

**INFORMATION, COMMUNICATION AND TECHNOLOGY
ADOPTION AND PERFORMANCE OF COUNTY PENSION
FUND FINANCIAL SERVICES LIMITED IN KENYA**

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DECLARATION

This research project is my original research work and has not been submitted to this university or another university for examination or academic award.

Sign Date

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D61/85620/2016

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

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DEDICATION

I dedicate this study to my lovely wife, Jane Wambura Mwambura, my children; Jason Haro Mwambura, Joylin Zawadi Mwambura and Janelle Neema Mwambura, for their moral support I worked on this research project.

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ABBREVIATIONS & ACRONYMS

CPF	: County Pension Fund
ICT	: Information, Communication and Technology
IT	: Information Technology
LASER	: Laser Property Services Limited
LIB	: Laser Insurance Brokers Limited
LITES	: Laser Infrastructure & Technology Solutions Limited
LTD	: Limited

ABSTRACT

Advancement in the information, communication and technology (ICT) has changed the way organizations manage their business activities. This study examined the effect of ICT adoption and performance of County Pension Fund Financial Services Limited in Kenya. In particular, the study sought to provide answers to the question: How does adoption of ICT affect performance? The findings from this study is expected to help in understanding how ICT contributes to performance across firms and also increases literature for future researchers who seeks to study association between information communication and technology and firm performances. The study utilized resource based theory, technological acceptance model (TAM) and institutional theory in explaining how ICT adoption affects firm performance. A descriptive research design was used and with an estimated target population of 250, the study adopted purposive sampling and used sampling determination table by Krejcie and Morgan (1970) to select a sample of 152 respondents. The data collection tools in this study were questionnaires and interview schedules and collected both quantitative and qualitative data. The findings are presented in frequency tables, pie charts and graphs. The study achieved a response rate of 85% making the data adequate for analysis. Results from the study show that CPF mostly used ICT tools in its operational and overall office activities to enhance performance. Specifically, the organization used internet for financial services, access information and forms; it had increased its hardware but the adoption of ICT by CPF were reported to faced challenges – changing roles and norms in the ICT field, data security and the cost of implementing ICT was reported to be high. The study recommends that CPF should consider giving more training to employees considering change that takes place in the ICT field. Furthermore, there is need to regularly update the security systems and also conduct awareness among employees for them to understand the limitations to those who access important ICT systems such as servers or passwords.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

As countries worldwide emerge from economic and financial challenges, firms and societies continue to devise ways aimed at generating growth and opportunities. For instance information, communication and technology (ICT) is recognized as an important strategic source, which allows innovation in both developed and developing economies (Elmqvist, Fredberg and Ollila, 2009). This study measures the effect of information, communication and technology, in particular, adoption of ICTs, integration of ICT and human IT resource alongside development of social, cultural and economic measures that are essential for its operational use (Arvis, et al., 2018; Lund, 2006).

Studies have shown that in the last ten years, there have been slow growths in the emerging markets globally (Amiri and Woodside, 2017). ICT trends reveal most organizations have not leveraged the digital platforms that are required in increasing productivity and subsequently drive economic growth. Investment in ICT in the last few years have stagnated but some sectors continues to develop faster.

As noted by Berne et al., (2015) ICT plays an important role in enhancing performance of the firm and there is evidence that adoption of ICT at the firm level has increased tremendously across sectors. According to Zhand, van Donk and van de Vaart (2016) most firms have increased investments on ICT posing the question about whether such investments translates to improved performance. However, despite this attention on investment, firm performance seems to have lacked behind. Brynjolfsson (1993) argue that computers were expected to be the greatest technological revolution mainly known in most countries but have not produced any significant impact on performance.

While the link between ICT and performance of firms has been considered very important in literature, it is very general. Scholars investigating this relationship have provided a broader perspective on whether investment in ICT affects firm performance (Borua et al., 1995; Melville, et al., 2004). Moreover, many of these studies found significant positive relationship while others reported negative association. Therefore, how ICT affect firm performance remains a contentious topic.

1.1.1 Information, Communication and Technology

Information, Communication and Technology are generally defined as a technological tool that is used to send, manipulate and store information as well as a data in an electronic format which carries out an extensive range of communication and information role (Brian, 2010). ICT includes hardware, software, telecommunication, database management and many other information based processing technologies that are used in storing and processing information (Daft, 1997; OECD, 2019; Rouse, 2017). As suggested by Hagsten (2015) ICT has become the most important innovation for growth in recent years yet have not been fully exploited in many sectors. Information, Communication and technology play a significant role as it contributes to the economic growth of a nation and it encourages its use and acceptance in all business segments (Stare and Bucar, 2005).

Research in this area has demonstrated that ICT is very powerful driving force in social development and have become a critical factor in sustaining growth and labour in the 21st Century. According to Gottfries (2013) ICT compliments capital and labour in enhancing productivity through production of new knowledge and innovations. ICT promotes innovations in the firm. With increased access of network and IT infrastructure, ICT can contribute to many sectors and improve the production and revenues (Basu and Ferald, 2008). More research show that in adoption of ICT entrenched in social and economic segments, the end results are positive and fruitful. For instance, the United Nation (UN) (2006) recognized information, communication and technology as a strategic tool used to reduces global poverty and many other social and economic issues affecting organizations.

Further studies in the ICT field emphasize that one of the ICT's role in the firm is to create change in business through development of news products (Barczak, Sultan and Hultink, 2007). ICT has also been considered to be a source for different capabilities such as innovation capability, which mat result in potential competitive advantages for a firm (Ibid). Johannessen (1999) believes that ICT applications increase effectiveness and the successful implementation innovations. He argues that automation if tasks through ICT play very important role in the successful implementation of innovations

across organizations. Therefore, ICT facilitates coordination and coordination of activities through Integration of Knowledge.

It can promote learning abilities; by facilitating the reprocess of existing knowledge and offer added communication platforms used to stimulate whole of organization's communication and recombinations of both internal and external knowledge (Corso, Martini, Pellegrini, and Paolucci, 2003).

The realization of ICT in many corporate entities generally has faced several challenges and CPF Financial Ltd is not exceptional. For instance, most companies do not have standard ICT policy and plans. Therefore each company does what they understand best without centralized and coordinating document. As observed by Luboobi (2007) regulatory frameworks for most companies are still restrictive and at times the shortage of ICT infrastructures acts as a barrier for sustaining growth in online business (Chircu and Kauffman, 2000). ICT adoption may be determined by acceptance from users with some studies proposing that there is a strong association between age and the acceptance of information, communication and technology (Beetham, and Sharpe, 2013).

1.1.2 Firm Performance

The concept of firm performance explains the success of an organization. It defines performance of an organization over a period of time. In measuring its performance, a firm compares its performance with other firms over a certain period. In prior studies, operational and strategic performance have been suggested as some of the indicators for performance in the organization (Sanders, 2008; Subramani, 2004).

The different measures of a firm performance can be categorized as financial and non-financial (Santos, Basso, Kimura, and Kayo, 2014). To explain further, a financial measure relies heavily on economic aspects of efficiency and explains how firms have efficiently performed. Most organizations strive to achieve efficiency, a concept which is closely linked to cost reduction. On the one hand, non-financial measures is used in firm performance more on effectiveness. As such, effectiveness relies on better quality and high value for customer (Low, and Siesfeld, 1998; Teeratansirikool, Siengthai, Badir, and Charoenngam, 2013). Since every type of performance measurements, non-

financial measurements are better indicators of organization's longstanding performances (Hoque, 2004).

1.1.3 Information, Communication and Technology and performance

The link that is evolving between ICT and organizations are better understood, for example, through concentration on ICT creation, spread and the use of mobile and smartphones apps. With apps tools, members and other shareholders can be motivated to fully participate, improves availability of information and it enhances sense of belonging (Lee and Lee, 2014). ICT therefore is a tool, which enables integration of resources and provides services to many stakeholders who carry the resources that can be integrated and in some cases actors express their views.

While the diffusion of ICT increasingly attracts attention in most parts of world especially developing economies, it is expected to offer remarkable opportunities for creating employment and having the potential of expanding country's economic by making businesses more accessible to both local and world markets. In addition, this improves access to market information, provides information for the better and more competitive process and tends to lower transaction costs (Rao, 2004). For other activities such as pension schemes, ICT can be utilized to create a list of contacts and by utilizing available information and sustain new business ventures. For Moyi (2003), ICT has the potential to link organizations to market for them to understand the pricing system of goods and gives them the capability of improving powers to negotiate

According to Anandaraja, Igbara and Anakwe (2002), information systems (IS in underdeveloped nations have been underutilized and as such, it doesn't make any significant impact in improving organizational performance among those using it. This statement attest to the fact that proper use of ICT can lead to improved performances, utilization can bridge between ICT adoption and performance. As noted by Subramani (2004) in a study which investigated supply chain relationships, organizational relationships that are specific to investments plays an important mediating function between patterns of ICT appropriations operational and strategic performances.

