EFFECTIVENESS OF INFORMATION AND COMMNUNICATION

TECHNOLOGY IN PAYMENT OF OLD AGE PENSION:

EMPIRICAL EVIDENCE FROM TANGA SECRETARIAT-TANGA REGION

TANZANIA

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CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by The Open University of Tanzania a dissertation entitled: "**Effectiveness of ICT in Payment of Old Age Pension",** in partial fulfillment of the requirements for the Degree of Master of Business Administration Studies of the Open University of Tanzania.

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(Supervisor)

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Date

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DECLARATION

I, **Mlolwa Hamis Salula**, declare that, the work presented in this dissertation is original. It has never been presented to any other university or institution. Where other people's works have been used, references have been provided. It is in this regard that I declare this work as originally mine. It is hereby presented in partial fulfillment of the requirement for the Degree of Master of Business Administration (MBA) of the Open University of Tanzania.

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Signature

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Date

DEDICATION

In loving memory of my father Yusufu Salula and my Sister Mzomwe/Leila Yusufu Salula.

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ABSTRACT

This study mainly investigated the effectiveness of ICT use in Old Age pension payment at Tanga Regional Secretariat. Specifically, the study sought to identify reasons for Tanga RS opt for the use of ICT in Old Age pension payment, challenges it is facing in the use of ICT in Old Age pension payment and Employees Perception in the use of ICT in Old Age pension payment. Quantitative research approach applying a case study research design was used. The study guided by Technological Acceptance Model (TAM), total respondents were 63 people selected through the use of random sampling techniques and Questionnaire was used in data collection. It was found that improvement of data management, reduction of workloads, enhanced informed decision, access to document, easy payment, accurate information, minimization of long waiting period, efficiency and reliability were preferred by majority of the respondents as factors of Effectiveness of ICT use in payment of Old Age Pension. However, it was found that challenges to the effective use of ICT in payment of Old Age Pension at Tanga Secretariat were inadequate personnel, inadequate ICT facilities, inadequate ICT skills and problem of internet connectivity. The study concluded that Organizational must procure modern ICT facilities, government should rectify existing laws and policy guiding effective use of ICT in payment of old age pension also more Research need to be conducted in order to draw relevant ideas and suggestions that will enhance effectiveness of ICT in Payment of Old Age Pension.

Keywords: *Effectiveness of ICT use, Old age pension payment, Perceived usefulness and challenges*

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LIST OF ABBREVIATIONS AND ACRONYMS

CSCW	Computer Supported Co-Operative Work
HR	Human Resource
ICT	Information and Communication Technology
ISSA	International Social Security Association
IT	Information Technology
ITU	Information and Communication Technology
MHC	Museum and House of Culture
NSSF	National Social Security Fund
PU	Perceived Usefulness
PSSSF	Public Service Social Security Fund
REA	Rural Energy Agency
RS	Regional Secretary
SMS	Short Message Service
SPSS	Statistical Package for Social science
TAM	Technological Acceptance Model
TANESCO	Tanzania Electric Supply Company
TRA	Theory of Reasoned Action
UPS	Uninterrupted Power Supply
URT	United Republic of Tanzania

CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1   Introduction

All peoples throughout the human history have faced the uncertainties brought on by unemployment, illness, disability, death and old age. In the realm of economics, these inevitable facets of life are said to be threats to one's economic security. For the ancient Greeks economic security took the form of amphorae of olive oil. Olive oil was very nutritious and could be stored for relatively long periods. To provide for themselves in times of need the Greeks stockpiled olive oil and this was their form of economic security (ISSA, 1999).

1.2   Background of the Problem

In medieval Europe, the feudal system was the basis of economic security, with the feudal lord responsible for the economic survival of the serfs working on the estate. The feudal lord had economic security as long as there was a steady supply of serfs to work in the estate, and the serfs had economic security only so long as they were fit enough to provide their labor. During the middle Ages the idea of charity as a formal economic arrangement also appeared for the first time (International Social Security Association, 1999).

As societies grew in economic and social complexity, and as isolated farms gave way to cities and villages, Europe witnessed the development of formal organizations of various types that sought to protect the economic security of their members. Probably the earliest of these organizations were guilds formed during the Middle Ages by

merchants or craftsmen. Individuals who had a common trade or business banded together into mutual aid societies, or guilds. These guilds regulated production and employment and they also provided a range of benefits to their members including financial help in times of poverty or illness and contributions to help defray the expenses when a member died (ISSA, 2002).

In Africa family members and relatives have always felt some degree of responsibility to one another, and to the extent that the family had resources to draw upon, this was often a source of economic security, especially for the aged or infirm. And land itself was an important forms of economic security for those who owned it or who lived on farms (ISSA, 1999).

One of the first people to propose a scheme for retirement security that is recognizable as a forerunner of modern social insurance was Revolutionary War figure Thomas Paine. His last great pamphlet, published in the winter of 1795, was a controversial call for the establishment of a public system of economic security for the new nation. Entitled, Agrarian justice it called for the creation of a system whereby those inheriting property would pay a 10% inheritance tax to create a special fund out of which a one-time stipend of 15 pounds sterling would be paid to each citizen upon attaining age 21, to give them a start in life, and annual benefits of 10 pounds sterling to be paid to every person age 50 and older, to guard against poverty in old-age (John Adams,2009). Most of the third world countries especially in Africa started full social security system in 1990s before that they were practiced provident fund (Grad and Susan, 1999).

Tanzania Social Security Organizations have started to practice the old age benefit since colonial era. But the question now comes on the beneficial performance and secure management of those data of the old age pensioners, how are they analyzed, stored, transported, from one station to another so that pensioner can be paid on time. Since data and information on the networks are vulnerable to many risks, and more than 80% of all problems confronting the world on this "era of science and technology" computers are associated in large percent with computer networks. As Social Security is most important part which touches everybody life, then Organizations started looking another way which would make data of Pensioners' benefit easily available. Employee's data must be highly controlled and protected against loss, destruction, sabotage and unauthorized disclosure. All these are tasks of ICT (A. Eckert,2004).

According to ITU (2007:11) Information and Communication Technology is a term used to express the convergence of information technology, broadcasting and Communications (e.g. the Internet). ICTs are enablers of communication - regionally, nationally and internationally and of information sharing, knowledge and development and replicate better practice (ITU, 2007, 2017). According to De Sutter (2003) ICTs are a compound of various sets of goods, applications and services used for producing, distributing, processing and transforming information.

ICT in Tanzania started to develop from the end of twentieth century. In Tanzania, the development can be traced back to 1965 when the first computer installed at the ministry of finance (Mgaya, 1994). The development of ICT in Tanzania led to many convergences of content, computing, telecommunications and broadcasting. It brought

about changes in areas, such as knowledge management and human resources development (URT, 2003).

The growth of ICT has further been empowered by the growth of a global network of computer networks known as the Internet. ICTs brought changes that affected irreversibly how business is conducted in addition to facilitating learning and knowledge sharing, and engendering global information flows, empowering citizens and communities, and spurring economic growth, and above all in spearheading the emergence of a global information society. Specifically in Tanzania, the country adopted a national policy in 2003 and 2016, policy together recognized that ICT is the central to the competing social and economic transform. To add, the policy identified the development of infrastructure as key in the development and use of ICTs in the country (URT, 2003). Subsequently, the number of telecommunication service operators (Internet Service Provider/Data Operators) increased from 11 in 2000 to 62 operators (Yonazi, 2010).

