INFORMATION COMMUNICATION TECHNOLOGY, STRATEGY AND ORGANIZATIONAL PERFORMANCE OF EDUCATIONAL NGOs IN KENYA

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DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted for any academic award in any institution.

Sign ____________________                                       Date ____________________

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SUPERVISOR’S APPROVAL.

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

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DEDICATION

This research project is dedicated to my friend Ibrahim Sadru for his encouragement and Kenya Markets Trust for their support and patience during my study. Much appreciated!
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I would also like to express my sincere thanks to my supervisor for offering guidance and support. Thank you for your time and availability.

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ABSTRACT

In recent years, the utilization of information technology has been magnificently increased in most companies and industries, which by using Information Technology related products such as internet banking, electronic payments, security investments, information exchanges, and financial organizations can deliver high quality services to clients with less effort and in the process improving the firm performance. The study sought to determine the influence of information communication technology on performance of education NGO’S in Kenya. A descriptive survey design was used since the data collected required a quantitative and qualitative approach. The target population was all the 92 NGOs in the education sector in Kenya. The specific respondents were the county director of each NGO. Since the population was small, the study used census approach. Therefore the sample size was 92 county directors of the education NGOs. Primary data was collected by use of questionnaires. Collected quantitative data was examined to make deductions and inferences trying to uncover any underlying structures and extracting important variables. The quantitative data was analyzed using SPSS software. The researchers evaluated, analyzed and interpreted the data. Quantitative data collected by use of questionnaires was presented in frequency tables and bar graphs. Multivariate regression model was used to check on the relationship between the variables. The study found that mobile phone technology, e wallet, cloud computing and social communities have a positive and significant impact on performance of education NGOs. The study concluded that mobile phone technology improved flexibility. Mobile phone technology also enhances convenience in tax payment and self-awareness. The study also concluded that E-Wallets enhances increased security in the information collected. E-Wallets also facilitate storage of payment information and enhance ease of access to conducting online payments. In addition, cloud computing improve information accessibility. This recommends that all NGO should adopt mobile phone technology since it improves flexibility and services awareness. In this case, NGOs should ensure they have invested on good phones for the company. The study further recommends that NGOs should invest in E-wallet. This is because E-Wallets enhance increased security in the information collected. This will further improve performance of the organization. Every NGO should also ensure they have an active Facebook page. They should also have an active twitter account. Every NGOs should also have a whatsapp group. This will enhance communication in the organization and further boost its performance. Skype should also be used often in the organization.
CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

“Market reports indicate that by 2025, ICT will contribute to 10% of retail sales in Africa’s largest economies, which translate into some $75 billion in annual revenue” The e-commerce Kenya Conference producer Kizito Mokua said during a stakeholder briefing on 23rd February 2015. ICT is a key factor in organization’s’ strategy and its adoption has massive influences on organizational performance in this 21st Century. According to Mintzeberg and Quinn (1991) strategy is the outline that merges the objectives, goals, policies of an organization into an interrelated whole. We can also say that strategy is a highlight of how an organization intends to execute its long-term goal (Burnes, 2004). We can define Information and Communication Technology (ICT) as the computerization of procedures, controls, and facts processing using desktop computers, software’s, telecommunications and electric devices that facilitate efficient operations (Laudon & Laudon, 2007).

The demand of the customers can only be met through effective application of ICT. NGO’s should enhance efficiency in ICT systems to satiate the citizens and other partners. Mouelhi (2009) compliments ICT by pointing how firms apply technologies to enable communication between employees and how it greatly reduces the costs of coordination in the firm. More so, ICT boosts the production progression in organizations whereby evaluation technologies reduce the figure of supervisors necessary for the process. ICT enacts a crucial role as regards to collection of information and distribution, supply and quality control, whereby the ICT amenities are used for planned management, statements and communication, informed decision making, knowledge and management of data. It offers an effective way of organizational excellence. The use of ICT in the field of businesses provides strategic tools in organizations making a positive remarkable change. In addition, the adoption of quality technologies has positively impacted the
performance of organizations across the globe, especially in developed countries (Owuor, 2014; Loveman & Lichtenberg, 2016).

This study was guided by a number of theories among them Technological Acceptance theory TAT which was initiated by Davis in 1986. It is a theory that explains how individuals start, accept and use technology. Theoretically, TAT is grounded on the Reasoned Action theory. TAT foretells two factors that resolve the user acceptance of any technology: namely, perceived usefulness and perceived ease of use. There are four constructs assumed by this model to be direct factors of usage behavior and user acceptance: namely; the facilitating conditions, effort expectancy, performance expectancy and social influence. It helps the managers to evaluate the possibility of success if technology is introduced and to comprehend the catalysts that lead to acceptance with a view to design interventions, which comprise training or marketing. The target group of UTAUT is users that are unwilling to embrace and use a new system. Behavioral theory also informed this study. According to this approach, optimal organization performance is attained by improving technical and social systems applied in production (Mumford, 2000). Adopting this outlook means that no pure technological approach was used in the information system. In reality, information technology is growing in power and its cost is rapidly declining but that does not necessary mean improved productivity or profitability.

Most Educational Non-Government Organizations (NGOs) in the developed world use a vast array of technology and communications systems to manage their operations. However, many education NGOs are blinded by the financial gains hence encountering many challenges including; low IT uptake and awareness, lack of involvement in IT policy issues and very few IT NGOs; lack of funds and affordability issues; corruption which has seen an upward trend on brief case NGOs In Kenya, many Education NGOs in Kenya are still in an early stage of IT adoption, in their organizational settings due to lack of funding, unstable organizational structures and diversity in operations (Saeed, Rohde & Wulf, 2010).
1.1.1 Information Communication Technology

ICT is been considered as a batch of elements; software, hardware, people and communication that work in unity to profit an organization in form of products, services and information. This definition is agreed upon by (Christensen, 2010; Doganis, 2011; Werthner & Klein, 2015). Werthner and Klein (2015) also argued that the ICT as a whole comprise of hardware and software systems, people and networks that should be integrated as one unit to generate information that would serve organizations in making informed decisions, processing product and services, displaying, promotion, controlling with a view to achieve the organization’s objectives. Information technology induces changes to whole set up and usage of technology in business (Gholami et al., 2008).

A proper understanding of the relevance of ICT and how to individually utilize it is a prerequisite for any organization that is seeking competitive advantage over others. Everyone and indeed every organization necessarily needs to be current and proficient in the use of ICT as a real success in today’s changed, rapidly changing and highly competitive world depends on such knowledge and skills. Refusal to embrace the opportunities offered by ICT today is tantamount to absolute failure in any field of human endeavor that one is engaged in (Kpolovie & Iderima, 2016). ICTs can help to make schools less stressful workplaces for both teachers and students. ICT has so revolutionized all spheres of human endeavor to the extent that effective ICT use or otherwise in any given area is synonymous with the success or failure, respectively of that field. Understanding the role ICT plays and how to personally make the best use of ICT is an essential requirement for any person or organization that is seeking competitive advantage over others. Everyone and indeed every organization necessarily needs to be effective and efficient in the use of ICT as a real success in today’s changed, rapidly changing and highly competitive world depends on such knowledge and skills (Kpolovie, 2016).