There is general argument supporting information, communication and technologies as important tools used to manage inter-organization relationships, mainly among supply

chain members across countries (Wangs et al., 2006). For instance, Dell Computers company employed successfully IT in its business worldwide through a virtually integrated value chain with customers, distributors, and suppliers.

Organizations are increasing their attention on information communication and technology in developing business solutions, improving organizational effectiveness and efficiency of decision making processes, improve productivity and service delivery to realize dynamic stability and be able to compete for the new markets (Molloy & Schwebks, 1995; Boyton, 1993). The usage of ICT has enhanced organizational productivity, encourages greater customer participation and enables mass improvements as well as reducing costs.

1.1.4 County Pension Fund Financial Services Limited

County Pension Fund Financial Services popularly known as CPF Financial Services (CPF) is a retirement benefit administrator that is regulated by Retirement Benefits Authority (RBA). The company, which is located at CPF House, began its operations 85 years ago, initially as part of the Local Authorities, and later diversified with subsidiaries, in the ICT Industry, Insurance Industry and Real Estate Industry. For a long time, pension administration has been manually managed and this became a challenge to the Administrators, because of a huge filing system. Without proper management, then this leads to a loss of pension contributed for millions of members amounting to billions of shillings in totality. Previously records were being handled manually with piles of files on staff desks, which made it hard from the initial process of registration, contribution and payout of claims. Retrieval of documents was a nightmare, confirmation of members' contributions was almost impossible, and this led to delays when processing claims, and the members were very discouraged. According to the Kenya financial sector stability report of August 2016, the Retirement Benefits Authority reported an industry-wide growth in Individual Membership Schemes; from a figure of 144,000 members to 162,000 members in 2016, while total assets grew from Shs 23.3 billion to Shs 28.8 billion in the 2015/2016 financial year (CPF Annual Report and Financial Statement, 2016).

The scheme has adopted ICT in its operation with development of M-Pension offered under the Individual Pension Scheme, a the mobile based platform that allows Kenyans from diverse fields to register and saving for their future right from their mobile phones (CPF Annual Report and Financial Statement, 2016). This product has indeed grown in popularity, especially with the youthful population and those without a formal pension plan. In summary, ICT usage in CPF Financial Services Ltd plays an important role as it enhances its operations.

1.2 Research Problem

The link between ICT and firm performance has attracted numerous studies across sectors. For example, Solo-Acosta, Popa and Palacos-Marques (2016) conducted a study in Spain to examine e-business, organizational innovation and their impact of firm performance; Franco and Garcia (2017) in another study in Portugal investigated acceptance of ICT drivers, implementation and their influence on organizational performance; In Peru, Viollaz, (2017) examined ICT adoption in Micro and Small firms and found that ICT increases labour productivity and leads to formalization od labour relationship to implementation of new organizational practices. In Kenya, Kariuki (2017) investigated effects of ICT on financial performance in the banking sector and he reported that ICT improved efficiency in banking operations and service delivery.

Although organizations are keen to determine the link between ICT adoption and firm performance, the assessment of ICT adoption returns is still unexplored. According to Reynolds (2000) academic research in this area is lagging behind, and Cullen and Webster (2007) emphasizes that the operational aspects have been ignored. In Spain, Bayo-Moriones, Billion & Lera-Lopez (2013) using data from a study of 267 manufacturing firm in Spain reported that effects of ICT on firm performance (including market share and change in profit margin) often takes place indirectly through improvement of internal and external communications and the operational performance. Elsewhere, Cardona, Kretschmer, &Strobel, (2013) studied the relationship between ICT and productivity in USA; they reported a strong association and they concluded that more studies could be conducted on spillovers and externalities of ICT and its effect on organizational performance.

Further studies shows that use of ICT has increased organization's performance and has helped them manage inter and intra organizational activities (Avgerou, 2003). The ICT provide customers with the ability to interact personally, conduct business communication, business transactions and financial operations in a flexible and efficient way.

ICT is considered an important growth area in today's business society mainly because of its dynamic and highly competitive business environment, which require ICT tools to be fully utilized to improve efficiency, cost effectiveness and deliver high quality product and service to their customers (Allen and Morton, 2004).

Although few promising and optimistic observations on the value of ICT on firm performances, there have been persistent debates on the impact of ICT on performance within the firms (Brynjolfsson, 1993). According to some studies, ICT improves organizational performance through information sharing and linking departments and field offices (Brynjolfsson, 1993; Kohli & Devaraj, 2003). Some pertinent question, which needs some answers, is: What type of ICT fits into characteristics of CPF activities? What are the challenges facing CPF in the adoption of ICT? Therefore, this study examined the effects of ICT adoption on performance of CPF Financial Services Limited in Kenya.

1.3 Research Objectives

- i. To investigate extent to which County Pension Fund Financial Services Limited has adopted Information, Communication and Technology.
- ii. To explore the challenges experienced by County Pension Fund Financial Services Limited in the adoption of Information, Communication and Technology.
- iii. To examine the relationship between adoption of Information, Communication and Technology and Performance of County Pension Fund Financial Services Limited.

1.4 Value of the Study

The success of ICT usage as a tool for increasing performance in many firms continues to receive increasing attention among practitioners and scholars. The study will help in how firms can enhance customer satisfaction through improvement of service quality

and therefore offer new opportunities for the firm. Therefore, the study findings from this study helps in understanding how ICT contributes to performance across firms in Kenya especially CPF Financial Services Ltd. Moreover the study increases literature for future researchers who seeks to study association between information communication and technology and firm performances. In addition, after completion of this study, the university will be able to assess student's knowledge and understanding on research methods. The findings will reveal the extent to which pension schemes especially CPF Financial Services Ltd has utilized ICT in enhancing its performance. It will also provide more information on areas of improvement within the firm level and strengthen existing ICT infrastructure. The study will offer ways of increasing performance when ICT is used.

CHAPTER TWO: LITERATURE REVIEW

2.1 Theoretical Review

In explaining the effects of information, communication and technology adoption and on performance of CPF financial services limited, this study utilizes three theories: Resource Based Theory, Technology Acceptance Model (TAM) and Institutional Theory.

2.1.1 Resource Based Theory

This study adopts resource based theory to explain the effect of ICT on performance based on resource complementarity context IT capabilities describes several practices which tend to complement IT to demonstrate its value to the organization (Aral and Weill, 2007). According to this theory, organization's resources are the key predictors of firm performance. (Barney 1991; Hall, 1992) and the ICT resources can bring about differentiation in the strategies adopted by the firm. If the resources available in the firm becomes hard to replenish and aren't mobile then they hold the potential to offer sustainable competitive advantage.

Resource based theory is popularly referred as RBV of an organization has been widely used in investigating the competitive advantage of organization (Barney, 1991). This theory has received increasing attention from studies in business and economic field focusing on organizational performance. Many organizations are integrating into business operation in order to enhance performance empirical evidence show a variety of application of ICT especially the internet-based, digital technology has changed the business communication occurs and have changed systems, procedures and processes that are important in the firm. The theory can also be used to examine impact of ICT on performance especially in relation to ICT elements and their abilities that are not tangible are reproduced and are unique. The main focus is how ICT resources and capabilities are likely to generate performance within the firm level or competitive advantage in applying the theory of RBV with ICT research. The conventional RBV of ICT can successfully applied in investigating impact of ICT on performances in the organizations.

2.1.2 Technological Acceptance Model (TAM)

Technological Acceptance Model is associated with Davis (1986) who developed it to explain IT usage behavior across firms. Based on this model, it can be recognized that adoption of ICT can be determined by several key belief system: Perceived importance and the ease of technological adoption. The perceived importance tend to explain the extrinsic features of information technology such as task-oriented outcome – user’s subjective use of applications to increase performance. On the one hand, perceived ease of ICT adoption explore intrinsic features of ICT, ease of studying, flexible and the clarity of the interface. The observed ease in ICT adoption is the degree with which the prospective users and expert the target approach to free effort (David et al., 1989). This model has been a frequently used study model for examining system usage behavior in the past two decades (Davis, 1986). Many of the available studies report that an essential elements of TAM - the perceived ease of use and the perceived importance.

2.1.3 Institutional Theory

As observed by DiMaggio and Powell (1983) institutional theory explains why an organization faces high pressure in responding to shared beliefs of certain form of behavior because any violation of these beliefs are likely to challenge legitimacy and therefore affects the ability of the access resources and support. Also the authors gave different explanations on types of pressures faced in using ICT suggesting normative, mimetic and coercive.