Today ICT represent substantial- and increasing-part of the added value of products and services. ICT intensive sectors include manufacturing, automotive, aerospace, pharmaceuticals and medical equipment, agro food as well as financial services, media and retail in automotive sector, for instance an estimated 70% of innovations that happened over the last 20 years were related to ICT (Mezgar, 2005).

According to recent studies, more than half of the productivity gains in developed economies can be attributed to ICT as it easier the production of goods and services within the ICT sector and improving its efficiency and productivity (Elena et al 2018). The gains stem both from the production of innovative, high value goods and services

based on ICT, as well as from improvements in business processes through a wider diffusion, adoption and use of ICT across the economy. Their impact on the economy and on society at large has led to remarkable changes.

Examples of the influence of ICTs on social life are hard to escape. The World Wide Web has become ubiquitous in ads and newspapers, and computing systems are now integral to our banking, transportation, medical, educational, and, increasingly quality of human life (Kling, Rosenbaum and Sawyer, 2005). ICT helps communication through networking of different devices (computers, printers, switch, and routers). Network provides good environment for innovation so the result is business success. The internet not only facilitates a hyperlinking of documents but also a hyperlinking of people and organizations (Levine and Weinberger, 2000). The demand from beneficiaries of social protection programs for accuracy, faster service, and the need to scale up programs provide the push for greater ICT use in program implementation. This involves shifting from traditional paper-based methods that tend to be slow and prone to errors, to electronic means of managing programs. Such shift provides opportunities for program managers to introduce and integrate ICT tools and applications in work processes. However, developing countries face challenges when shifting from traditional forms of service delivery to modern and automated methods Sri Wening et al (2017).

This study intends to assess effectiveness of ICT in payment of Old Age pension which is more cumbersome benefit since there are many required follow-ups and delays of payment on this claim.

1.3   Statement of the Research Problem

Tanzania Government has established National ICT policy (2003; 2016) through which many public as well as private organizations are guided to implement their specific ICT policies, strategies as well as infrastructures and applications in order to capture, store, control and transfer data. Study by Fred and Nawe (2017) on Effectiveness of Information Technologies in promoting and disseminating information to users at Museum and houses of culture, Dar es Salaam Tanzania revealed that electronic and computerized communication channels were preferred by the majority of the respondents. However, inadequate skills, inadequate funds, technological obsolescence and technophobia among staff hinder effective utilization of ICT at MHC.

Besides, mostly government departments fail to attain or meet employees need, since there are many complains that it take long time for a retirees to open claim to start benefited with his/her contributions. One of the causes are loss of members records, theft of members' contributions, manual keeping and transfer of data from one to another so it take a long time employees waiting for their benefits. The situation can be improved further through the application of ICT in preparation of old age pension payment. The assumption of this study is that if ICT used effectively may simplify payment of old age pension unlike traditional mode in which data lost. Thus, there is a need to know if ICT is well implemented and used effectively in these matters to avoid benefits complains from employees who reached retirement age. Therefore, the study aimed to assess the effectiveness of ICT in payment of Old Age Pension in Tanga regional secretariat.

1.4 Objectives of the Study

1.4.1 General Objectives

The general objective of this research is to assess effectiveness of ICT in payment of old age pension.

1.4.2 Specific Objectives

Specific the study focused on:

(i) To identify the reasons for Tanga Regional Secretariat to opt use of ICT as an effective option in payment of Old Age pension.

(ii) To analyze challenges facing Tanga Regional Secretariat in effectivess of ICT in payment of Old Age Pension.

(iii) To find out the perceptions of Tanga Regional Secretariat employees (future retirees) on the effectiveness of ICT in payment of Old Age Pension.

1.5 Research Questions

(i) What are the reasons for Tanga Regional Secretariat (Local Government Office-LGA) to opt for the use of ICT in employees' pension data?

(ii) What are the challenges facing Tanga Regional Secretariat in using ICT in payment of Old Age Pension.

(iii) What are the perceptions of Tanga Regional Secretariat's employees (future retirees) on the use of ICT in payment of Old Age Pension?

1.6 Significance of the Study

The findings are beneficial to the organizations (especially government departments) in using ICT to increase control and manage data like those of beneficiaries as

identifying and improving the areas of weakness of the Organization. The findings may also enable the practical experience through comparison between theoretical aspects and actual practice in ICT. The recommendations from study is more useful to the management of the Organizations since they provide clear picture on how ICT is used to improve effectiveness performance and timely payment of retired employees.

1.7   Organizational of the Thesis

The research report has been organized in five chapters namely; Chapter one, which deals with the problem and significance of the study, chapter two which focused on the reviewed literature. Chapter three that describes methodologies. Chapter four that presents the findings and chapter five that consists of summary, conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1   Chapter Overview

This part is presents conceptual definition, theoretical review, empirical review and knowledge gap.

2.2   Conceptual Definition

2.2.1   Information Technology and Information and Communication Technology Conceptual Definition

Information technology (IT) embraces the use of computers, telecommunications and office systems technology for the collection, processing, storing, packaging and dissemination of information. IT is not only about hardware (Computers, printers, scanner etc.) software or services, but about combination of all these elements capped with a vision of how technology can help an organization achieve its goals (De Sutter 2003), by using IT you can do more work in short period of time, also is very efficient and reliable, but all these need very skilled personnel. ICT is the general term used to express convergence of information technology, internet and communications. One prominent example is the internet. ICT also includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems as well as the various services and applications associated with them, such as video conferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in banking, education, healthcare, libraries or in pension funds (Beck et al, 2000). The study define ICT as a

tool that facilitate old age pension payment with reduced waiting time, since all its capacity in data management and transparency of data.

According to ITU (2007:11) ICT is a term used to express the convergence of information technology, broadcasting and communications (e.g. the Internet). ICTs are enablers of communication - regionally, nationally and internationally and of information sharing, and knowledge development (ITU, 2007). According to De Sutter (2003) ICTs are a compound of various sets of goods, applications and services used for producing, distributing, processing and transforming information.

ICTs thus enhance many aspects of the daily lives of a society, for example, students can digitally apply and get education loans, employee can handle departmental communication via intranet and users can store their data or transfer data from one organization/department to another within seconds or over a short period of time. People can withdraw money from a computerized Automated Teller Machine (ATM), also very effective in social security and Other organization in preparation of benefits like Martenity,Funeral grant as well as pension payments.

2.3   Theoretical Literature Review

According to International Social Security Associations (ISSA) circular letter (www.issa.int/engl/domact/inf) written "Nowadays nobody can be unaware of many upheavals caused by the use of ICT and this is numerous fields of human activity. Social security administration is one of those where the impact of introducing this technology has been deeply felt. ''Whatever the geographical location of the social security schemes and their stage of development, one of the priorities of their

administrators is to improve the effectiveness of their management and, by the same token, the quality of the service delivered to insured persons' gains".