1.1.2 Concept of Strategy

Strategy is the line of attack applied to hit the targets and objectives to attain success on a long-term basis (Kreikebaum, 1993). According to Mintzeberg and Quinn (1991) strategy
is the outline that merges the objectives, goals, policies of an organization into an interrelated whole. We can also say that strategy is a highlight of how an organization intends to execute its long-term goal (Burnes, 2004). Chandler (2008) points strategy is the identification of the essential and long period objectives of a company; adoption of the appropriate courses of action and assignment of the right resources to attain these goals.

Strategic decision-making entails conceptualizing about a long term path that withstand or endure a competitive market. Mintzberg (1979) affirmed that strategy points to the path to be taken by operations. In short strategy is the art of options. It is a clear understanding of the present options, developing the options or creating new ones and selecting among them. The primary goal of a strategy is to create a free environment that will enable effective operation of the action(s). It acts as the mediating object between the organization and its environment. The body responsible for defining the technical path to be taken and for creating a framework to guide the developments of a company that is technology oriented is known as Information and Communication Technology (ICT) Strategy. It also helps in risk management and explains the priorities and principles set within a company’s strategic plan (Wendy, 2004).

1.1.3 Organizational Performance

Performance can be viewed as a contextual concept that is linked with the subject on study (Hofer, 2013). Following the set of an organization performance as a concept is based on the idea that an organization is a field that is oriented to produce assets by availing physical, human and financial resources with an aim of attaining a common goal (Alchian & Demsetz, 2012; Barney, 2011; Jensen & Meckling, 2016; Simon, 2016). Abas and Yaacob (2016) orate that we cannot judge the general performance of an organization using a single performance measure. Appropriate performance dimensions spawn effectiveness, efficiency and adaptability (Walker & Ruekert, 2017). Tangen (2012) posits that measurement should be based on a limited number of approved measures that have parameters which are financial and non-financial.
Robbins (2000) argues that the main measures of organizational performance are effectiveness, efficiency, quality, timelines and productivity. According to Chavan (2009) a good figure of organizations assesses their performance with regard to effectiveness, quality, timelines and productivity. The main focus of such organizations is to achieve their corporate strategy. A number of other organizations gauge their performance with regard to their efficiency. Efficiency is defined as the appropriate use of resources to attain a set objective. Companies that Efficiency minded are concerned with the creativeness, value addition, quality, sales and the output. It is a measure that tells how much a business attains its objectives or the manner productions relate with the social and economic sector. Normally, effectiveness governs the strategy intentions of a given firm (Zheng, 2010).

Performance can also be measured using other measures that are financial in nature. One of the popular financial measures of organizational performance relates to the profitability of an organization. This is a ratio of the output to income generated by an organization normally referred to as (ROA). An organization can also use quality in measuring performance. In this case the actual quality and its timeliness are measured against the expected. The level of productivity and innovation of an organization can also be used to measure performance. Other measures of organizational performance include innovation and the ability to create change within the organization (Kirkendall, 2013).

1.1.4 Education NGO’S

An NGO is a non-government group that is non-profit with a goal of reaching out to the public both at the local and international platform, whereby it promotes social welfare development, research and charity. This definition is given by The Non-Governmental Coordination’s Act (1990). NGO is not restricted to agriculture, education, relief, industry, agriculture and supply of facilities and services. In Kenya, NGOs have increased in number and grown with a high rate, especially after the colonial period (Kameri-Mbote, 2002). According to the National Survey of NGOs Report 2009, NGO coordination board had registered 6,075 by August 2009 and they are found in all parts of the country. The size of these NGOs varies from small organizations operating locally to
big international organizations with various branches all over the world with diverse activities that cover several areas including Environment, education, Welfare, Education amongst others (Kameri-Mbote, 2002). The NGO sector complements the Government of Kenya by providing basic services in many parts of the country contributing over Kenya shilling 80 billion annually to the country’s economy by year 2003 (National Survey of NGOs Report, 2009). In Nairobi County there are 39 NGOs providing education services. The NGOs have greatly assisted the needy and the less privileged in the community.

1.2 Research Problem

In recent years, most industries and companies have increasingly utilized information technology. This has been met by using products of Information Technology such as, electronic payments, information exchanges, security investments, internet banking, as a result financial organizations can convey services of high quality to customers with less effort and in the process improving the firm performance (Wesutsa, 2012). There is enough evidence through researchers that investing in IT facilities boost the performance of any organization (Griffith, 1999). For example, IT investments contributed to the increase of gross domestic product (GDP) in the following developed countries: in Singapore by 8.3%, the United States by 7.8%, UK and Australia by 8.0% and 8.4% respectively (Kamel, Rateb & ElTawil, 2009). It attests that if IT is given proper attention then there will be development in the social economic. From these examples, if IT investments would bring this heavy impact in the developed countries then it can also bring down the costs of operations of an organization and these would improve to its financial performance (Chumba, 2016).

Currently, non-governmental organizations operate in an environment that has shifted from an isolated localized village to a wider and far reaching global platform. One of the significant driving force behind this trend is the fast growing sector of Information Communication Technology that is widely adopted across the world. It is imperative for any NGO seriously intending to achieve its goals to embrace ICT. NGOs operating in a dynamic environment are constantly faced with pressure to cut operational cost, become more efficient in running their projects while also remaining socially relevant (Yator,
NGOs in the education sector are turning to ICT to boost their operations effectiveness in response to pressure from their stakeholders as well as opportunities offered by ICT in improving business processes.

A good number of studies keep their focus on ICT but little focus of its adoption in NGOs examples of study include that of Michael (2014) who focused on the impact ICT adoption brought on the organizational performance of tea factories in Embu County. The study focused on tea factories while the current study will focus on education NGO’s. Chumba (2016) conducted a study in Kibra constituency Nairobi County in Kenya on how information and communication technology affects the performance of small and medium enterprises. However the study adopted diffusion of innovation theory only thus presenting a theoretical gap. The current study will be guided by Unified theory of acceptance and use of technology (UTAUT), Theory of Reasoned Action (TRA), and Technological Acceptance theory. Mwangi (2016) conducted a study on ICT adoption and supply chain performance of Parastatals in the Kenya’s energy sector. The study focused on supply chain performance thus presenting a scope gap. Therefore, the present study will seek to get the influence ICT has on performance of education NGO’S in Kenya

1.3 Objective of the Study

The objective of the study was to inspect the effect of information communication technology, strategy on organizational performance of NGO’s in the education sector in Kenya.