According to this theory, the subjective norms and the pressure exerted by friends plays an essential position in forming the intent to utilize ICT innovation. It become very important to recognize that applying it to organizations, they are able to explain innovation and its associated benefits. Further research has recognized the normative pressures as an originator of ICT adoption (Teo et al., 2003).

2.2 Information Communication and Technology and firm Performance

Studies on the effects of ICT on performance have reported an increase of relevant information that facilitates integration of processes, which transcends functional and in some instances, firm boundaries (Vickery et al 2003).

ICT enables firms to widen their sales, reach out to new markets create distribution channels, attract new customers and serve larger geographical market segments (Armt and Zott, 2001).

Despite ICT being praised as a solution to many organizational problems by several researchers, it can be challenging in some cases. For example, Milne et al., (2005) have reported that global studies have generally shown that in the past some firms were less likely to adopt ICT in the organization. Matlay and Addis (2003) noted that research ICT usage is general limited by scarcity of empirical studies done rigorously and represents a hard challenges Ramsey et al., (2003) claims that usage of ICT is under researched and widely generalized. Another notable observation study of ICT can be very demanding due to the speed at which it changes and the growth of technologies in itself and therefore presents a challenge of complexity and uncertainty to the organization. Ramsey et al (2003) notes besides raising awareness of benefits of ICT, there is also question of raising firm level of awareness and by increasing skills.

Many studies suggest that it becomes important to model the adoption of ICT at diverse organizational level in order to which tend to reflect their interests and the available technology (Milne et al., (2005). Chaffy (2003) has developed model for both supply side and demand side of ICT application. Kling et al (2005) describes ICT as a socio-technological system used for processing data and can cause specific social changes in the society. Interactive sessions reveal a multisectoral influence of ICT on business performance and society's communication system. Additionally, ICT contributes mainly to economic growth, firm productivity and efficiency and therefore enhances introduction and acceptances into all business divisions has been encouraged. ICT enhanced marked access and the main marketing system. However market access in developing economies is a major challenged because of market imperfections attributed inadequate market information and the relationship between those actors in the supply

chain. According to Shepherd (2007) there are several strategies for improving market access and ICT is available example. Therefore strategies that enhance market access influences firm performance. Strategic use of ICT is seen as year solution to problems facing firms; ICT can reduce transaction costs used in gathering information and dissemination ICT can enhance CPF Financial Ltd in participating in larger market (Ramsey, 2003).

Although ICT enhances firm performance, there is ambiguity and discussion on what scholars and policy makers know and do not know. Review of previous studies reveals that research that examine the link between ICT and firm performances are differing in how they frame key concepts and its interlinkages (Bayo-Moriones, Billón, and Lera-López, 2013; Melville, Kraemer, and Gurbaxani, 2004). Whereas it depends on the business perspective, an important ICT tool is the computer network (Reis, 2006). Large organizations tend to use computer networks to integrate their business processes, reorganize and boost efficiency of the organization. Organizations also use In addition to networks, use ICT as a software development for its software products or services as well as innovation (Salter and Tether, 2006). It is because of this importance that more countries across the world are attempting to increase investment in the adoption of ICT and its tools (Forrest and Leaver, 2008).

As individuals create organizational knowledge, the crucial role that is played by organizations in nurturing individual's creativity is important in combining the talented knowledge in its strategic logic (Erickson, Johnson, Majkgard and Sharma, 2015). Indeed, success in any organization therefore depends on exploitation of knowledge that is rooted in the employees; firm procedures, rules and technologies through management and this can support the organizational processes (Badger et al., 2003).

More studies are focus on the effects of ICT in the exchange of information in the market while some researchers are passionate on the larger growth of market for information and they tend to emphasize on issues of intellectual property rights protection and the stimulating economic growth and scientific endeavor (Quah, 2003). Others argue that the concerns raised with regard to market exchange of information should be complemented by the benefits and the cost of information which is less, encumbered by the costs of negotiating property rights. Still others direct their attention

to the consequences of economic power and domination that are present in media and communication markets, notwithstanding the Internet and opportunities for self-publishing. These areas of research inform several of the contributions to this handbook.

2.3 Challenges experienced in the adoption of ICT

Although there has been increased attention of adoption of ICT in many sectors, several companies are not properly equipped to adequately support and nurture effective exploitation of information, communication and technology, which would lead to greater development. According to Khan, Al-Shihi, Al-Khanjari, and Sarrab, (2015) these organization lack knowledge, expertise or organizational capacity needed to implement ICT. Moreover use of ICT is often viewed as a thorny, problematic issue associated with back office systems. Information, Communication and technology in most instances have questionable reputation especially with regard to its previous unsuccessful or expensive initiatives.

Literature has shown that in the present business environment, many organizational structures, employees and the ways in which operation have been considered as an important element and which is not easy to prevent or redirect (Mingaine, 2013). As such, it has become very easy to utilize ICT tools in sustaining and improving firm constructs and strategies that make very great and important progress. Moreover it is extremely challenging to start new ways of working with the organization that are not often similar and requires a shift in the strategy, competencies and skills.

Additionally, there has been a major problem of inadequate planning and financing adoption of ICT in some organizations. Whereas there are increased pressures to raise money to invest in ICT, there arises some times a problem to the organizations in planning proper and the financial resources as well as the human investments with regard to ICT as an important business activity used to develop organization's program. The emerging possibilities of new technologies presents a potentials and far-reaching issues that tend to challenge or can even undermine the assumption which the organization depends to exists. As the organization reflects on why companies are

initially started, they tend to differentiate a number of certain gaps between the people and organizations in low-income areas.

2.4 Empirical Studies

Some studies have considered information system and how it affects firm productivity. For example in the financial field a large portion of information, communication and technology investigated has been automated teller machine (ATM). In a research on banking sector Banker et al. (1990) found that was significant relationship between ATMs that were owned by banks and the number of deposits deposit and savings. Elsewhere Binuyo and Aregbeshola (2014) investigated effects of information communication and technology on the performances of Commercial Banks in South Africa. They analyzed banks annual data from 1990-2012, which to had been published by bank scope world banking information, is source they reported that ICT increased rations on capital and return on assets of the commercial banks in South Africa. They recommended that financial institution and other firms should utilize ICT equipment instead of investing or committing huge money.

The impact of ICT on firm performance continues to attract scholarly attention. Abubakar and Tasma (2012) investigated effects of ICT on commercial bank's performance as well as the customer service delivery among Malaysian banks. They concluded that ICT usage leads to lower costs but reports its effect on firm's profitability remained inconclusive is attributed to effects of high demand in skilled work-force, trustworthiness of the information systems and steep in financial services. In another study Furrst, et al. (2002) reported that Federal chartered USA banks achieved high Return On Equity (ROE) through use of traditional models and increase in profits was attributed to ICT usage. Conversely, England et al (1998) found no evidence in performance of electronic banking in USA.

Kariuki (2017) in a study conducted in Kenya examined effects of ICT on financial performance of commercial banks. The author utilized both descriptive and cross-sectional research designs and studied all 39 banks in a 5-year period. He found positive relationship between ICT and profitability of banks. The shortcoming for this study is that it focused more IT ignoring communication part. Elsewhere, Kamau (2013)

investigated the link between ICT and performances of commercial banks in Kenya. He used cross-sectional research design and collected both primary and secondary data, using a sample of 38 respondents, drawn from the commercial banks, he found ICT had an effect on return on assets of the banks and positively effected profitability of the bank through high margin and lower maintenance costs.

In Addition Marzuki, Isail, Al-sadan Ehsan, Chan and Ng (2015) conducted for policy analysis and collected qualitative data to investigate integration of ICT on health information strengthening in Malaysia/ In the agricultural sector, studies have shown that ICT helps farm owners in accessing information about certain products, land records and services, accounting and farm management information in the market. However, while ICT provides benefits studied. Purnomo, and Kusnadar (2018) examined barriers to recognition of ICT among agricultural extension in Indonesia. Using a samples of 355 respondents selected through convenience sampling technique, they reported that policy and cultural barriers affected usefulness of ICT. They further reported that self-confidence motivations in earning, lack of knowledge to use ICT are challenges facing the agricultural extension officers. From work pacing, evidence emerges linking ICT workplaces practices to more rapid response.