"ICT has become an essential tool in the administration of social security programs around the world as it contributes to the tackling a variety of economic and social problems, including extreme poverty (Issa, 2016). On the other hand benefits of ICT are not evenly distributed across countries and social groups. In recent years there has been another equally important development: the demand on the part of insured persons for better, more rapid and more responsive service from social security. ICT also enables not only the automation of specific processes, but the transformation of operations and services, making it a strategic enabler of innovative solutions to respond to societal transformations and challenges (Issa, 2016).

The use ICT play a significant role helps in data management and execution of transaction since it could be designed to suit ones operations. The success of Information and Communication Technology (ICT) is not the technology per se, but the ability to manage it well. ICT also used to promote efficient and cost-effective since it is convenient to services, access of information and accountability to government and citizens. Regarding e-government a distinction can be made between the objectives for internally focused processes (operations) and objectives for externally focused services (Backus 2001).

ICT has changed substantially over the past decade and shows every sign of continuing to do so. The impact of these changes includes; increase the speed and decrease the cost of communication, data storage and information dissemination

(Mshanga, 2014). However there has also been a steady increase in our ability to move beyond merely capturing data, to the point where we can effectively capture and process information (Hughes and Morton, 2005). This is particular true in preparation of benefit payment such as pension (Old Age).

ICT normally has functions such as a tool for team work; speeding up organization communication and decision making process. Teamwork is one of the ICTs' main growth areas; often referred as CSCW (Computer Supported Co-operative Work). The idea is that technology can also make communication very possible for simple living in urban and completely remote area through email, social media and SMS (Short message Services) or regulate workers independent activities. Communication is very significant in all organizations, without communication, an organization is ''dead'' and seriously jeopardized in terms of its productivity and decision making process (Schmidt, 2016).

The effectiveness of ICT use determined by ability to store, access and disseminate information pertaining to social security members' benefits and contribution. To use technologies effectively and efficiently, organizations such as the government need to develop an overall framework and strategy for their application, and have an organizational structure in place to manage the development of the strategies and oversee their implementation. This is particularly necessary given the rapid rate at which these technologies are evolving (Becta, (2003) and Veron (2001), as cited in Mshanga, (2014).

All the above content reviews are various importance of ICT in general that are also applies to this study which evaluates effectiveness of ICT in simplifying the process of old age pension payment.

2.3.1 Theory Related to the Study

In examining effectiveness of ICT use in old age pension payment Technological Acceptance Model (TAM) theory used. TAM was developed by Davis in 1989. Tam was built upon Fishbein and Ajzen's (1975) Theory of Reasoned Action (TRA) which posits that beliefs could influence attitudes which lead to intention to use and finally actual usage behavior. TAM is an extension of TRA done by Davis (1986). It replaced TRA's attitude toward behavior with two technology acceptance measures which are: perceived usefulness and perceived ease of use. TAM didn't include the TRA's subjective norms in its structure. It was developed after the introduction of information systems into organizations. It is developed in information technology field while TRA and TPB developed in the psychology field, so that it is less general than TRA and TPB (Davis et al., 1989). Two particular beliefs are addressed through TAM; perceived usefulness and perceived ease of use. Perceived usefulness is defined as being the degree to which a person believes that the use of a system will improve his performance. In addition Perceived Usefulness (PU) reflects the level to which an individual believes that using a new system would improve the task performance (Pituch and Lee, 2006, Saade, Nebebe & Tan, 2007 and Venkatesh & Davis, 2000).

In the course of this study therefore, perceived usefulness of the chosen information technology may expose employee to new knowledge and experience related to the use of IT in conducting old age pension payment. On the other hand Perceived ease of use

refers to the degree to which a person believes that the use of a system can be effortless. TAM attempts not only for prediction but also for explanation to help researchers and practitioners identify why a particular system may be unacceptable and pursue appropriate steps. The TAM is also one of the most influential and commonly adopted theories for describing an individual's acceptance of information systems (Bagozzi, 2007). With careful observation, the variables that make up TAM are also similar to the personal ability expected of modern professionals in order to attain Information Literacy skill. The predictable variable such as data management, reduce workload and accuracy of ICT and power to run computer in organization were used in examining the effectiveness of ICT in old age pension payment.

This model has been chosen for this study as it offers the basic outlines of an individual's view or reaction towards a technology.

2.4   Empirical Literature Review

Nwaokwa & Okoli (2012), examine the influence of ICT on secretariats Performance in government ministries in Nasarawa state. The study found that ICT enhance the proficiency of secretaries by enabling them to process accurate and reliable information within the shortest possible time. The study findings further revealed that ICT influenced the performance of secretaries in various ways including: speed delivery of information, accuracy and effectiveness at work. The study recommended that government ministries should procure the latest model of ICT facilities to enhance secretarial functions and create opportunity for training and re-training of the secretaries to be abreast with the new changes and advancement.

According to research done by Susan Grad (1990), Social Security Administration, office of research and statistics, Washington D.C "Old age is a complex process involving various stage of withdrawal from the labor force and receipt of one or more types of retirement benefits…", "…full retirement process including reductions in work effort before beginning to receive retirement benefits, up through receipt of one or more retirement benefits and stopping work, may over many for some years, some well before age 60 for other, and others well past age 70."

 "The provision of income to retired persons is the subject of much debate and reform throughout the world with governments of countries at all stages of economic development expressing considerable interest in the topic and, in some cases, making far reaching decisions. The reasons for this significant awakening of interest in the development of National retirement income systems or programs during the past ten years vary between the countries.

Knox and Cornish (1999, page no.25) in the book called International Social Security Review published by International Social Security Associations and a research by Grad (2002) published in journal called Trends In Social Security explain that Old age pension is payable at age of 60 to applicants who have made contributions for at least 180 months. It equals 30% of the average monthly earnings during the first 180 months of contribution. For every additional 12 months of contribution further 2% of average monthly earnings are added in calculating the benefit. The maximum payable is 80% of the average earning of the contributor, whereas the minimum is not less than 50% of minimum wage.

Bhardwaj (2002) in his research on a resource -based perspective on IT capability and firm performance develops the concept of IT as an organizational capability and empirically examines the association between IT capability and firm performance. Firm specific resources are classified as IT infrastructure, human IT resources and IT enabled intangibles. A matched sample comparison group method and publicly available ratings are used to assess IT capability and firm performance. Results indicated that firms with high IT capability tend to outperform a control sample of firms on a variety of profit and cost-based performance measures.

Aldosari et al. (2019) did research on Farmers' perceptions regarding the use of ICT in Khyber Pakhtunkhwa, Northern Pakistan aimed to identify perceptions of farmers' community towards the electronic media and relationship between different demographic characteristics of respondents with the use of electronic communication of TV, Radio and Internet. Electronic media was found very effective in timely disseminating information needed by farmers.

Research done by Saidu et al. (2017) on Application of ICT in agriculture; Opportunities and Challenges in Developing Countries reviewed influence of ICT in agriculture in respect of opportunities and challenges. It was found that improvement of market activities, exchange of relevant information, profit gain, networking agricultural sector globally, conducting research and strategizing economic growth for self-reliance are among possible benefits of ICT in agricultural sector. Also the review identified that inadequate ICT facilities, lack of personnel, power supply and farmers'

perception are some of the challenges and issues that obstruct successful implementation of ICT in agricultural growth.