1.4 Value of the Study

The policy makers together with law regulators are able to utilize the study’s findings to outline the policies the influence information communication technology has on performance of education NGO’S in Kenya. It will also be beneficial to the management and employees of the education NGOs to know how to improve the performance of their organizations. It will also help them to know the challenges faced in using Information and Communication Technology (ICT) and how to overcome the challenges in order to
increase the organization performance. It will also help scholars to know the possible solutions that can improve ICT’s accuracy and effectiveness. More so, the study will serve other NGO’S in knowing how ICT impact their operations in the organization.

Theoretically the study will adopt a framework of information communication technology on performance of education NGO’S. Such a framework will be utilized in future for theory build up. In particular, the applicability of various theories discussed in literature will be tested in this study.

The study will add on information into past literature as regards information communication technology on performance of education NGO’S. The results given by the study will contribute to enrichment of the available literature and therefore will benefit both academicians and researchers whose interest is on exploration of further examination, thus providing foundation for further research.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter focused on the most recent literature. This literature was captured through theories and empirical studies. The last part of this chapter was a summary of the literature review.

2.2 Theoretical Foundations of the Study

A framework of theories can be described as a group of interconnected concepts. It gives guidance that dictates the elements to be measured, and the statistical relationships to be inspected (Clifford, Williams, Randall & Thomas, 2010). This study was driven by technology acceptance model, Diffusion of Innovation (DOI), Unified theory of acceptance and use of technology (UTAUT).

2.2.1 Technology Acceptance Model (TAM)

TAM was initiated by Davis in 1986. It is a theory that explains how individuals start, accept and use technology. Any innovation adoption, in particular that of information technology, means that investment must be done through computer based tools which enables decision making, development and communication. However, it is of necessity to specify the systems on organizational inclination and logic: because some of these systems are risky. It is possible that some people will resist changes in technology. Therefore, there must be an undertaking to comprehend the reasons that contribute to people resisting changes and the measures that can be applied to resolve the issues. A friendly culture of an organization must be put in place; the mode of adopting the change must be incremental accompanied by communication.

Everybody involved must have an understanding of their duties and motivated to do them (Kamel, 2014). This theory expounds how acceptance and usage of current technology wholly depend on the feelings of the user about the system and its supposed benefits (Shirzad & Bell, 2012). This theory is grounded on two assumptions, that is; system
perceived usefulness and perceived ease of use of the new systems. Whereby, perceived usefulness comprises of enhanced performance and productivity, operations efficiency etc. While perceived ease of use includes the simplicity in learning, ease to use and ease to control and remember.

On the basis of this theory, when the NGOs in the education sector develop an ICT based system that will help in the improvement of performance, they need to incorporate in the system features that will be appealing to the users. The system should also be easy to use and devoid of complicated terminologies that will confuse the user. This theory relates to the study because for technology to be useful in an organization it must be perceived as useful and accepted by the organization. This links with the independent variable which is on information communication technology.

2.2.2 Unified theory of acceptance and use of technology (UTAUT)

The UTAUT facilitates managers in knowing probability of success if new technologies are introduced as well as comprehend the drivers of technology acceptance. Even though there isn’t a theory or a model that can comfortably explain the adoption of Technology single-handedly just as noted by Carr (2007), the study will consider (UTAUT) a product of review of 8 eminent theories that foretell behavior intentions and/or usage (Venkatesh et al., 2003). The eight models/theories are innovation diffusion model theory, technology acceptance model, motivational model, reasoned action theory, PC utilization model, planned behavior and social cognitive theory, a combined theory of planned behavior and technology acceptance model. These models were reviewed and consolidated.

In UTAUT, there are 4 predictors of behavior intention or usage namely; effort expectancy which level of ease related with the system usage, Performance expectancy which is defined as the extent one can go in believing that if he/she uses a system then he/she will perform in job, facilitating conditions (the extent one goes in believing that an institution believes embrace the use of a system) and social influence which is the extent one supposes how other work mates believe he/she should use a current system.
This theory is considered important to this study as it highlights performance expectations, social influence and effort expectancy. Behavior Gender Age Experience Voluntariness is used by behavioral intention and facilitating Conditions as the main causative agents of adoption of Technology. The study therefore informs the independent variable which is information communication technology.

### 2.2.3 Diffusion of Innovation (DOI)

Diffusion of innovation (DOI) theory explains why and also the degree a current initiative goes in reaching people found in the shared system. This theory is founded on sociological and psychological theories. It is possibly the commonly used innovation adoption theory as far as adoption in ICT is concerned (Parker & Castleman, 2009). Rogers (2002) defines innovation diffusion as the event of communication of a new innovation through social channels to the people found in a shared/public system. Adoption in the light of DOI entails innovation acceptance through five steps: knowledge, persuasion, decision, execution and verification (Rogers, 1995). There are various categories of Adopters, namely; laggards (16%), early adopters represented by 13.5%, innovators represented by 2.5%, early majority (34%) and late majority represented by 34%.

DOI proposes that compatibility, relative advantage, complexity, observability and triability are the perceived elements of an innovation, that determine the taking up or rejection of an innovation. The DOI theory was constructed under the background of adoption entity: whereby, an intended decision is made whether to take up or discard an innovation depending on the supposed innovation profit. In this theory, the manner in which communication is conducted dictates the pattern that will be taken by the members of the social system as they adopt. The key entities of this process are people involved and the communication path followed (Rogers, 1995). More so, the informed persons are urged to adopt the innovation.

### 2.3 Empirical Studies and Research Gaps

Nderu (2013) conducted a study on how survival strategies influence the organizational performance of Kenya Airways. The study was based on a unique research dataset,
including data from at least 60 commercial banks in Kenya that are certified plus 1 Mortgage finance firm about business performance, usage of ICT, adoption of modem organization forms and innovation, which will be collected through a questionnaire-based survey among Kenyan banks and also from previous related research. Evolvement of advanced communication and information technologies within the monetary field has remarkably influenced the mode of delivery for banks.

Malit (2017) conducted a study on the effect of ICT strategy implementation on organizational performance of insurance sector in Kenya. The study adopted a descriptive cross-sectional survey. This study’s population was 50 insurance companies in Kenya. Census survey was used to select all 50 Insurance companies. The unit of observation consisted of heads of two functional areas in each insurance company. A sample of 150 respondents was considered as adequate for this study. Both primary (collected using questionnaires) and secondary were used in this study. The study found that ICT investment cost affects the performance of insurance sector in Kenya. ICT investment offers potential for significant organizational improvement and competitive advantage. ICT investment cost is relatively high but improves organization performance in the long run while ICT investment does not always translate into monetary rewards in insurance sector. The study revealed that ICT competency largely affects the performance of insurance sector in Kenya. A recommendation of the study is given that insurance companies should include considerable amount of capital in their budget for ICT investment purposes. The study established that in the insurance sector employees have technical skills on ICT.