Green (2004) reported that working faster is associated to work place technological innovations that produce increasing work intensification. Barely et al (2011) in a study of ICT find that use of emails promotes rapid response through share norm of responsiveness regression analysis have documented positive relationship between the time which is spent on attending to emails to feelings of work overload among employees. Further studies have investigated the implementations of information, communication and technology by public institutions and their effects. Welch et al (2005) investigated citizen's dissatisfaction levels with transactionality and interactiveness of organizational online content, websites. West (2004) supported government's adoption of ICT in improving service delivery in the organization and increase their level of citizen's level of trust towards government.

Assessing global market provides many business opportunities such as the emerging market, exploiting economies of scale, and spread of risks. As such internal based technologies offer CPF Financial Services Ltd an opportunity to overcome barriers and

become competitive (Hanna, 2010) Van Leeuwen (2008) reports that there is positive association between ICT investments and organizational performances. Other studies however market-oriented ICT (Websites, e-commerce, and software) for managing work very important source of market information. Many other studies demonstrates that ICT can transform both global and local markets to be more efficient.

Moreover, markets that adopt ICT in its operations, realize costs reducing high spread and transparency of market-based transactions. As noted by Hanna (2010) the lower transactions cost and increased reach leads to 15% lower cost to consumers.

Brynjolfsson and Mendelson (1993) in their study found that adoption of Information, Communication and Technology have significant effect on the changes that occur in the society, economy and at firm level. Most organizations are social establishments, which thrive on good working relationship employer and employees. In another study, Tarute and Garautis (2014) reported that improved information flow between workers and managers due to ICT usage has enhanced innovative practices including decentralization of decision making and teamwork within the organization.

Powell and Deut (1997) carried out a study to investigate the link between information communication and technology and performance and their findings inform the present research because it is able to explain integration of information technology to improve performance. According to their findings, ICT produces sustainable performance advantage but few firms have gained advantage in using IT. Powell and Deut in their study support recourse based strategy and they explained why some companies are performing better than others.

2.5 Firm Performance

The performance of a firm is a central focus to both business and economist across countries. Nonetheless it is one of the complex and multidimensional phenomena. As such firm performance is characterized through the firm's ability to create results and actions that are acceptable to all stakeholders. For many organizations, to achieve high performance, it depends on the success in the deployment of the available assets and the natural resources as well as effective knowledge management (Lee and Sukoco, 2007). Schemerhorn, et al., (2002) posits that performances can be described in terms

of quantity and quality of people or groups that are achieved in the organization. For Koh, Demirbag, Bayraktar, Tatoglu, and Zaim (2007) performance can be measured through both financials and market criterion. According to researchers such as Chos and Dansereu (2010), organizational performance is performance of an organization when compared with its objectives and mission.

Furthermore, performance is a actual results of the organization if measured against its intended output (Tomal & Jones, 2015). According to Mastrangelo, et al. (2014), effectiveness of an organization is efficiency of employees and hence employee’s performance is described as the function of organization’s leadership. Specifically, staff performance can be managed through manipulation of the factors with which it is dependent. Nonetheless, employers may not necessarily have the ability that impacts all the elements.

2.6 Conceptual Model

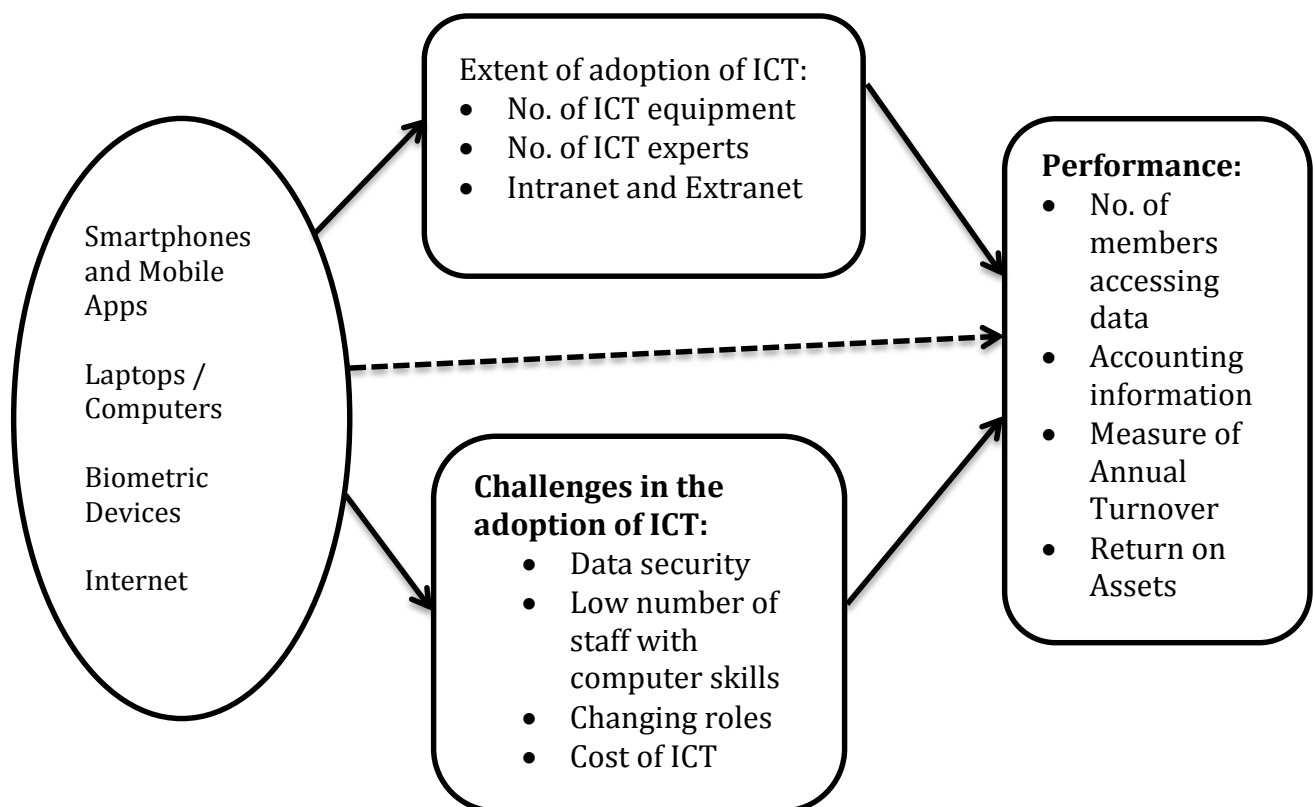


Figure 1: Conceptual model

Source: Researcher 2018

Figure 1 illustrates relationship between different variables in the study of effects of information, communication and technology adoption on performance. The independent variables for the study include extent of ICT adoption and the challenges faced in the adoption of ICT. The dependent variable is performance of CPF.

We can deduce from figure 1 that the more or lower adoption of ICT by CPF the higher or the lower the performance; the nature of challenges faced by the company determines its performance and lastly it shows how components of ICT can affect performance of CPF Financial Ltd. In summary this conceptual model provides a reference to enhance understanding representative systems of the ICT and performance.

2.7 Summary of Literature Review

This chapter as reviewed previous studies on or related to ICT adoption and performance of firms. First the chapter has presented the theories that explain the link between ICT adoption and performance. Secondly, it has discussed the challenges facing firms in the adoption of ICT and finally the relationship between ICT and performance. These study have shown that most organization use a wide variety of ICT applications and we can deduce that rapid technological development and the growing use of information technology (IT) in most organizations have become the increasingly the center of focus in past few years.

Many studies have been carried out on the adoption of ICT across several sectors, diverse business types, and in different regions of business management. On the other hand, the probability of the firms to undertake innovative activities enhances firm performance. Despite available suggestions on the impact of ICT adoption on organization's performance, there is no study conducted at CPF Financial Ltd in Kenya. Numerous contributions in the adoption of ICT and its impact on performances are more advanced and more visible.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

The chapter has discussed several sections in the methodology – specifically, the introduction research design target population and sampling. Additionally the chapter discusses strategies used to collect data and the process of analyzing the research data.

3.2 Research Design

This study utilized a descriptive research design. The study aims to collect data from study participants on their attitudes and opinions with regard to effect of ICT on firm performance focusing on CPF Financial Services Ltd in Nairobi the researcher utilized secondary and primary data. In this case, primary data was collected with use of questionnaire while secondary data is obtained through published materials such as journals, books, and Internet.

CPF Financial Services Ltd comprises 10 departments with an estimated population of 250 employees (CPF Financial Services Ltd, 2017). In total there are 7 branches across Kenya. The subjects of this study were drawn from all the 10 departments. The respondents included employees at various employment levels: the lower cadre, middle and top level management. The departments are Operation, pensions; Strategy and change; Finance and investments; Corporate communications; Internal audit; Record and Registry; HR and Admin; Property management – LASER; Insurance – LIB and ICT – LITES.