Ngala, and Matimbwa, (2021) did a study on the Effectiveness of Pension Payment Management in Tanzania: A Case of NSSF in Iringa Municipality. A descriptive survey design was used. The relationships between study variables were determined through the inferential analysis tool that analyzes point to the approach of SPSS version 20. Multiple Linear Regression was used to test hypotheses: the relationship between independent variables and dependent variables. Findings revealed a statistically significant weakly relationship between use of ICT and management style on the effectiveness of pension payment management, the findings further revealed a moderate relationship between quality of staff and effectiveness of pension payment management

2.5   Research Gap

Information and communication technology is showing gains in efficiency, transparency, and scope of services delivery across the global as it provide sways to administer, monitor, and evaluate development projects and programs(Nwaokwa and Okoli 2012). The use of the internet, social media, and broadband wireless communications enhance social engagement that can influence policies and resources devoted to social protection(Aldosari et al 2019). Most studies grounded on ICT capability in relation with firm performance, the influence of ICT in agriculture in respect to opportunities and challenges. In Tanzania studies by Fred and Nawe (2017) based on effectiveness of ICT in promoting and dissemination of information to user while Ngala and Matimbwa concentrated on effectiveness of provision payment

management in Tanzania. The assumption of this study is that if ICT can be used effectively and efficiently there would be accuracy in provision of old age pension payment. The study therefore bridge the existing knowledge gap by examining the effectiveness of ICT in payment of old age pension focusing on reasons for use of ICT, challenges and perception on the effectiveness of the said technology.

2.6   Conceptual Framework

Conceptual framework is a network, or a plane of interlinked ideas that together provide a complete understanding of a phenomenon or phenomena (Yosef, 2009).
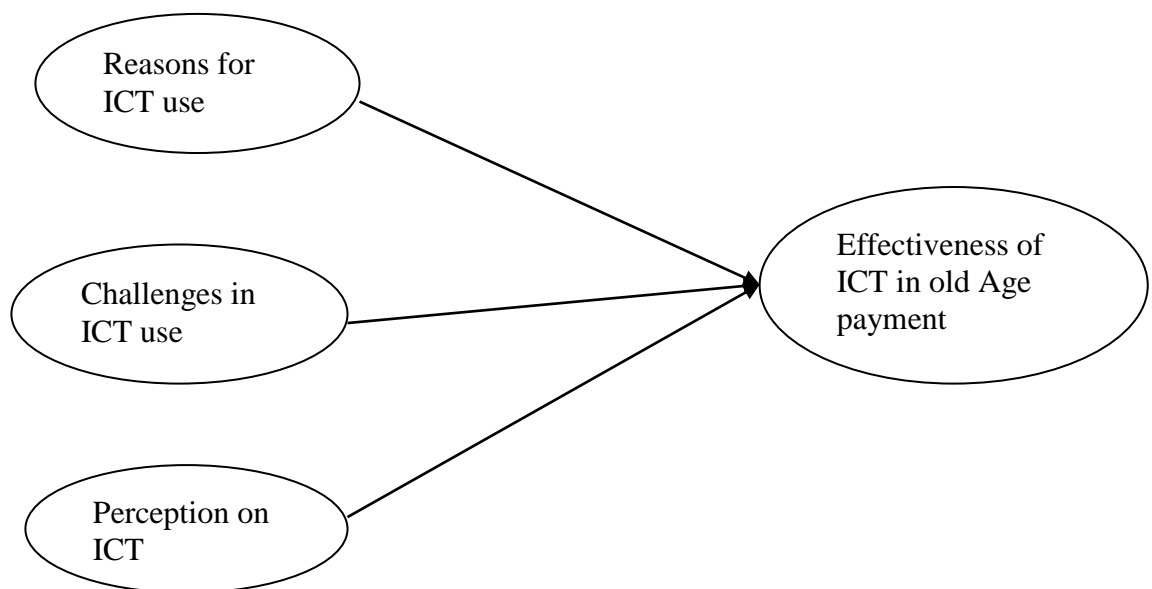
Figure 2.1: Conceptual Framework
Source: Author

The Figure 2.1 describes the linkage between effectiveness of ICT and old age pension payment. Independent variable includes reasons for the use of ICT, challenges facing the use of ICT and perception on the use of ICT. These factors provide insight in examining effect old age pension payment. While dependent variable is old age pension payment. These variables were used in examining the effectiveness of ICT

use in old age pension payment, as the expectation of this study is that if these factors are well observed the old age pension payment is likely to be effective and being provided on material time.

Reasons for ICT use includes: improved data management, reducing workloads, enhance informed decision, enhance transparence list for beneficiaries and access to document. However, inadequate ICT skills, inadequate personnel, unreliable power supply and inadequate ICT facilities may deter effectiveness of ICT use in old age pension payment. Perception on ICT enhances effectiveness of the said technology in old age pension payment. This is particular true from the study area as almost all respondent responded that ICT usage contributed positively in producing accurate information, minimize payment errors and efficiency and reliable unlike traditional mode of payment.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1   Research Overview

This chapter discusses research philosophy, research approach, research strategies, time line, survey population and area of research, Sampling design and procedures, variable and measurement procedures, methods of data collection, data processing and analysis as well as ethical issues.

3.2   Research Philosophy

The research philosophy adopted contains important assumptions about the way in which the researcher views the world. These assumptions underpin the research strategy and the methods to choose as part of that strategy (Sanders et al., 2009). There are various types of philosophies but in this study positivism philosophy was used, as explained by Remenyi et al. (1998) and Sanders et al. (2009) that Positivism advocate working with observable social reality and that the end product of such research can be law - generalizations similar to those produced by the physical and natural scientists. This study aims to find out the reality in the society and to come up with suggestions to improve it.

3.3   Research Approach

This study used deductive approach since Positivism philosophy is chosen. Deductive is used after developing a theory and hypothesis (or hypotheses) and design a research strategy to test the hypothesis (Sanders 2009). The approach has been used in establishing relationship between ICT use and old age pension payment by using Pearson coefficient correlation.

3.4 Research Design

The study applies case study research design. A case study is a means of conducting qualitative research and evolved as a distinctive approach to scientific inquiry, partly as a reaction to perceived limitations of quantitative research (Kirongo and Odoyo, 2020). They are useful particularly when one intends to gain concrete, contextual, in depth knowledge about a specific real-world of the study (Adam & Kamuzora, 2008). The strategy used in examining the how and why ICT used in old Age pension payment. The strategy also was used in examining detailed account of the reasons for the use of ICT in old age pension payment, challenges encountered when using ICT and perception on the use of ICT.

3.5 Research Time line

The study used cross-sectional studies whereby the data was collected at once (Adam & Kamuzora, 2008). They are not repetitive in nature as they are carried out once at a particular point of time. They are the best way to determine the occurrence and association of multiple exposures through the use of questionnaire to reach a large sample of population of interest with reduced cost unlike interview. In this study therefore questionnaire was administered to a sampled population at once and there was high rate of return.

3.6 Survey Population and Area of Research

The study on effectiveness of ICT use in Old Age pension payment was conducted in Tanga regional secretariat since it has different departments and eight offices of district commissioners (DC), concentrated on Departments of Information Technology, Human resource, and other departments. The choice of the area

influenced by time and expectation of the researcher to obtain detailed information about effectiveness of ICT in old age pension payment. Effectiveness of ICT use measured in different ways including improvement in data management, reduce workload and transparency in provision of old age pension payment.