Nyambura (2018) conducted a study on moderating effect of information communication technology on supply chain risks and the performance of manufacturing firms in Kenya. She used Cross-sectional survey design. Statistically she realized there was no significant association between information flow risk and the performance of manufacturing firms in Kenya. Also ICT use as a moderator of the association between financial flow risk and performance of manufacturing firms in Kenya was insignificant. Material flow risk was insignificant in affecting the performance of the manufacturing firms in Kenya. On organization characteristic risks, organizational characteristic risks significantly
influenced the performance of the manufacturing firms in Kenya. ICT use also moderated the relationship between organization characteristic risks although the moderation was not statistically significant. All the independent variables (information flow risk, financial flow risk, material flow risk and organization characteristic risk) were not significant predictors of the performance of the manufacturing firms in Kenya except organizational characteristic. The study targeted the manufacturing firms, this presents a gap. Therefore, the present study will focus on NGOs in the education sector in Kenya.

Karithi (2007) conducted a study to evaluate the effect of new Information & Communication Technology had on academic performance of students. The statistics used for the study were the analysis of variance, the Pearson product moment correlation and t-test. The t-test of the student gave a significance of 0.02 and in the analysis of variance, the score was 49.29 which is significant based on the f-distribution score (3.92), while the significance of the Pearson product moment correlation was 0.005441904 in full. These results reveal significance. Therefore the researcher recommends all students should be taught ICT regardless of their level differences to facilitate learners in having same entry qualifications in colleges that train teaching. More so, because there is a positive boost of performance by I.C.T on other studies, it should (ICT) be incorporated as subject on its own, ready for use.

Chumba (2016) conducted a study in Kibra constituency Nairobi County in Kenya on how information and communication technology affects the performance of small and medium enterprises. The study employed in the design of this research was descriptive correlation survey technique; where 310 respondents were picked. The data was collected using questionnaires and business records from the SMEs. The data was analyzed both quantitatively and qualitatively using SPSS and content method respectively. The study established that small and medium enterprises performance is governed by the ICT influence, with cost of ICTs, being the leading determinant on performance of SMEs, followed closely by organizational leadership in ICTs. A higher correlation exists between the ICT usage and the levels of awareness of ICT on their influence on performance of SMEs. They both affect the performance of SMEs nearly on the same scale. In a case where multiple types of ICTs in SMEs were used: the study showed that
this negatively affected performance of SMEs however there a higher percentage used mobile technologies, accounting for 92% on the types of ICTs, in SMEs. It is expected that this study is significant in the generation of new knowledge, providing business owners and scholars with information concerning the influence of ICTs on small and medium enterprises. Providing answers to questions such as which types of ICTs to adopt, when and what is ICT return on investments to the business. The study used correlational research design, this presented a gap of methodology. The present study will use descriptive research design.

Agoti (2014) did a study on information and communication technology outsourcing and performance of humanitarian organizations in Kenya. The study assumed a descriptive survey design. Specifically, the study looked into the outsourcing effect on performance, adding to the existing body of mastery required to assist policy makers make decisions that would change the way ICT support is handled. The study findings showed that ICT outsourcing determines the performance of the humanitarian organizations to a large extent by assisting to improve response. The study dealt with humanitarian organization; it presents a scope gap. Now, the current study will focus on NGOs in the education sector in Kenya.

Nyakoe (2014) inspected the variation of Kengen’s performance when subjected to information and communication technology. The study used descriptive survey design. The participants were 302 employees of KenGen working in different departments and levels. The study used questionnaires to collect data. SPSS facilitated the data analysis. The main findings were that, ICT had facilitated production of ad hoc reports, improved quality of work, enabled availability of reliable information on power generation and facilitated knowledge sharing and building on each other’s ideas in real time. In addition, ICT had enabled KenGen to empower its employees and facilitated employees learning. However, impact of ICT on performance is being hindered by insufficient access rights to the systems. A recommendation is done by the study that the management of KenGen should make sure that employees have adequate access rights to the system to enable them work comfortably. Further the management should facilitate training of employees on ICT systems so that they can have required skills and knowledge on the systems
Kamau (2015) conducted study on information communication technology and the general performance of Kenyan commercial banks. The survey (cross-sectional) of the study was on the existing Kenyan commercial banks. The unit of analysis was individual commercial bank represented by the relevant bank staff the branches did not count as separate units. Data collection was made by utilizing primary and secondary data collection methods. Guided by the findings, this study concludes that the banks had adopted various ICTs including; Point of Sale (POS) Terminals, ATMs, Internet Banking, Debit & Credit Cards, Electronic cash Transfer and Mobile Banking. The study further concludes that ICT has aided the increase of general income of the banks specifically in relation to increasing commission fee based income, interest increase based on income and expanding every potential income of the bank enhancing the performance of the organizations. In addition, debit & credit cards have the highest effect on the total income of the banks followed closely by mobile banking, ATMs and Point of Sale (POS) Terminals respectively. The study also concludes that ICT usage has led to a constructive effect on bank’s returns from assets. Internet banking has the highest effect on bank’s returns from assets, followed by ATMs, point of sale (POS) terminals, electronic cash transfer, debit & credit cards as well as mobile banking respectively. This study recommended that the banks management should consider ICT usages through their organizational levels and try to expose the positive influences of ICT in their organizations. Moreover, this research indicates ICT can be developed to produce products for increasing performance of the organizations. The study was a cross-sectional survey thus presenting a methodological gap. The current study will use descriptive research design.

Masenge (2014) investigated the small and medium enterprises performance after using in information and communication technology in selected SME’s in Kamukunji sub-county. Masenge’s study applied descriptive survey research design, while the target population constituted of registered SMEs in Kamukunji sub-county. The study revealed that mobile phones services are one of the many IT tools highly adopted by the study; having a mean score of 3.687. The study also established that the use of ICT led to growth and expansion of the business. The study concluded that ICT has led to the growth of the businesses through volume of sales, access to new markets, volume of
service / products and allowing businesses the capacity to handle a greater volume of work. Further, the study concluded that ICT leads to better quality/ service in the business by increasing customer satisfaction, allowing innovation through introduction of new product/service and improving product/service quality. The study recommended that the management of the Small and Medium Enterprises (SME) should be quick to pick up new ICT equipment that would boost service delivery, enhance proper mixing of products and choice that minister the demand of a customer. In addition, the management should embrace various ICT equipment which present communication options.