CPF Financial Ltd was chosen for this study because of its accessibility within Nairobi County City center and also diversity in activities. This offers a perfect area of study as it shows how various departments are linked together across a wide network of branches in the country.

3.4 Sample Size

In determining the sample size, the study relied on published tables, which provides the sampled individuals for a given set of criteria. Therefore, the respondents were selected using Krejcie and Morgan's (1970) sample size table.

Therefore based on this criterion, the study selected, a sample of 152 and from the estimated population 250 drawn from all the departments (See Appendix I).

A purposive sampling technique was used in selecting respondents who participated in the study. According to Bernard (2002), this method is a deliberate choice of respondents based on their qualities and the researcher will decide what is needed to be known. As observed by Cresswel and Plano (2011) in purposive technique, respondents can be identified and selected because of their knowledge on the topic under study.

The researcher in this case stratified the subjects by department making sure that ICT, HR and finance departments having more sample (drawn more of random number of these departments) as opposed to others. The key departments will be considered in this study as they have crucial information regarding the topic under study.

3.5 Data collection

This study adopted two data collection methods: Questionnaires and interview schedules. These have been discussed in detail in the following sections:

3.5.1 Questionnaires

Employees selected from departments at CPF Financial Ltd were expected to provide the required information on the effects of information, communication and technology adoption on performance. In this study, questionnaires and interviews was utilized for collecting primary data. The researcher and three hired research assistants to help in the data collection process in administering the questionnaires. The research assistants were trained on data collection and ethical principles governing research process.

The questionnaires were divided into two sections. In sections: demographic informal of the respondents and the second part which addresses the objectives. These questionnaires remain anonymous – no personal information was collected. The researcher sought approval from the university and the Human resources office of the CPF Financial Services Ltd. Once approvals have been received, the researcher will seek audience from the sampled respondents representing various departments at the target institution.

3.5.2 Interviews

Interview schedules are often used to investigate the research issues in an in-depth way and are important in collecting detailed information on feelings or the respondent, their views and opinion and allows for more detailed questions to be asked. However, conducting interviews can consume more time due to setup of the system, interviewing, transcribing and analyzing the data, giving feedback and reporting. According to Kvale (2008), interviews are very important tools for collecting qualitative data.

In this study, interviews were conducted among 4 senior ICT experts and staff members because of their knowledge on ICT.

3.6. Data Analysis

This study analyzed quantitative and qualitative data. Quantitative data collected for this study will be entered directly into computer and the Statistical Package for the Social Science (SPSS) for analyzing data. A descriptive statistics including frequency distributions, percentages and averages were computed. In addition, inferential statistics such as regression analysis will be performance. The significance level will be set at 5% for every statistical set.

On the one hand, a content analysis was carried out in this study. A content analysis is been recognized as one of the major and widely adopted approach in (Hsieh and Shannon, 2005). In this case, a qualitative data will be organized and analyzed to draw conclusions on the theme of the study as guided by the objectives. Scholars and other researchers are required to read and re-read data collected, write down impressions, extract meaning and determine which piece of data have value for the study.

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION OF RESULTS

4.1 Introduction

This chapter is organized into three key areas: introduction, responsiveness of the study, general information regarding study participants and key results based on the objectives of the study. Additionally, the study will present discussion of key findings.

4.2 Response rate

A total of 152 questionnaires were constructed and administered to the respondents operating at CPF Head office in Nairobi. Upon completion of data collection, a total of 129 questionnaires were returned and fully filled by the respondents while 23 were returned unfilled. Among the 23 included respondents to participate in the study but after several attempts of scheduled meeting the researcher decided to use the filled questionnaires. This generated a response rate of 85%.

Based on previous studies which provided that studies with response rate of between 5% to 54% can be less accurate (Holbrook, Krosnik & Pfent (2007)). At 85% the response rate was deemed fit to achieve the aim of providing accurate analysis and representation.

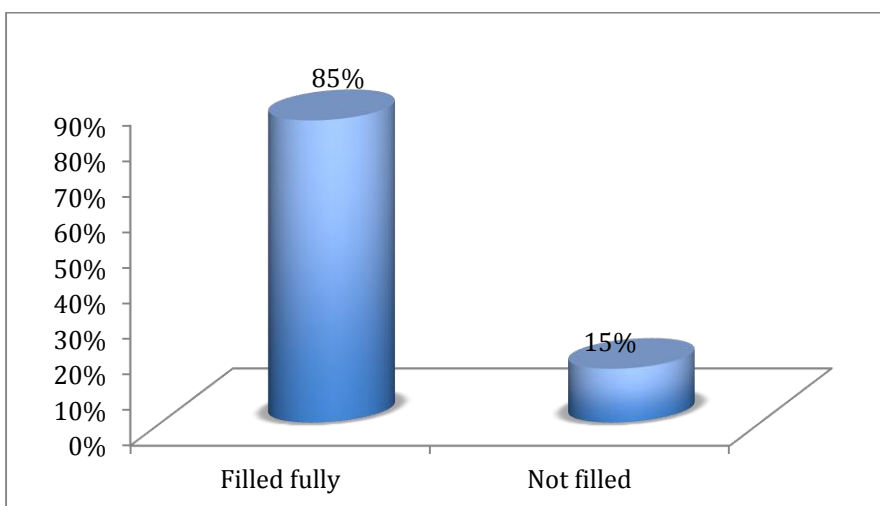


Figure 2: Response rate

4.3 General information

4.3.1 Gender

As shown in figure 2, the study found a total of 71(55%) male participated in providing the required data. Moreover, 58 (45%) were women. Generally, it can be said that both men and women were represented in the study despite men being more than women.

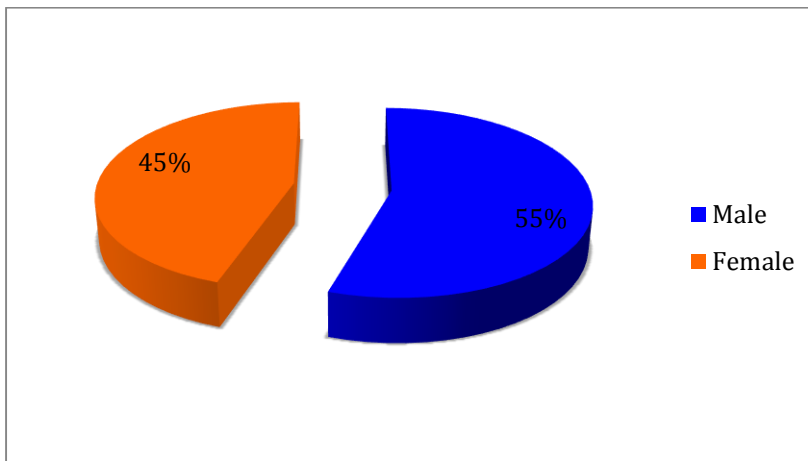


Figure 3: Gender

4.3.2 Highest level of academic qualification

Figure 3 presents a breakdown of the respondent's level of academic qualification. Most of them had bachelors degree (40%) followed by 24% respondents with master's degree. Another notable observation is that 22% of the respondents had diploma, while those with PhDs comprised only 67% of the total sample. The explanation is that respondents were literate enough to understand and provides answers to the study questions.

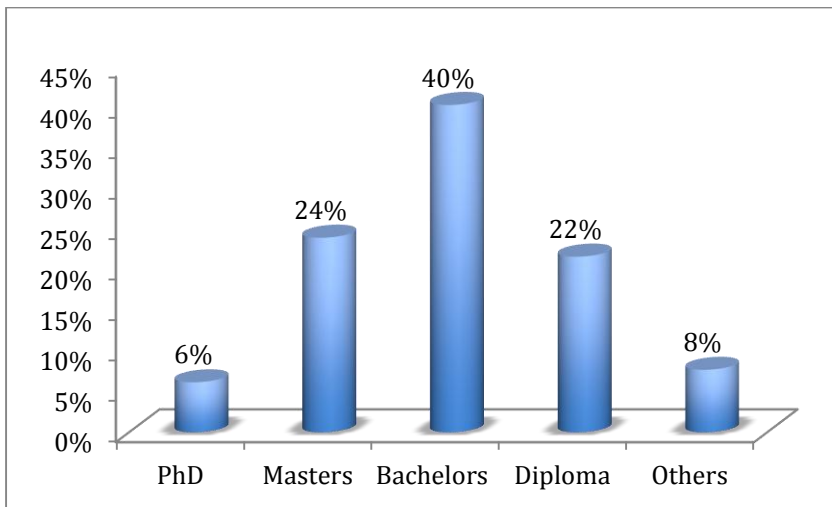


Figure 4: Education level

4.3.3 Number of years worked in the organization

Respondents who participated in this study had worked in the organization, several years and this gives adequate knowledge to respondent to the study questionnaire. For example most of them had worked for over 6 years: 44% (6-10 years) and 29% (16-20 years). Additionally nearly 20% had below 5 years experience in the organization and only three (2%) had worked for over 21 years. It can be deduced that the respondents had adequate knowledge and experience with the organization and hence were in a position to respond to the questions as required.