3.7   Sampling Design and Procedure

According to the data provided by Personnel and Human Resources officer dated 2020 showed that they have 250 employees, whereby the sample size is 25% of the population which is 63 as Saunders et al. (2000) suggests on a minimum of 30 items to be included in the sample size when statistical analysis adopted. The sample was drawn through stratified random sampling. Stratified random sampling is a sampling technique whereby the total population is divided into different groups or layers before selection of the representatives. This ensures representation of all members of the population (Adam & Kamuzora, 2008). The strategy has been used as sample for the study obtained from different departments.

3.8   Variables and Measurement Procedure

Table 3.1: Variable and Measurement Procedures

Variable	Nature	Indicator	Source data
Improve data management	Independent variable	-Accuracy -Accessibility of data	Sri Wening, et al (2017)
Reduce workload	Independent variable	-Easier payment -Efficiency	Mshanga (2014)
Transparency	Independent variable	-Contribution statement -Trend of payment	Sri Wening, et al (2017), Mshanga (2014)

3.9 Data Collection Methods

Both primary and secondary source of data were used. Primary data refers to original data collected by the researcher himself from the field for the purpose of answering a research question/issue (Wii and Diggines, 2009). It was done through structured questionnaire that consist of specific questions and guided answer to respondent. Secondary data refers as the second-hand information, which includes both raw data and published ones (Saunder et al, 2007). In this regard internet sources, journal, articles and RS report was successful used to capture information pertaining to employees' perception on the use of ICT, reasons for using ICT.

3.9.1 Questionnaire

Questionnaire is a structured data collection method, which involves a range of question format that can be completed in print or oral (Gillham, 2008). Questionnaires are widely used to obtain information about current conditions and practices and to make inquiries concerning attitudes and opinions quickly in the precise form (Kombo, 2006). The method has been used in collecting information pertaining to reason for the use of ICT, challenges in the use of ICT and perception on ICT. This method enables researcher to collect a lot of information from large number of respondents within a short period of time (Kothari, 2004).

3.10 Data Processing and Analysis

Data processing is done by raw data obtained from the field to be prepared before analysis takes place (Adam & Kamuzora, 2008). Data that was captured through the use of questionnaire was analyzed quantitatively with the aid of Statistical Package for

Social Sciences (SPSS) computer software tool and presented in table and graph. Descriptive data analysis such as frequencies, percentages and graphic tables was used to describe the variable characteristics emanated from Tanga Regional Secretariat employees.

3.11   Ethical Issues

This study considers ethics by requesting permit of conducting research in the Tanga secretariat   and partly Social security scheme. Respondents have the right to agree or reject on responding, non-mentioning name of respondent, whichever included on the report citation was observed and false information, and fabrication of data was highly avoided.

CHAPTER FOUR

ANALYSIS, PRESENTATION AND DISCUSSION

4.1   Introduction

The chapter analyzes, present and discuss findings obtained from the study area. Presentation of the findings divided into four parts of: Demographical of the study area, reasons for Tanga RS to opt for the use of ICTs in employees' pension data, challenges facing Tanga RS in using ICT in Old Age Pension payment and the perceptions of Tanga RS employees on the use of ICT in payment of Old Age Pension.

4.2   Demographic Characteristics

A number of demographic characteristics of the study area has been investigated. The demographic characteristics include age of the respondents, sex as well as occupation. This information provides a clear understanding of the respondents from the study area.

4.2.1   Respondents Age

The findings informed that many 38.1% of the respondents fall under the age category of 41-50 years, next 36.5% was in age category of 31-40 years. 17.5% of the respondents fall under had 21-30 years while few 7.9% had 51-60 years (Table 4.1). Age between 21-30 respond by 17.5% they do not expect to retire because they are young also in this group some have secondary certificate, diploma and others are graduate. But they have different perceptions and opinion; they know few about social security issues. Between 31-40 group of employees with experience (at least10 to 15

years at work), some of them are head of department or unit or assistant to Head so, they have some experience and evidence to those who retired before, that's why they are at second place for responding.

Age of 41 to 50 most of them head and part of management, they participate in many correspondents between Organization (RS) and Social Security Organizations about missing documents of retired employees, letters of retirement and missing documents required to complete pension calculations, you can seen they have high percent in responding. The group of age between 51 and 60 are few in number at Tanga RS some of them have taken retirement leave that's why they occupied small percent in Table of respondents below.

Table 4.1: Age of Respondents

Age group	Frequency	Percentage
21-30	11	17.5
31-40	23	36.5
41-50	24	38.1
51-60	5	7.9
Total	**63**	**100**

Source: Field Data, (2021)

4.2.2 Sex of the Respondents

The study was also collected information pertaining to respondents' sex. The results presented into two categories of yes or no as shown in Figure 4.1.
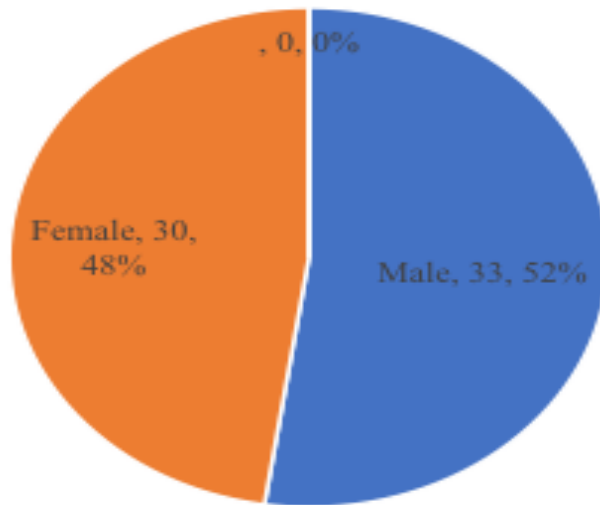
Figure 4.1: Sex of the Respondents
Source: Field Data, (2021)

Figure 4.1 presents' information about respondents' sex. The result shows that male respondents were 52% while female were 48%. This happens by chance and it was not researchers' reason. The implication here is that Tanga Secretariat dominated by male unlike female.

4.2.3 Respondents Occupation

The respondents' occupation had been investigated and their responses categorized into six levels of human resource, personnel secretary, Internal Auditor, Accountant, Record management assistant and engineer as per Table 4.2.

Table 4.2: Respondents Occupation

Variable	Frequency	Percentage
Human Resource	15	23.8
Personal secretary	14	22.2
Internal Auditor	4	6.3
Accountant	8	14.7
Record Management assistant	10	15.9
Engineer	3	4.8
Total	**63**	**100**

Source: Field Data, (2021)

The study findings informed that 23.8% were human resource, 22.2% are personal secretaries, 15.9% are recording management assistant, and 14.7% are Accountants, 6.3% are internal auditors and 4.8% are engineers (Table 4.2). This is likely to contribute to diverse awareness, understanding challenge faced and perceptions on the effectiveness of ICT use in Old Age payment pension.

4.3 Reasons for Tanga Regional Secretariat opt for the use of ICTs in Employees' Pension Data

The first research question aimed at examining the reasons for Tanga Regional secretariat opt for the use of ICT in employees' pension data. However, before examining the reasons for joining social security fund the respondents asked when joined social security fund. Next the respondents were asked whether they are aware that Tanga secretariat use ICT in preparation for pension payment or not.

