ensuring that Computer, Communication equipment, software and other IT infrastructures to a large extent are manufactures in the country so that our people can acquire first hand necessary skills. Government Policy that will guide against fraud and Security risks posed by electronic transactions are should .be put in place to counter the legal threat and security posed to usage of electronic transaction, the necessary legal codes backing

the banking industry, telecommunication industry must be established as key partners to the energy sector this will enhance the growth of all industries.

#### **5.4.2 Suggestions for Further Research**

This study was done only on the Kenya Power Company. The study can also be extended to other sectors such as Education, health and water sectors in order to understand the implication of ICT on the overall organizations in Kenya. Similar the studies can be done for other industries in the country.

Another study can be carried to evaluate whether electronic transaction has helped to bring services close to people especially in rural areas. There is need to identify and understand the changes that ICT are causing on other sectors in order to examine in detail how the recent and foreseeable advances in ICT are affecting the energy sector and can affect its future evolution. Therefore a study on the effects of ICT on the power provision sector and its effects on other sectors is recommended.

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**APPENDICES**  
**APPENDIX I: INTRODUCTION LETTER**



**UNIVERSITY OF NAIROBI**  
**SCHOOL OF BUSINESS**  
**MBA PROGRAMME**

Telephone: 020-2059162  
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P.O. Box 30197  
Nairobi, Kenya

DATE 30/09/15

**TO WHOM IT MAY CONCERN**

The bearer of this letter ALICE NDUJA KIERE

Registration No. DG160912/2013

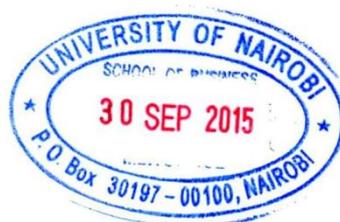
is a bona fide continuing student in the Master of Business Administration (MBA) degree program in this University.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable him/her collect data in your organization.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.

  
**PATRICK NYABUTO**  
**MBA ADMINISTRATOR**  
**SCHOOL OF BUSINESS**



## **APPENDIX II: INTERVIEW GUIDE**

### **Goal of the Interview Process**

To determine the influence of electronic transaction technologies on Performance at Kenya Power Company.

### **Interview questions**

#### **A: Respondent Background interview**

1. What is the highest level of education you have achieved?
2. How long have you served in this organization?
3. How long have you served in your current position?

#### **B: Adoption of Electronic Transactions Technologies by Kenya Power**

1. Who is responsible for formulation and implementation of product innovation strategies in Kenya Power?
2. Is Kenya Power able to tailor its products in a manner that accommodates the changing needs of the customers?
3. What specific product innovation strategies have been put in place to achieve value adding services to customers?
4. What is the rate of adoption of electronic transactions technologies by the customers?
5. Has Kenya Power been able to achieve product innovation as a result of adoption and use of electronic transactions technologies?
6. Please indicate which electronic transaction technology has an impact on customer flexibility and explain how?

7. Has Kenya power been able to reach out to more customers as a result of adoption of electronic transaction technologies?
8. Has Kenya Power been able to expand its businesses a result adoption of electronic transaction technologies? Please explain.
9. Has Kenya Power been able to improve efficiency in its operations with the adoption of electronic transaction technologies?
10. How do electronic transaction technologies influence Kenya Power's capacity utilization?
11. To what extent has electronic transaction technologies improved performance in Kenya Power?
12. How has electronic transaction technologies contributed towards improved customer satisfaction?

**C: The Influence of Electronic Transactions Technologies on the Company's Performance.**

1. Has the company been able to improve its efficiency?
2. Has the company increased its effectiveness?
3. Has the company reduced its costs of operation significantly?
4. Have the number of customers increased?
5. Has the number of complaints from customers reduced?
6. Has the company's profits increased as a result of adoption of electronic transaction technologies