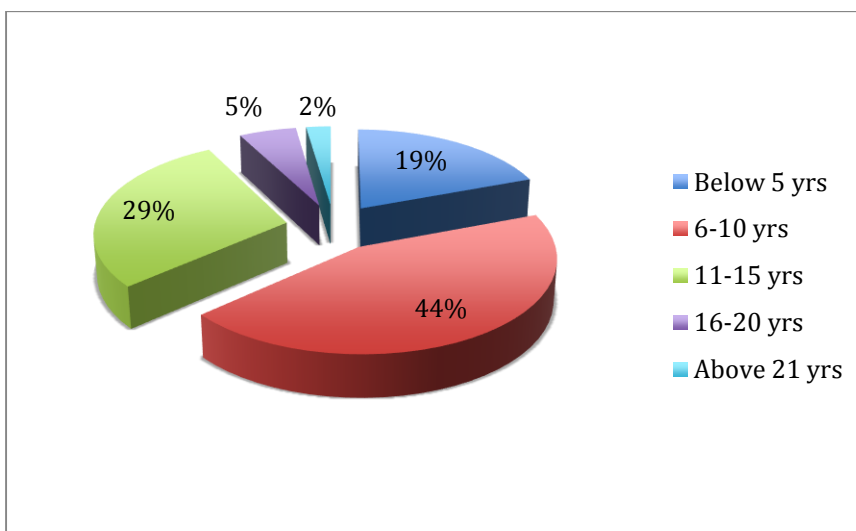


Figure 5: Number of years worked in the organization

4.3.4 Information, Communication & Technology competencies

The study used five variables' to assess respondent's (employees of CPF) ICT competencies. It is evident from the study that most of them acquired ICT skills and knowledge through attendance of short course (36%) and followed closely by those who had certificate in computer application (30%). Surprisingly, 20% of the respondents learned on ICT (or enhanced their skills and knowledge) through on-the-job training or experience; on there were about 13% who acquired ICT competencies through other means such advanced education online training in the internet. Largely, the staff of CPF have some skills in using ICT and what is needed is provision and more training on usage of ICT tools.

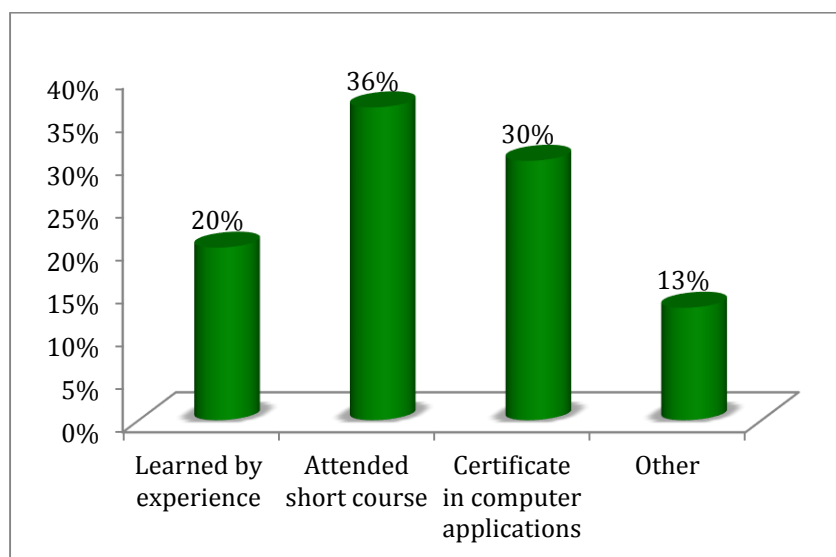


Figure 6: Information, Communication & Technology competencies

4.3.5 Use of ICT in all departments

In terms of adoption of ICT across all the available departments, figured 6 shows that some departments have not utilized or do not require ICT. According to the findings, 56% of the respondents were in agreement ICT had been utilized in all departments but 44% had contrary views. The explanation may be that some departments have not fully or partially become ICT complaint.

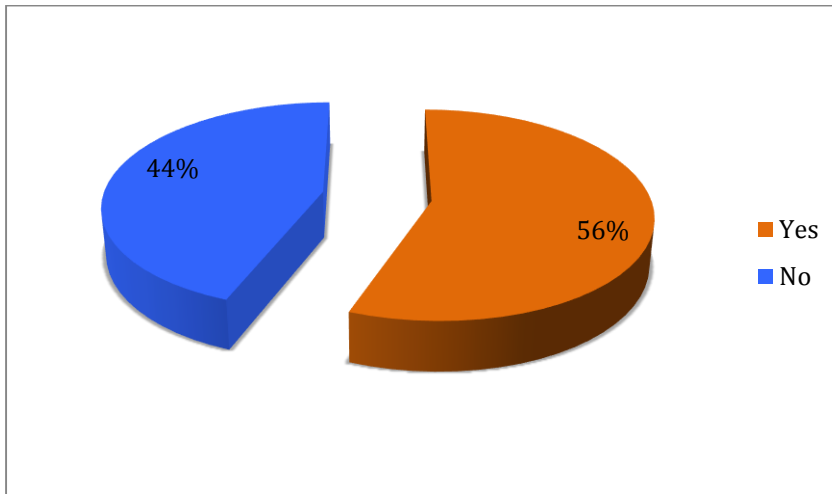


Figure 7: Use of ICT in all departments

4.3.6 Level of Information, Communication & Technology usage

In this section, the researcher sought to understand ICT tools used by employees at CPF. Using four tools, the study established that desktop computer is the main ICT equipment used at CPF, followed those who use laptops (30%) and mobile apps at 21%. Moreover employees at CPF use least Ipad/tablets. This study did not investigate the program used within the organization.

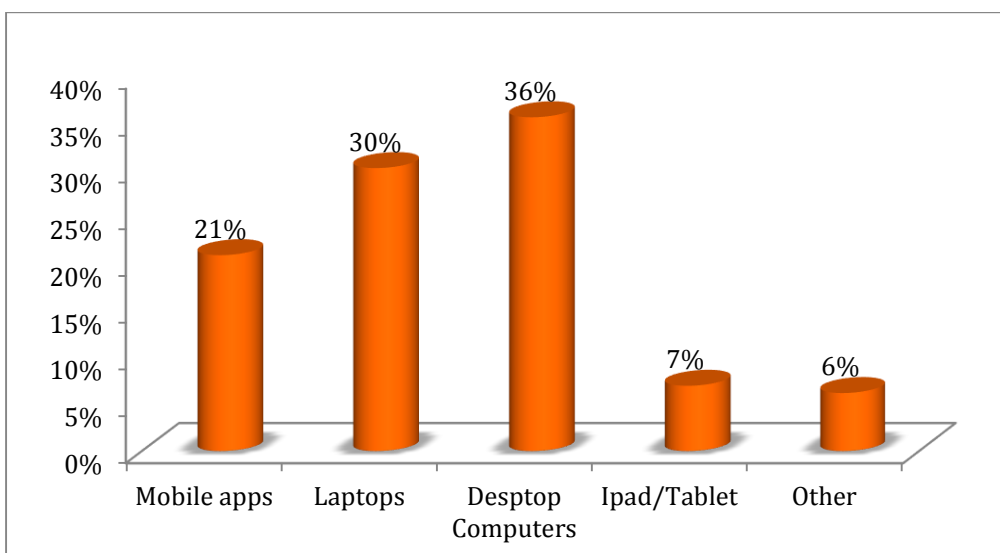


Figure 8: Level of Information, Communication & Technology usage

4.4 Extent of ICT adoption at County Pension Fund Financial Services

In order to estimate the impact of ICT adoption on performance of CPF, models of each group of ICT use were tested to show whether their effect on the dependent variable was similar.

Table 1 shows most of the respondents represented by an average mean on 3.782 agreed that CPF Financial Services Limited had utilized ICT in its operations. When we look on how the organization had enhanced its performance through ICT we can see that CPF uses ICT most frequently to obtain forms or information (mean of 4.07 and standard deviation 0.637). The use of Internet to benefits financial and banking services had consistent scores with lower means of 3.18 and standard deviation of 0.580. Moreover, with a mean of 4.01 and standard deviation of 0.629 responders were in agreement that ICT functions at CPF requires ICT experts as it still depends on external supports.