4.3.1 Respondents when Joined Social Security Fund

The researcher was interested to collect information pertaining to when the respondents joined the social security fund. The findings were presented in Figure 4.2.
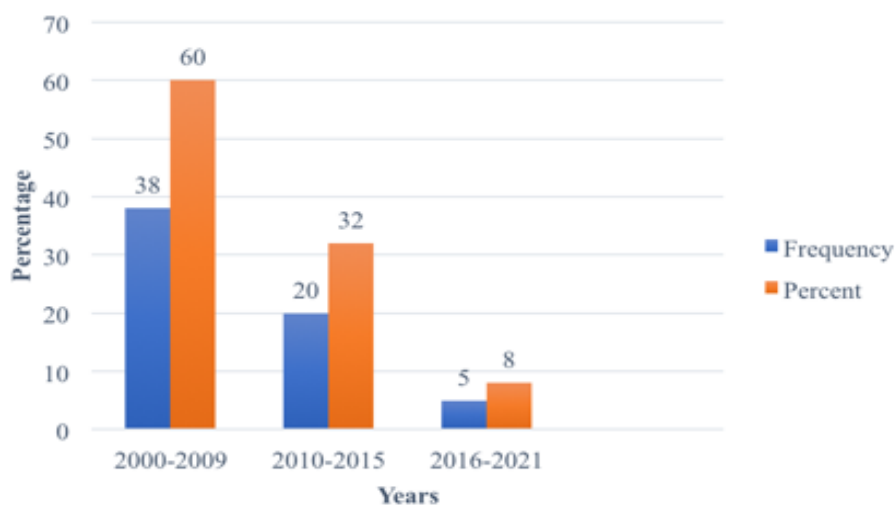
Figure 4.2: Years when Respondents Join the Social Security Fund
Source: Field data, 2021

The study findings revealed that many 60% of respondents' joined social security fund in between 2000-2009, 32% joined in 2010-2015, few 8% joined in between 2016-2021 (Figure 4.2). It is clearly noticeable that majority have been in this social security fund for period ranging from 2000-2015 and enforced join in social security fund for their future benefits. Probably minority joined to social security fund linked to the decrease rate of employment observed in between 2016 and 2021.

4.2.2 Reasons for Joining Social Security Fund

The researcher was so interested to explore the reasons for joining social security fund. Among the reasons mentioned were future benefit, preparation for retirement, national law, advice and knowledge about social security fund as well as protection against risk as described in Table 4.3.

Table 4.3: Reasons for Joining Social Security Fund

Variable	Frequency	Percentage
Future benefit	34	47
Preparation for retirement	14	19
National Law	19	26
Advise and knowledge about social security fund	2	3
Protection against risk	1	1
Others	3	4
Total	**73**	**100**

Source: Field Data, (2021)

It has been revealed that 47% of the respondents joined social security fund for their future benefit, 26% as National Law demand, 19% preparation for retirement, 4% others including lump sum payment, health services provision, 3% argued on advise

and knowledge about social security fund and 1% protection against risk (Table 4.3). These reasons can be linked to government policy and individual development Socio-economic development in Tanzania. Similarly study by Amani (2017) entitled the Role of Social Security Funds in enhancing Socio-Economic Development in Tanzania: A Case of Parastatal Pensions Fund (PPF), also revealed that there is a direct connection between social security and socio-economic development in Tanzania. The funds improve lives as well as of people in the society. Social security schemes improve education, health and income of individuals while increasing tax revenue to the government in which is used to improve social need.

4.2.3 Awareness that Tanga RS using ICT for Preparing of Old Age Pension Payment

Respondents asked if they are aware that Tanga RS using ICT for preparing of Old Age pension Payment or not. Responses categorized into two categories of yes and no as shown in Table 4.4.

Table 4.4: Awareness of Tanga RS in using ICT for Preparing Old Age Pension

Variable	Frequency	Percentage
Yes	48	76
No	15	24
Total	**63**	**100**

Source: Field data, 2021

The findings on Table 4.3 revealed that majority 76% of the respondents were aware on the adoption of ICT in preparation of Old Age pension payment. While 24% of the respondents were not aware about the ICT usage in Old Age pension payment. The

observed high percentage of respondents with knowledge about ICT use attributed mostly by dissemination of information pertaining to the perceived benefit of using ICT in managing social security scheme. On the other minority of the respondents who are unaware could be associated with inadequate knowledge related to benefits of ICT in managing social security fund.

4.2.4 Reasons for Tanga RS opt for the use of ICTs in Employees' Pension Data

Tanga RS have recognized a number of factors that necessitate the use of ICT in employees' pension. The raised factors linked with technical assistance and documentation access described in Table 4.5.

Table 4.5: Reasons for Tanga RS OPT for the use of ICT in Employees' Pension Data

Variable	Frequency	Percentage
Improve data management	27	34.6
Reducing workloads	15	19.2
Enhance informed decision	5	6.4
Enhance transparence list for beneficiaries	12	15.3
Access to document	19	24.3
Total	**78**	**100**

Source: Field Data, (2021)

It is clearly noticeable that Tanga RS opt for the use of ICT in employee pension data as 34.6% of the respondents argued on improvement of data management, 24.3% argued on access to document and 19.2% reported that ICT use play a significant role in reducing workloads. Also 15.3%claimed that ICT use enhance transparence list for beneficiaries and few 6.4% of the respondents reported that ICT use enhance informed

decision on the provision of pension. In most cases information pertaining to Old Age pension made more transparence as the list of retirement made it open and provided on time and used to disclose the amount to be paid each beneficiary. Correspondingly Mshanga (2014) on Effectiveness of ICT Application in service Delivery in Public Pension Funds of Tanzania (PSPF) revealed that ICT in PSPF is being deployed not only to provide citizen services but also for public sector efficiency purposes, improving transparency and accountability in government functions and allowing for cost savings in government administration. The study further found that PSPF decided to move to the use of ICT to increase the administrative efficiency, which thereby ensures better delivery of services to the customer. Also, main motive of providing electronically by PSPF is to including service delivery, it includes Quality, timing and quantity.

It has been revealed that many respondents argued that Tanga RS opt for the use of ICT in employees' pension because it contributes to the improvement of data management. This is likely to improve the scheme consistency and is giving better security of the stored information to the beneficiaries unlike file system. This is similar to Sri Wening, et al (2017)which reported that in Viet Nam and the Philippines, for example, improvement in database management helped address inclusion and exclusion errors, and allowed for greater transparency in the beneficiary lists of social protection programs.

Next the study findings revealed that the use of ICT in Tanga RS simplify the whole process of document accessibility. This is because data management by a database is

so improved to allow efficient access of information different to file system used in storing information traditionally.

4.3   Challenges Facing Tanga RS in Using ICT in Old Age Pension Payment

The third research question focused on the assessment of the challenges facing Tanga RS in using ICT in Old Age Pension payment. They are from technical skills to financial constraints.