Binuyo and Aregbesola (2014) did a study on the ICT effect on commercial bank performance. It used Annual data published by Bankscope for period 1990-2012 to assess the impact ICT brought on the performance of banking industry in South Africa. The orthogonal transformation approach was applied to perform data analysis. The results validity was confirmed by residual co integration regression analysis. The findings showed that ICT application in the banking industry of South Africa increased both returns from capital and returns from assets. The study reveal that performance is boosted more by cost efficiency of ICT compared to investment in ICT. The recommendation that the study gives is that banks should emphasize strategies that enable the appropriate use of ICT facilities rather than extra investments.

Nzuki and Kyalo (2014) conducted a study on causative agents of ICT Integration in college and universities. This study used the methodology of multiple case study in order to find out the right approach that would lead to development of fit ICT infrastructure and its usage in college or universities. In the normal education environment some several determinants have been noted, both enablers and barriers blended with a complex infrastructure of the ICT. The study unveils facets of infrastructure as regards integration in the ICT; and the managerial impact brought when these determinants are included as a principal amenity tool. The study focused on causative elements of ICT Integration in colleges and universities; therefore a conceptual gap is evident. Consequently, the present study will lay its attention on influence of ICT on organizational performance of NGO’s in the education sector in Kenya.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter explained the research methodology to be followed. It includes; the research design, target population, sample size and sampling procedure, research instruments, reliability tests, data analysis technique and ethics to be considered during the study.

3.2 Research Design

The outline and mode of investigation used to get the answers to research questions is termed as research design (Cooper and Schindler, 2008). Research design aids in the smooth flow of operations in research, this makes the research efficient in a way that maximum information is gathered at a reduced cost, time and effort (Prasad, 2009).

The data collected requires a qualitative and quantitative approach. Therefore, a descriptive survey design was applied. This design is the best for the study: one because it entails the collection of data with a goal to examine questions addressing the present status of themes of the study (Bryman & Bells 2007). Second, because the study’s aim is to inspect the effect of ICT strategy on organizational performance of NGO’s in the education sector in Kenya, which requires in depth data. The design is good at gathering in depth data (Kothari, 2004).

3.3 Population of the Study

Target population points to the population which the researcher intends to collect data that will help in the generalization of the study results (Mugenda & Mugenda 2003). This study’s target population comprised all the 92 NGOS in the education sector in Kenya. The specific respondents were the county director of each NGO. The study used census approach. Therefore the study focused on all the 92 county directors of the education NGOs.
3.4 Data Collection

Data collection entails a way of collecting information (which is important to the study goals) following a specific system (Burns & Grove, 2003). In the process of data collection Research instruments are used (Chandran 2004). Primary data was collected by use of questionnaires. The questionnaires had six divisions, the first division comprised of personal facts of the respondents and the other sections comprised variables’ information.

The researcher obtained permission to carry out the research from university. The researcher was assisted by 2 research assistants and booked an engagement with the county directors and administer the questionnaire through a drop and pick method.

3.5 Data Analysis

This entails transforming and organizing of data with a goal of attaining findings that can be interpreted by the researcher (Burns and Grove 2003). The acquired quantitative data was analyzed using SPSS software. This quantitative data was visualized through bar graphs and frequency tables. The association between variables was checked using a Multivariate regression model;

\[ Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \epsilon \]

Where,
- \( Y \) – Performance
- \( \beta_0 \) – Constant
- \( X_1 \) – Mobile phone technology
- \( X_2 \) – E-wallet
- \( X_3 \) – Cloud Computing
- \( X_4 \) – Social Communities (Skype, Facebook, Twitter, WhatsApp)
- \( \epsilon \) – Error term
CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter comprises of data analysis, findings and interpretation. Results are presented in tables and diagrams. The analyzed data was arranged under themes that reflect the research objectives.

4.2 Response Rate

The number of questionnaires that were administered to county directors of the education NGOs were 92. Response rate results were presented below.

Table 4.1: Response Rate

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Returned</td>
<td>62</td>
<td>67.39%</td>
</tr>
<tr>
<td>Unreturned</td>
<td>30</td>
<td>32.61%</td>
</tr>
<tr>
<td>Total</td>
<td>92</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source, Author (2018)

A total of 62 questionnaires were properly filled and returned. This represented an overall successful response rate of 67.39% as shown on Table 4.1. This agrees with Babbie (2004) who asserted that return rates of 50% are acceptable to analyze and publish, 60% is good and 70% is very good. Based on these assertion 67.39% response rate is adequate for the study.

4.3 Demographic Characteristics

Respondents were asked questions regarding their demographic information such as the gender of the respondents, age, level of education, years served.
4.3.1 Gender

The respondents were asked to indicate their gender.

Figure 4.1: Gender

Source, Author (2018)

The result revealed that majority of the respondent (81%) indicated that they were male. The result also revealed that (19%) of the remainder indicated that they were female. These results revealed that majority of the county directors of the education NGOs were men.

4.3.2 Age of the Respondent

The respondents were asked to indicate their age.
The results were presented in Figure 4.2. The result revealed that majority of the respondent (50%) were 46 years and above. The result also revealed that 39% of the respondents were between 36 – 45 years while the remaining 11% were between 26 – 35 years.

4.3.3 Education level of the Respondent

The respondents were asked to indicate their education level. The results were presented in Figure 4.3.

The result revealed that majority of the respondent (52%) were postgraduates, (45%) were undergraduates, (3%) of the respondents indicated that they attained diploma level education. This implies that majority of the county directors were educated and thus had the capacity to improve the performance of the education NGOs.

4.3.4 Duration of Work

The respondents were asked to indicate the work duration.

Figure 4.2: Age

Source, Author (2018)

Figure 4.3: Education level

Source, Author (2018)
The results were presented in Figure 4.4. The result revealed that majority of the respondent (58%) indicated that they had worked for a period of 4-5 years. The result also revealed that (20%) of the respondent had worked for a period of 6-10 years, (11%) of the respondents indicated to had for a period of more than 10 years. The result further showed that another (11%) of the respondent indicated that they had worked for a period of less than 3 years. This implies that majority of the county directors had worked with the NGO for a long time and thus had the relevant skills to improve its performance.

4.4 Descriptive Results

This section contains descriptive analysis for training and development. A Likert scale with options of strongly disagree, disagree, neutral, agree and strongly agree were presented for answering by respondents. The results were presented in form of percentages, mean and standard deviations.