The results further show CPF had increased its ICT hardware including its servers, laptops, desktop computers and use of mobile had a mean average of 3.98 and standard deviation of 0.617. Table 2 shows the effects of ICT adoption, their intensity and performance measures. The organizational innovation has also been examined. The estimated linear regression models are statistically significant at the 5% level. In addition the R-Square values in the regressions explain a high percentage of the variability in the dependents variables (R-square =0.75274 (75%) and P-Value of 0.008124)

Results in table 2, shows number of ICTs had a significant effect on performance. We can see from the result that improvement of ICT hardware had a p-value of 0.00201. Online forms and information had p-value of 0.00729. As expected, the results show improvement on communication seeks to better operational performance. It can also be observed that coefficients for ICT adoption confirm positive effects of ICT on performance.

Table 1: Extent of ICT adoption at County Pension Fund Financial Services

	Mean	SD
CPF uses Internet to benefit from banking and financial services	3.18	0.580
CPF has increased its ICT hardware (Servers, laptops, computer, mobile/mobile apps) to improve work performance	3.98	0.617
CPF uses Internet for obtaining forms or information	4.07	0.637
CPF has online platform for training and education of members	3.67	0.622
ICT functions requiring ICT specialist were completely or partially guaranteed by external service providers	4.01	0.629
Average	3.782	

Table 2: Summary output

Regression Statistic	
Multiple R	0.81234
R Square	0.75274
Adjusted R Square	0.76972
Standard Error	38.51416
Observation	5

ANOVA					
	df	SS	MS	F	Sign
Regression	1	2926.7812	3926.7812	20.8345	0.008124
Residual	5	7317.4138	2144.0139		
Total	6	4586.9182			

	Coefficient	Standard Error	t Stat	P-Value	Lower 95%	Upper 95%
Intercept	117.143	59.390	1.972	0.003	12.34	46.67
Internet	85.103	43.410	1.960	0.004	9.76	39.45
ICT Hardware	80.272	40.231	1.995	0.002	13.44	44.26
Online forms & Information	68.784	34.771	1.978	0.007	11.36	34.11
Online training	87.890	44.329	1.983	0.005	10.67	34.99
ICT experts	73.547	36.542	2.013	0.008	12.22	47.39

An interview with senior ICT expert reveals that the organization had acquired more equipment and software in the last three years. This means that the organization understands importance of the role played by ICT in enhancing its operational and overall performance.

“It is true CPF has increased ICT investment in the last three or so years. Yes, we just acquired one large server last month and we are planning to put up state of the art ICT center which allows our members across the country share and receive data and information, improve our service delivery, increase monthly contribution through use of mobile apps and other means.”

Respondent, November 2018

However, study further found that although the organization continue to invest in ICT, it had not utilized proper available ICT and this challenges organization’s continuity of more ICT.

“Yes, we are aware the organization has not fully utilized what had been purchased initially but what we are doing is upgrading our ICT system. ICT field often changes with time and for us to realize efficiency, we need modern system.”

Respondent, November 2018

4.5 Challenges experienced in the adoption of Information, Communication & Technology

In order to examine challenges faced by CPF, in the adoption of ICT the study used five ICT variables. Their average means and standard deviation were computed and the findings reported.

Table 3, shows CPF had encountered several challenges in the adoption of ICT which affects its operational performance majority of the respondents believed that computers illiteracy make employees at CPF not use ICT with ease - this was represented by a mean of 4.22 and standard deviation of 0.933. The problem, which was consistent among respondents, is changing roles and a norm that makes it hard to adopt ICT (mean 3.94 and standard deviation 0.653).

Moreover data security as a major challenges had mean of 4.12 and standard deviation 0.872; cost of implementation of ICT being high had mean of 4.09 and standard deviation 0.768 and lastly lack of ICT infrastructure had an average mean of 4.32 and standard deviation 0.962 we can observe from table 3 results that lack of infrastructure to support ICT was the major problems.

Table 4 presents a breakdown of regression analysis on the challenges experienced by analysis on the challenges experienced by CPF in the adoption of ICT and to which has affected its performance. The results show R-square is 0.69826 and this explains 69.8% of the variables explain 69.8% variability of the response data around the mean. The model is fits the research data. We can observed from table 4 that there are immediate and long-term effects on ICT adoption at CPF due to various challenges affecting the organization. There is statistical significance of the effects of a number ICT challenges. All the challenges affecting CPF had p-values of less 0.05 meaning they can affect the performance of the organization in adopting ICT in operations.

The results show lack of ICT infrastructure had p-value of 0.00143 meaning it has a strong effect on the performance of CPF. Data security p-value 0.00657 and computer literacy (p-value-00791) had weak effect on performance although their potential effect can be negative

Table 3: Challenges experienced by the County Pension Fund Financial Services Limited in adoption of Information, Communication & Technology

	Mean	SD
Computer Illiteracy makes staff not adopt ICT	4.22	0.933
Data Security is a major makes staff not adopt ICT	4.12	0.872
The Cost of implementation of ICT is high	4.09	0.768
Lack of infrastructure to support ICT adoption	4.32	0.962
Changing Roles and Norms makes it hard to adapt ICT	3.94	0.653
Average	4.138	

Table 4: Summary output

Regression Statistic	
Multiple R	0.76121
R Square	0.69826
Adjusted R Square	0.67881
Standard Error	40.41395
Observation	5

ANOVA					
	df	SS	MS	F	Sign
Regression	1	3777.5671	3777.5671	25.9254	0.00951
Residual	5	8591.2278	2241.4562		
Total	6	5419.3817			

	Coefficient	Standard Error	t Stat	P-Value	Lower 95%	Upper 95%
Intercept	112.269	56.118	2.001	0.013	9.23	46.34
Computer illiteracy	74.632	38.236	1.952	0.008	10.55	50.22
Data security	100.157	50.356	1.989	0.007	7.45	42.65
Cost of implementation of ICT	118.325	59.456	1.990	0.002	10.23	39.56
Lack of infrastructure	99.650	49.985	1.994	0.001	9.34	44.23
Changing roles & norms	109.563	54.432	2.013	0.002	10.55	39.44

Further interviews conducted reveals that lack of infrastructure and in adequate skills on the part of members and staff hinders performance of CPF.

“I still believe CPF has low infrastructure that can support modern technology that can be used by the organization in ensuring its operations are improved. There are many members and staff and connecting them together through the use of technology increases individual performance and the organization can increase production.”

Respondent, November 2018

4.6 Information, Communication & Technology and Performance

With regards to change resulting from the adoption of ICT, the study measured five variables to inform the general performance measures.

Table 5 shows majority of the respondents believed that ICT has save time used by staff or members in moving from one location to other – average mean of 4.02 and standard deviation of 0921.

A consistent effects as observed from the study is that ICT improves organizations internal efficiency represented by mean average of 3.65 and standard deviation of 0.782. The results further shows that adoption of ICT had increased data accessibility with average mean of 3.95 and standard deviation 0.851, effects of ICT on accounting had a mean of 3.82 and standard deviation of 0.822. In overall the effect of ICT adoption on general organization performance had average mean of 3.842.

Table 6 presents a breakdown of results on effects of ICT adoption on performance after regression analysis. The result of regression show R-square is 0.8734 explaining 87.3 % of the variability of data. This means the model is fit for analysis. The entire variable had a statistical significant effect on performance of the organization employees and members were likely to access data and information through the adoption of ICT table 6.

Table 5: Information, Communication & Technology and Performance

	Mean	SD
Increased acquisition of more ICT equipment has increased data accessibility	3.95	0.851
ICT has facilitated integration of processes	3.77	0.811
ICT has improved internal efficiency	3.65	0.782
ICT has improved accounting information management and reporting	3.82	0.822
ICT has helped save time for traveling from one station to another due to video conferencing	4.02	0.921
Average	3.842	

Table 6: Summary output

Regression Statistic						
Multiple R		0.8943				
R Square		0.8734				
Adjusted R Square		0.7615				
Standard Error		46.3471				
Observation		5				

ANOVA						
	df	SS	MS	F	Sign	
Regression	1	4622.7682	4622.7682	19.4592	0.00732	
Residual	5	7965.1796	2611.9823			
Total	6	5419.3817				

	Coefficient	Standard Error	t Stat	P-Value	Lower 95%	Upper 95%
Intercept	115.773	59.178	1.956	0.004	14.29	44.27
Data accessibility	93.109	47.692	1.952	0.002	12.22	38.19
Integration of internal processes	71.436	35.548	2.010	0.026	10.31	40.12
Internal efficiency	69.569	34.639	2.008	0.007	11.23	41.56
Accounting information management & reporting	78.698	39.495	1.993	0.002	9.23	38.54
Save time for travelling	68.237	35.232	1.937	0.005	10.34	40.87

This study explores the relationship between adoption of ICT and performance of CPF financial Ltd. These relationships have been explored within the framework or resource-based view, institutional theory and technology acceptance model as well as different types of technologies.