Table 4.6: Challenges Facing Tanga Regional Secretariat in using ICT

Variable	Frequency	Percentage
Inadequate ICT skills	19	25.7
Inadequate personnel	23	31
Unreliable power supply	7	9.5
Inadequate ICT facilities	20	27
Others	5	6.8
Total	**74**	**100**

Source: Field data, 2021

The findings informed that 31% of the respondents argued that inadequate personnel hinder effectiveness of ICT use in Old Age Pension Payment, 27% commented on inadequate ICT facilities, 25.7% argued on inadequate ICT skills, 9.5% of the respondents reported that unreliable power supply and 6.8% others (Table 4.6). Saidu et al. (2017) on his study titled Application of ICT in agriculture; Opportunities and Challenges in Developing Countries reviewed influence of ICT in agriculture in respect of opportunities and challenges found that inadequate ICT facilities, lack of personnel, power supply and farmers' perception are the major challenges that obstruct successful implementation of ICT in agricultural growth.

Next the study finding revealed that unreliable power supply hinders the effectiveness use of ICT in preparation of Old Age pension payment. This is impacted to the damage of information stored in computer once electricity cutoff abruptly when preparing database for retired pension. The problem is more serious in developing countries where investment in reliable electricity is not so successful yet.

4.4 The Perceptions of Tanga RS Employees on the Use of ICT in Payment of Old Age Pension

The researcher was also interested to know the perception of Tanga RS employees on the use of ICT in Old Age pension payment. The respondents' responses categorized into two levels of the extent in which respondents satisfied with the use of ICT in preparation of Old Age Pension payment and the perceived benefit of ICT use.

4.4.1 The Extent of being satisfied with the use of ICT in Old Age Pension Payment

The respondents were requested to indicate the extent in which they are satisfied with the use of ICT in Old Age pension payment. The responses are categorized into three levels of great extent, less extent and moderate.

Table 4.7: Respondents Responses on the Extent of being satisfied with the use of ICT

Variable	Frequency	Percentage
Great extent	24	38
Less extent	18	29
Moderate	21	33
Total	**63**	**100**

Source: Field Data, (2021)

The study findings informed that 38% argued that they are greatly satisfied with the use of ICT in preparation of Old Age pension, 33% moderately satisfied and 29% argued on less extent (Table 4.7). The observed high percentage of respondents being satisfied with the use of ICT suggests that the scheme so effective in using to fulfil beneficiaries' requirements. It also linked with perceived benefits such as easy payment, minimize long waiting period and accurate data. However, few respondents proclaimed that they are moderately satisfied with the use of ICT. Probably they are members of social security fund with little knowledge about the benefit of ICT use in management of the schemes. To add, this can be linked with earlier seen challenges facing Tanga RS in ICT application like inadequate personnel and inadequate ICT facilities.

4.4.2 Perception on the use of ICT in Payment of Old Age Pension

In this question the researcher was interested to know the ways in which respondents perceive the use of ICT in payment of Old Age Pension. Among the perceived benefits raised were making payment easy and produce accurate information as presented in Table 4.8.

Table 4.8: Perceived Usefulness on the use of ICT in Payment of Old Age Pension

Variable	Frequency	Percentage
Make payment easy	25	32.1
Produce accurate information	18	23
Minimize long waiting period	15	19.2
Minimize payment errors	12	15.4
Efficiency and reliable	8	10.3
Total	**78**	**100**

Source: Field Data, (2021)

Table 4.8 presents information about the perceived believe on the use of ICT in payment of Old Age pension payment. 32.1% believe that the use of ICT make payment easy, 23% believe that ICT is helpful in producing accurate information, 19.2% believe minimize long waiting period, 15.4% believe that ICT minimize payment errors and 10.3% commented that ICT is useful in providing efficiency and reliable information. The findings correspond to what TAM perceived usefulness of of computer use. Similarly, study by Nwaokwa & Okoli, (2012), on the influence of ICT on secretariats Performance in government ministries in Nasarawa state, found that ICT enhance the proficiency of secretaries by enabling them to process accurate and reliable information within the shortest possible time. The study findings further revealed that ICT influenced the performance of secretaries in various ways including: speed delivery of information, accuracy and effectiveness at work.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter present, summarizes the findings of the study, gives conclusion and recommendations for improvement and further research.

5.2 Summary of the Main Findings

The study assessed the effectiveness of ICT in payment of Old Age payment. Specifically the study examined the reasons for Tanga RS to opt for the use of ICTs in employees' pensioned data, assessed challenges facing Tanga RS in using ICT in Old Age Pension payment and the perceptions of Tanga RS employees on the use of ICT in payment of Old Age Pension.

With respect to reasons for Tanga RS to opt for the use of ICT in employees' pension data, the study findings revealed that almost all respondents joined to social security fund in different time according to the duration of being employed. Being member of social security fund attribute to persistence of knowledge and awareness about the ICT benefit of the said scheme.

The findings further found that majority of the respondents joined social security fund due to a number of factors such as future benefit, preparation for retirement, national law that enforce every employee to join at either NSSF, PSSSF or PSPF for their future benefit after retirement. Other factor included protection against risk that may be encountered by employee while working.

Moreover, the study findings informed that Tanga RS opt for the use of ICT in Old Age pension payment because it improves data management, reduce workloads, enhance informed decision, enhance transparence list for beneficiaries and access to information. These factors attributed to the effectiveness of ICT use in preparation of Old Age pension payment and attract a good number of employees to join either NSSF or PSSSF so as to protect themselves against risk that may occur while at work.

In the foregoing discussion the study findings revealed that Tanga RS encounter a number of challenges that deter effectiveness use of ICT in Old Age Pension payment. Among the raised challenges were; inadequate ICT skills, Inadequate personnel, unreliable power supply and inadequate ICT facilities. These challenges projected to affect the whole process of data preparation and result into delaying in payment to the retired employees.

Moreover, the study found that respondents' are satisfied with the use of ICT in old age pension payment. This is attributed by perceived benefit of the use of ICT such as accuracy information pertaining to retirement benefits from the scheme. However, few respondents are moderately satisfied with the use of ICT in preparation of Old Age pension payment.

The results informed that the respondents believe that the use of ICT make payment easy, produce accurate information that cannot be obtained in other form, minimize long waiting period and minimize errors in payment since the employee information kept in database unlike file system.

The study findings further revealed that transformation into ICT increases efficiency and reliability in preparation of retirement data and processing payment. This is attributed by regular follow up by accounting department related to the amount of money to be paid to the beneficiaries.

5.3   Conclusion

The study confirms that ICT use in Old Age pension payment contributes to the improvement of data management, enhancement of transparence list for beneficiaries and access to information. These factors coupled with transformation of technology to facilitate the whole process of retirement pension preparation and accurate data unlike traditional form of record keeping. The effectiveness of ICT use in Old Age pension payment associated with the perceived benefits such as decrease in long waiting period for the beneficiaries to be providing with their pension and decrease in payment errors when compared to traditional mode of pension payment among the beneficiaries. It is further noted that employees' are greatly satisfied with the use of ICT as the technology proved to be effective in Old Age pension payment and contribution of other benefits offered by social security fund such as maternity and medical care services.

5.4   Recommendations

The findings of this study provide a clear understanding on the effectiveness of ICT use in Old Age pension payment. In line with this, some recommendations were made for attaining some fruitful implementation of ICT in payment of Old Age pension which includes: Good ICT Infrastructure, Adequate ICT Skills, good and affordable Internet Connectivity and qualified personnel.