4.4.1 Mobile Phone Technology

Table 4.2: Mobile Phone Technology

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Mean</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile phone</td>
<td>13.90%</td>
<td>8.30%</td>
<td>5.60%</td>
<td>30.60%</td>
<td>41.70%</td>
<td>3.78</td>
<td>1.43</td>
</tr>
</tbody>
</table>
improves flexibility. Mobile phone technology improves services awareness. Mobile phone technology enhance convenience in tax payment. Our company has invested on good phones for the company.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-Wallets enhance increased security in the information collected</td>
<td>2.80%</td>
<td>25.00%</td>
<td>5.60%</td>
<td>30.60%</td>
<td>36.10%</td>
<td>3.72</td>
<td>1.27</td>
</tr>
</tbody>
</table>

Source, Author (2018)

The result revealed that majority of the respondent (72.3%) indicated that they agreed that mobile phone improves flexibility (Mean=3.78, Std.Dev =1.44). The result revealed that majority of the respondent (75%) indicated that mobile phone technology improves services awareness (Mean=3.86, Std.Dev =1.22). The result revealed that majority of the respondent (80.6%) indicated that they agreed with the statement that Mobile phone technology enhance convenience in tax payment (Mean=4.03, Std.Dev =1.17). The result revealed that majority of the respondent (77.8%) indicated that they agreed with the statement that their company has invested on good phones for the company (Mean=3.94, Std.Dev =1.38).

4.4.2 E-Wallet

Table 4.3: E-Wallet
E-Wallets facilitates storage of payment information  
E-Wallets enhance ease of access to conducting online payments  
Our organization has invested on E wallet  
**Average**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloud computing improve performance</td>
<td>5.60%</td>
<td>13.90%</td>
<td>5.60%</td>
<td>33.30%</td>
<td>41.70%</td>
<td>3.92</td>
<td>1.24</td>
</tr>
<tr>
<td>Cloud computing improve information accessibility</td>
<td>2.80%</td>
<td>8.30%</td>
<td>5.60%</td>
<td>47.20%</td>
<td>36.10%</td>
<td>4.06</td>
<td>1.01</td>
</tr>
<tr>
<td>Our organization has invested on cloud computing</td>
<td>2.80%</td>
<td>8.30%</td>
<td>13.90%</td>
<td>36.10%</td>
<td>38.90%</td>
<td>4.00</td>
<td>1.06</td>
</tr>
</tbody>
</table>

**Source, Author (2018)**

The result revealed that majority of the respondent (66.7%) indicated that they agreed with the statement that E-Wallets enhance increased security in the information collected (Mean= 3.72, Std.Dev = 1.27). The result revealed that majority of the respondent (67.4%) indicated that they agreed with the statement that E-Wallets facilitates storage of payment information (Mean= 3.64, Std.Dev = 1.21). The result revealed that majority of the respondent (75%) indicated that they agreed with the statement that E-Wallets enhance ease of access to conducting online payments (Mean= 3.94, Std.Dev = 1.15). The result revealed that majority of the respondent (80.5%) agreed with the statement that their organization has invested on E wallet (Mean= 3.89, Std.Dev = 1.21).

**4.4.3 Cloud Computing**

**Table 4.4: Cloud computing**
Source, Author (2018)

The result revealed that majority of the respondent (75%) agreed with the statement that Cloud computing improve performance (Mean=3.92, Std.Dev=1.24). The result revealed that majority of the respondent (83.3%) indicated that they agreed with the statement that Cloud computing improve information accessibility (Mean=4.06, Std.Dev=1.01). The result revealed that majority of the respondent (75%) agreed with the statement that their organization has invested on cloud computing (Mean=4.00, Std.Dev=1.07).

4.4.4 Social Communities (Skype, Facebook, Twitter, WhatsApp)

Table 4.5: Social Communities (Skype, Facebook, Twitter, WhatsApp)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our company has an active facebook page</td>
<td>11.10%</td>
<td>2.80%</td>
<td>5.60%</td>
<td>38.90%</td>
<td>41.70%</td>
<td>3.97</td>
<td>1.27</td>
</tr>
<tr>
<td>Our company has an active twitter account</td>
<td>8.30%</td>
<td>2.80%</td>
<td>8.30%</td>
<td>47.20%</td>
<td>33.30%</td>
<td>3.94</td>
<td>1.14</td>
</tr>
<tr>
<td>Our company has a whatsapp group</td>
<td>5.60%</td>
<td>2.80%</td>
<td>13.90%</td>
<td>36.10%</td>
<td>41.70%</td>
<td>4.06</td>
<td>1.09</td>
</tr>
<tr>
<td>Skype is used often in the organization</td>
<td>16.70%</td>
<td>2.80%</td>
<td>11.10%</td>
<td>36.10%</td>
<td>33.30%</td>
<td>3.67</td>
<td>1.40</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>3.91</strong></td>
<td><strong>1.23</strong></td>
<td><strong>1.23</strong></td>
<td><strong>1.23</strong></td>
<td><strong>1.23</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source, Author (2018)

The result revealed that majority of the respondent (80.6%) indicated that they agreed with the statement that their company has an active facebook page (mean=3.97, Std.Dev=1.28). The result revealed that majority of the respondent (80.5%) indicated that they agreed with the statement that their company has an active twitter account (mean=3.94, Std.Dev=1.14). The result finally revealed that majority of the respondent (77.8%) indicated that they agreed with the statement that their company has a whatsup group (mean=4.06, Std.Dev=1.09). The result finally revealed that majority of the respondent...
(67.4%) indicated that they agreed with the statement that Skype is used often in the organization (mean=3.67 Std.Dev=1.40).

4.4.5 Performance of Education NGOs

Table 4.6: Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Mean</th>
<th>Std.Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer satisfaction</td>
<td>5.60%</td>
<td>5.60%</td>
<td>11.10%</td>
<td>50.00%</td>
<td>27.80%</td>
<td>3.89</td>
<td>1.06</td>
</tr>
<tr>
<td>Fiscal security Compliance</td>
<td>8.30%</td>
<td>8.30%</td>
<td>11.10%</td>
<td>25.00%</td>
<td>47.20%</td>
<td>3.94</td>
<td>1.30</td>
</tr>
<tr>
<td>Reduced business cost</td>
<td>5.60%</td>
<td>5.60%</td>
<td>5.60%</td>
<td>47.20%</td>
<td>36.10%</td>
<td>4.03</td>
<td>1.07</td>
</tr>
<tr>
<td>High target reached</td>
<td>8.30%</td>
<td>11.10%</td>
<td>22.20%</td>
<td>58.30%</td>
<td>0.00%</td>
<td>3.31</td>
<td>0.97</td>
</tr>
<tr>
<td>Long term success</td>
<td>11.10%</td>
<td>5.60%</td>
<td>8.30%</td>
<td>33.30%</td>
<td>41.70%</td>
<td>3.89</td>
<td>1.32</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.79</td>
<td>1.17</td>
</tr>
</tbody>
</table>

Source, Author (2018)

The result revealed that majority of the respondent (77.80%) indicated that they agreed there is customer satisfaction in their firm (mean=3.89, Std.Dev=1.06). The result revealed that majority of the respondent (70.20%) indicated that they agreed with the statement that there is fiscal security compliance in their firm (mean=3.94, Std.Dev=1.30). The result revealed that majority of the respondent (83.3%) indicated that they agreed with the statement that high target is reached in their firm (mean=4.03, Std.Dev=1.07). The result revealed that majority of the respondent (75.0%) indicated that they agreed with the statement that long term success is achieved in their firm (mean=3.89, Std.Dev=1.32).