4.6 Discussion of findings

The results from this study show that adoption of ICT at CPF had significant effect on the overall performance. The findings from this study are live with some studies conducted previously. For example Lee (1994) reported in this study that adoption of ICT has significant effects on organizational production. Other studies found that adoption of ICT tools influences the operation of an organizational and the people culture structure processes and tasks (Leavit Poundy, 1964).

As expected, adoption of ICT on performance correlate positively with the organizational use of several technologies the study found that CPF uses various technologies tools mainly desktop computers and laptop. There is an emergency of mobile app, which allows members to use their mobile phones to deposit their mobile phones to deposit their monthly contributions.

As for time taken to move from one location to the other ICT has made it easier for members and staff to share and receive data and information through ICT tools. The findings in this study agree with previous researchers that performance is increased through interruptions carrying work related information (Mano & Mesch, 2010).

The results from the study show competitive advantage can occur from ICT equipment in the work places to utilized ICT in office operations organizations should take use of organization practices that is aimed increasing teamwork and participation in decision making. One of notable findings lies in the effect of ICT adoption on operational and overall performance in the organization. Consequently, it can be inferred that organization with more coordination activities can benefit from adoption of ICT. This can be the case for organizations, dealing with more frequent and complex information flows association with many and diverse agents and stakeholders. The findings from this study support the notion that technology has given organizations greater control over their operational and overall performance. It demonstrates tat strong preferences by CPF for using ICT to manage its activities and information flow meets these needs.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter presents the summary of finding, Conclusion and recommendation of the study; the findings in this were guided by the objectives to examine the effects of ICT adoption on performance of CPF Financial Services Limited. These have been discussion in detail in the following sections

5.2 Summary of findings

The findings presented in the study is based an analysis of 129 questionnaires received after data collection with a response rate of 85%, the researcher proceeded with analysis and summary of key findings. The main objective was to examine effects of information communication and technology on performance of CPF Financial Services Limited.

Majority of the respondents were male, while most of them were age between 6-10 years (40%) and 11-15 years (29%). The findings revealed that most of the study participants had bachelors (40%) and masters 24% with regards to ICT.

Competencies, the study reports that most of the staff at CPF acquired ICT skills and knowledge through attending a short course (36%) and joining the organization with certificate in Computer application only 56% of the stall in all the departments used ICT in their operations.

The respondents were in agreement that CPF Financial Services Limited had significant adopted or utilized ICT in enhancing its operational and general performance. This was represented by average mean of 3.782. The study used regression to measure its ICT effects and found R-square is 0.75274 and a P-value = 0.008124. This shows there is a positive effect on performance resulting from adoption of ICT. On the Challenges facing CPF while using ICT in its operation, majority of the agreed that CPF encountered some challenges which affects adoption of ICT. For instance lack of infrastructure to support ICT was cited as most challenge represented by mean of 4.32

and standard deviation of 0.962 in terms of regression the R-square is 0.69826 meaning 69.87 explains the data variability.

The findings have shown that CPF faces a challenge of implementation of ICT and this can be attributed to lack of computer skills needed for changing technology. Another problem in the adoption of ICT at CPF is management of data security. Therefore, allowing many people access to servers or organization's secured data may pose a danger of information disclosure or tampering of crucial information. It is important to recognize that hardware and software required for a functioning organization are expensive and its effects slows down operational and overall performance of the organization.

The usage of ICT at CPF is hindered by lack of infrastructure that can support adoption of information, communication and technology. In addition, the organization is not ready to adapt to changing roles and norms associated with ICT field. The study found that despite its important role in organization's functions, ICT environment often become obsolete as new equipment and tools are updated.

The findings reveal that there is strong association between information, communication and technology and organizational performance. For instance, majority of the respondents agreed that ICT has reduced the time taken used by members or staff to travel for office activities. Members can now used ICT infrastructure to make contribution and make requests pertaining to their needs. Consequently, this allows members or staff to be productive in their daily activities increasing their individual performance.

5.3 Conclusion

This study examined effects of ICT adoption on performance of CPF. Specifically, it sought to investigate extent of ICT adoption, challenges facing the adoption of ICT and overall performance. All the study participants had knowledge on use of ICT tools and some used desktop computers, laptops, Ipads and mobile apps. This study concludes that information communication and technology enhances operational and overall performance of the organization. Therefore, CPF used various tools to communicate

with various members and stakeholders. In this case, the study concludes that looking at both productivity and the well-being of employees emphasizes on the organizational efficiency is about people and performance.

This study also concludes that CPF is likely to faced challenge in implementation of ICT if some issues are not addressed. For instance, respondents who had adopted ICT more progressively over time felt that ICTs plays an important role in shaping the organization but they do not acknowledge ICT as a catalysts for change. Based on the findings, the study concludes that CPF has the opportunity to adopt but only if the challenges are addressed. Moreover, including ICT components such as management of customer relations systems can be considered in the adoption of ICT.

5.4 Recommendations

Based on the findings presented in the above section, this study provides the following recommendations:

- CPF should consider giving more training to employees considering change that takes place in the ICT field.
- There is need to regularly update the security systems and also conduct awareness among employees for them to understand the limitations to those who access important ICT systems such as servers or passwords.
- More studies can be conducted to examine ICT specific areas such as nature and type of ICT tool and the frequency at which members utilize the available technology.

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APPENDICES

Appendix I: Table for Determining Sample Size from a Given Population

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Source: Krejcie and Morgan, 1970

Appendix II: Questionnaire

Dear respondent,

This is to request you to help in answering the questions in this questionnaire. This study is an academic paper and your responses will be kept confidential. Please tick only box, which corresponds to your choice.

SECTION A: DEMOGRAPHIC INFORMATION

1. Gender

Male [] Female []

2. Highest level of academic qualification

PhD [] Masters []

Bachelors [] Diploma []

Others []

3. For how long have you worked in this organization

Below 5 yrs []

6-10 yrs []

11-15 yrs []

16-20 yrs []

Above 21 yrs []

4. How can you describe ICT competencies of employees in this organization including yourself?

Learned by experience []

Attended short course []

Certificate in computer applications []

Other (specify) []

5. Do you think ICT is used in all departments at CPF?

Yes [] No []

If not, what is the reason _____

SECTION B. EXTENT OF ICT ADOPTION

	Strongly	Disagree	Agree	Strongly
6. CPF uses Internet to benefit from banking and financial services				
7. CPF has increased its ICT hardware (Servers, laptops, computer, mobile/mobile apps) to improve work performance				
8. CPF uses Internet for obtaining forms or information				
9. CPF has online platform for training and education of members				

SECTION C. CHALLENGES FACED IN THE ADOPTION OF ICT

	Strongly	Disagree	Agree	Strongly
10. Computer Illiteracy makes staff not adopt ICT				
11. Data Security is a major makes staff not adopt ICT				
12. The Cost of implementation of ICT is high				
13. Lack of infrastructure to support ICT adoption				

SECTION D. PERFORMANCE

	Strongly	Disagree	Agree	Strongly
1. Increased acquisition of more ICT equipment has increased data accessibility				
2. ICT has facilitated integration of processes				
3. ICT has improved internal efficiency				
4. ICT has improved accounting information management and reporting				

Appendix III: Interview Schedule

My name is Joshua Enock Mwambura, a master's student at University of Nairobi pursuing MBA. I would like to ask you some questions on **Information, Communication And Technology Adoption and Performance of County Pension Fund Financial Services Limited In Kenya**. The information you are giving will be used for academic purposes and it will take 10 minutes.

1. Do you think your organization has acquired modern ICT equipment which can enhances efficiency and service delivery? In the last three years, would you say there have been increasing investment ton these ICT equipment?
2. Do you think the number of members using ICT tools has increased in your organization? If yes, do you think their performance has increased?
3. What would you consider as the biggest hindrances to adoption of ICT in your organization? Why do you think so?
4. Can you say your organization faces a challenge of lack of ICT experts?
5. Which among the ICT tools (e.g. Mobile phones, laptops/computers) would you say hasn't been utilized by your organization?
6. Do you think using ICT tools and equipment has enhanced data accessibility in your organization? Why do you think so?
7. Do you think adoption of ICT in this organization has reduced cost of storing accounting information? How does this system work in enhancing information storage?
8. How would you describe the effect of ICT on annual turnover? Do you think it has increased savings?