4.5 Inferential Statistics

Inferential analysis was conducted to generate correlation results, model of fitness, and analysis of the variance and regression coefficients.
### 4.5.1 Correlation Analysis

**Table 4.7: Correlation Analysis**

<table>
<thead>
<tr>
<th></th>
<th>Performance</th>
<th>Mobile Phone</th>
<th>E-Wallet</th>
<th>Cloud computing</th>
<th>Social Communities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Performance</strong></td>
<td>Pearson Correlation</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mobile Phone</strong></td>
<td>Pearson Correlation</td>
<td>.637**</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E-Wallet</strong></td>
<td>Pearson Correlation</td>
<td>.735**</td>
<td>.446**</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td><strong>Cloud computing</strong></td>
<td>Pearson Correlation</td>
<td>.619**</td>
<td>.386**</td>
<td>0.209</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>0.000</td>
<td>0.001</td>
<td>0.077</td>
</tr>
<tr>
<td><strong>Social Communities</strong></td>
<td>Pearson Correlation</td>
<td>.435**</td>
<td>.459**</td>
<td>.260*</td>
<td>0.220</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>0.000</td>
<td>0.000</td>
<td>0.027</td>
</tr>
</tbody>
</table>

**Source, Author (2018)**

The results revealed that there was a positive and significant association between mobile phone technology and performance ($r=0.637, p=0.000$). The results further showed that there was a positive and significant association between E-wallet and performance ($r=0.735, p=0.000$). The results further showed that there was a positive and significant association between cloud computing and performance ($r=0.619, p=0.000$). The results further showed that there was a positive and significant association between social communities and performance ($r=0.435, p=0.000$).
4.5.2 Regression Analysis

The results presented in table 4.8 showed that mobile phone technology, e wallet, cloud computing and social communities were found to be satisfactory variables in explaining performance. This means that mobile phone technology, e wallet, cloud computing and social communities explain 80.7% of the variations in the dependent variable which is organizational performance. The adjusted R was 0.807. This results further means that the model applied to link the relationship of the variables was satisfactory.

Table 4.8: Model Fitness

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.904a</td>
<td>0.818</td>
<td>0.807</td>
<td>0.25869</td>
</tr>
</tbody>
</table>

Source, Author (2018)

Table 4.9 provides the results on the analysis of the variance (ANOVA). The results indicate that the overall model was statistically significant as supported by a p value of 0.000 which is lesser than the critical p value of 0.05. This was supported by an F statistic of 75.129 which imply that mobile phone technology, e wallet, cloud computing and social communities are good predictors of performance.

Table 4.9: Analysis of Variance

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>20.11</td>
<td>4</td>
<td>5.028</td>
<td>75.129</td>
<td>0.000</td>
</tr>
<tr>
<td>Residual</td>
<td>4.484</td>
<td>57</td>
<td>0.067</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>24.594</td>
<td>61</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source, Author (2018)

Regression of coefficients showed that there was a positive and significant relationship between mobile phone technology and performance ($\beta$=0.205, p=0.007). The results further showed that there was a positive and significant relationship between E wallet and performance ($\beta$=0.621, p=0.000). The results also showed that there was a positive and significant relationship between cloud computing and performance ($\beta$=0.609, p=0.000).
The results also showed that there was a positive and significant relationship between social communities and performance ($\beta=0.144$, $p=0.045$).

**Table 4.10: Regression of Coefficient**

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-2.193</td>
<td>0.378</td>
<td>-5.805</td>
<td>0.000</td>
</tr>
<tr>
<td>Mobile Phone</td>
<td>0.205</td>
<td>0.073</td>
<td>2.791</td>
<td>0.007</td>
</tr>
<tr>
<td>E-Wallet</td>
<td>0.621</td>
<td>0.068</td>
<td>9.167</td>
<td>0.000</td>
</tr>
<tr>
<td>Cloud computing</td>
<td>0.609</td>
<td>0.084</td>
<td>7.215</td>
<td>0.000</td>
</tr>
<tr>
<td>Social Communities</td>
<td>0.144</td>
<td>0.071</td>
<td>2.041</td>
<td>0.045</td>
</tr>
</tbody>
</table>

*Source, Author (2018)*

The optimal model was therefore;

$$Y = -2.193 + 0.205X_1 + 0.621X_2 + 0.609X_3 + 0.144X_4$$

Where:

$Y =$Performance

$X_1 =$ Mobile phone technology

$X_2 =$ E wallet

$X_3 =$ Cloud Computing

$X_4 =$ Social Communities

**4.6 Discussion of Findings**

The study found that there was a positive and significant relationship between mobile phone technology and performance. This implied that a unit increase in mobile phone technology would lead to rise in performance by 0.205 units. These findings agreed with that of Nyambura (2018) who argued that mobile phone technology had a positive impact on performance of manufacturing firms in Kenya.
The study also found that there was a positive and significant relationship between E-wallet and performance. This implied that a unit increase in E-Wallet would lead to rise in performance by 0.621 units. These findings agreed with that of Nyambura (2018) who argued that E-wallet had a positive impact on performance of manufacturing firms in Kenya.

The study also found that there was a positive and significant relationship between cloud computing and performance. This implied that a unit increase in cloud computing would lead to rise in performance by 0.621 units. These findings agreed with that of Binuyo and Aregbeshola (2014) who found that cloud computing have a significant effect on commercial bank performance.

The study also found that there was a positive and significant relationship between social communities and performance. This implied that a unit increase in social communities would lead to rise in performance by 0.144 units. The findings also agreed with that of Malit (2017) who argued that social communities have a significant effect on organizational performance of insurance sector in Kenya. The findings were also consistent with Technology acceptance model which argued that ICT based system helps in the improvement of performance.

The findings also agreed with that of Karithi (2007) who found that there is a positive boost of performance by I.C.T. Chumba (2016) also found that a higher correlation exists between the ICT usage and the levels of awareness of ICT on their influence on performance of SMEs. Nyakoe (2014) also found that ICT had facilitated production of ad hoc reports, improved quality of work, enabled availability of reliable information on power generation and facilitated knowledge sharing and building on each other‘s ideas in real time.

The findings also agreed with that of Kamau (2015) who found that information communication technology have a positive effect on general performance of Kenyan commercial banks. Masenge (2014) also concluded that ICT has led to the growth of the businesses through volume of sales, access to new markets, volume of service / products and allowing businesses the capacity to handle a greater volume of work.
CHAPTER FIVE

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

5.1 Introduction

This chapter addressed the summary of the findings, the conclusions and the recommendations. This was done in line with the objectives of the study.

5.2 Summary

The study sought to inspect the effect of information communication technology strategy on organizational performance of NGO’s in the education sector in Kenya. Descriptive survey design was applied. This study’s target population comprised of all the 92 NGOS in the education sector in Kenya. The study used census approach. Primary data was collected by use of questionnaires. Results were analyzed through descriptives and inferential.

Regression results revealed there was a positive and significant relationship between mobile phone technology and performance. The results further showed that there was a positive and significant relationship between E wallet and performance. This implied that a unit increase in E wallet would lead to 0.621 increase in performance. These findings agreed with that of Nyambura (2018) who argued that information communication technology had a positive impact on performance of manufacturing firms in Kenya.

The results also showed that there was a positive and significant relationship between cloud computing and performance. The results also showed that there was a positive and significant relationship between social communities and performance. This implied that a unit increase in mobile phone technology would lead to 0.144 increase in performance. These findings agreed with that of Binuyo and Aregbeshola (2014) who found that ICT have a significant effect on commercial bank performance. The findings also agreed with that of Malit (2017) who argued that ICT strategy implementation have a significant effect on organizational performance of insurance sector in Kenya.
5.3 Conclusions

The study concluded that mobile phone technology, e wallet, cloud computing and social communities have a positive and significant impact on performance of education NGOs.

The study concluded that mobile phone technology have a positive and significant impact on performance of education NGOs. In addition, mobile phone technology improved flexibility. Mobile phone technology also enhances convenience in tax payment and self-awareness.

The study concluded that E wallet have a positive and significant impact on performance of education NGOs. In addition, E-Wallets enhance increased security in the information collected. E-Wallets also facilitate storage of payment information and enhance ease of access to conducting online payments.

The study concluded that cloud computing have a positive and significant impact on performance of education NGOs. In addition, cloud computing improve information accessibility.

The study concluded that social communities have a positive and significant impact on performance of education NGOs. In addition, an active facebook page boosts performance of organization.

5.4 Recommendations

The recommends that all NGO should adopt mobile phone technology since it improves flexibility and services awareness. In this case, NGOs should ensure they have invested on good phones for the company.

The study further recommends that NGOs should invest in E-wallet. This is because E-Wallets enhance increased security in the information collected. This will further improve performance of the organization.
NGOs should also ensure they invest in cloud computing. This is because cloud computing improves information accessibility and further the performance of the company.

Every NGO should also ensure they have an active Facebook page. They should also have an active twitter account. Every NGOs should also have a what's up group. This will enhance communication in the firm and further boost performance of the firm. Skype should also be often used in the organization.

In addition the study recommends that all students should be taught ICT regardless of their level differences to facilitate learners in having same entry qualifications in colleges that train teaching.

5.6 Areas of Further Studies

Since the R squared was not 100% it seems there are other ICT strategies that were not addressed by the study. Other studies should therefore focus on other ICT strategies that affect performance of NGOs.

In addition, the study focused on Education NGOs in Kenya. A similar study can be conducted but focus on other Education NGOs in other countries in East Africa for purposes of making comparisons.

In addition, a similar study on ICT strategies and performance of NGOs would be conducted but focus on other NGOs in Kenya for example, NGOs in the health sector.
REFERENCES


Dear Participants,

I am a master student at University of Nairobi undertaking a research project on ‘INFORMATION COMMUNICATION TECHNOLOGY, STRATEGY AND PERFORMANCE OF EDUCATIONAL NGOs IN KENYA’ Kindly fill up this information and return. Any information obtained for this purpose will be kept strictly confidential and will only be used for academic purpose. Your cooperation will be highly appreciated in this regard.

Thank You!

Yours truly: Peter Odhiambo
Appendix II: Questionnaire

This questionnaire is divided into two sections that should take only a few moments of your time to complete. Please respond by ticking the appropriate box or filling in your answers in the blank spaces provided. This is an academic exercise and all information collected from respondents will be treated with at strict confidentiality.

Thank you very much for your cooperation

SECTION A: DEMOGRAPHIC INFORMATION

1. Gender of respondents
   Male □
   Female □

2. How old are you? (Years)
   Less than 30: □
   31-40: □
   41-50: □
   Above 50: □

3. Highest level of education
   Certificate □
   Diploma □
   Undergraduate □
   Post graduate □

4. How long have you worked with your organization?
   a) less than 1 year □
   b) 2 to 5 years □
   c) 6 to 10 years □
   d) Above 10 years □
SECTION B: Mobile phone technology

Using a likert scale from 1-5, please rate the extent to which you agree with the following statements

Key: Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly agree=5

<table>
<thead>
<tr>
<th>Statements</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile phone improves flexibility.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile phone technology improves services awareness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile phone technology enhance convenience in tax payment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our company has invested on good phones for the company</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION C: E wallet

Using a likert scale from 1-5, please rate the extent to which you agree with the following statements

Key: Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly agree=5

<table>
<thead>
<tr>
<th>Statements</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-Wallets enhance increased security in the information collected</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-Wallets facilitates storage of payment information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-Wallets enhance ease of access to conducting online payments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our organization has invested on E wallet</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
**SECTION D: Cloud Computing**

Using a likert scale from 1-5, please rate the extent to which you agree with the following statements

**Key:** Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly agree=5

<table>
<thead>
<tr>
<th>Statements</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloud computing improve performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cloud computing improve information accessibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our organization has invested on cloud computing</td>
<td></td>
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</tbody>
</table>

**SECTION E: Social Communities (Skype, Facebook, Twitter, WhatsApp)**

Using a likert scale from 1-5, please rate the extent to which you agree with the following statements

**Key:** Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly agree=5

<table>
<thead>
<tr>
<th>Statements</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our company has an active facebook page</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our company has an active twitter account</td>
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<td></td>
</tr>
<tr>
<td>Our company has a what's up group</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Skype is oftenly used in the organization</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
SECTION F: Performance

Using a likert scale from 1-5, please rate the following measures of performance in your organization

**Key:** Excellent =5, Very good=4, good=3, poor=2, Very poor=1

<table>
<thead>
<tr>
<th>Statements</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer satisfaction</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Fiscal security Compliance</td>
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<tr>
<td>Reduced business cost</td>
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<td></td>
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<tr>
<td>High target reached</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long term success</td>
<td></td>
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</tbody>
</table>