REFERENCES

Adam, J., & Kamuzora, F. (2008). Research methods for business and social studies. *Mzumbe book project*, *138*.

Aldosari, F., Al Shunaifi, M. S., Ullah, M. A., Muddassir, M., & Noor, M. A. (2019). Farmers' perceptions regarding the use of information and communication technology (ICT) in Khyber Pakhtunkhwa, Northern Pakistan. *Journal of the Saudi Society of Agricultural Sciences*, *18*(2), 211-217.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, *17*(1), 99-120.Anandhi S Bhardway (2002) IT Capability and Firm Performance MIS quarterly vol.24 No 1

Barua, A., Kriebel, C. H., & Mukhopadhyay, T. (1995). Information technologies and business value: An analytic and empirical investigation. *Information systems research*, *6*(1), 3-23.

Bagozzi, R.P. (2007). The Legacy of the Technology Acceptance Model and a Proposal for a Paradigm Shift. *Journal of the Association for Information Systems* Vol 8, 244-254

Brynjolfsson, E., & Hitt, L. (1993). Is information systems spending productive? New evidence and new results.

Brynjolfsson, E., & Hitt, L. M. (2000). Beyond computation: Information technology, organizational transformation and business performance. *Journal of Economic perspectives*, *14*(4), 23-48.

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

Fred, S., & Nawe, J. (2017). Effectiveness of Information and Communication Technologies in Promoting and Disseminating Information to Users at the Museum and House of Culture, Dar es Salaam, Tanzania. *University of Dar es Salaam Library Journal*, *12*(1), 121-145.

Gillham, B. (2008). *Developing a questionnaire. (*2 Ed). London: Continuum International Publishing.

ISSA, (2016). Social Security Research and Policy Manual: Supporting research in social security institutions in low- and middle-income countries. Retrieved from https//www.issa, on 7th Oct, 2021.

ITU, I. (2017). Measuring the Information Society Report: ICT Country profiles. *Geneva Switzerland: International Telecommunication Union*.

Kombo, D. K., & Tromp, D. A. L. (2006). *Proposal and Thesis Writing: An Introduction*. Nairobi: Paulines Publications Africa.

Kothari, C. R. (2004). *Research Methodology and Techniques*, New Delhi: New Age International (P) Limited, Publishers

Kirongo, A., & Odoyo, C. (2020). Research Philosophy Design and Methodologies: A Systematic Review of Research Paradigms in Information Technology. *Global Scientific Journals,* 8(5).

Knox, D., & Cornish, R. (1999). The development of some characteristics for equitable national retirement income systems. *International Social Security Review*, *52*(4), 25-45.

Ngala, C., & Matimbwa, H. H. (, (2021). The Effectiveness of Pension Payment Management in Tanzania: A Case of NSSF in Iringa Municipality. *Journal of business organization*, 2 (2).

Nwaokwa, E., & Okoli, B. E. (2012). Information of communication technology on the influence performance of secretaries in government ministries in Nasarawa State, North-Central Nigeria. *Research journal of information technology*, *4*(3), 93-97.

Pituch, K.A, & Lee, Y.-K. (2006). The influence of system characteristics on e-learning use. *Computers Education*, 47.

Saade, R. G., Nebebe, F. & Tan, W. (2007). "Viability of the "Technology Acceptance Model" in Multimedia Learning Environments: A Comparative Study". *Interdisciplinary Journal of Knowledge and Learning Objects*, 3

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Pearson education.

Sounder, M., Lewis, P., & Thornhill, A. (2007). *Research Methods for Business Students*, (2nd$_{Ed}$).New York: Prentice Hall.

Schmidt K. (2016). Computer-Supported Cooperative Work (CSCW). *The International Encyclopedia of Communication Theory and Philosophy*, 1(4)-4.

URT. (2003). National ICT policy of Tanzania. Dar es Salaam: Ministry of Communications and Transport. Retrieved from http://www.tzonline.org/pdf/ictpolicy2003.pdf, on 6th, Oct, 2021.

Sri Wening. H., Michelle D. P., Lovelock. P., and Chi Burkley. C. (2017). Improving the Delivery of Social Protection through ICT—Case Studies in Mongolia, Nepal, and Viet Nam.https://www.adb.org/sites/default/files/publication/384386/sdwp-50.pdf on 8-11-2021

Venkatesh, V. & Davis, F. (2000). 'A Theoretical Extension of the Technology Acceptance Model:Four Longitudinal Field Studies.' *Management Science* 46, (2).

Wiid, J., & Diggines. C. (2009). *Marketing Research*, Cape Town: Juta Academics and company Ltd.

APPENDICES

Appendix 1: Questionnaire to Staff (English)

Dear respondent, I am a Postgraduate student at Open University of Tanzania Tanga branch Pursuing Master's Degree Business Administration with specialization in Marketing. In order to be conferred the Master's degree I am doing a research on the effect of ICT in Payment of Old Age Pension: A case study of ICT application in President Office Regional Administration and Local Government specifically in Tanga Regional Secretariat (Tanga RS).

I kindly ask you to provide me with answers of questions written on these questionnaires. The answer you provide shall remain confidential between me and you.

Thank you for your cooperation

Hamis S Mlolwa

1. What is your Age? Please tick on the brackets below;

    (i) Between 21-30 years   (   )

    (ii) Between 31-40 years   (   )

    (iii)Between 41 -54 years   (   )

    (iv)Between 55-60 years   (   )

2. What is your Gender? Please tick in the bracket

    (i)   Male   (   )

    (ii)   Female (   )

3. What is your occupation in LGA (Tanga RS)

   Please mention……………………………………………………………………..

   ………………………………………………….………………………………………

   ………………………………………………………………………………………......

4. When did you join social security scheme? Please mention the time in terms of years

   ………………………………………………………………………………………

   ………………………………………………………………………………………

   ………………………………………………………………………………………..

5. Why did you decide to join social security scheme? Give reasons

   ………………………………………………………………………………………

   ……………………………………………………………………………………….

   ………………………………………………………………………………………

6. Are you aware that Tanga RS is using ICT in Preparation of payment of Old AGE benefit?

   (i) Yes (   )

   (ii) No (   )

7. If yes, what ICT software used in payment preparation for old age retirement pension? (Tick what is applicable in your case)

   (i) Enterprise Resource planning

   (ii) Asset management software

   (iii) Data base software

   (iv) Others specify……………………

8. How often the chosen software used

   (i) Rarely

   (ii) Frequently

   (iii) Most frequently

9. The following are the reasons made Tanga RS to use ICT in Old Age benefit (choose what is applicable in your case)

   (i) To make payment easy

   (ii) Produce accurate information

   (iii) Minimize long waiting period

   (iv) Minimize payment errors

   (v) Efficiency and reliable

   (vi) Others specify …………………………

10. To what extent are you satisfied with the use of ICT?

    (i) Great extent

    (ii) Less extent

    (iii) Moderate

11. What challenges you think Tanga RS is facing in preparation and disbursing payment of Old Age benefit through the use of ICT (Tick what is applied in your case)

    (i) Inadequate ICT skills

    (ii) Lack of personnel

    (iii) Unreliable power supply

    (iv) Inadequate ICT facilities

(v)   Other specify………….

12. What is your suggestion?

………………………………………………………………………………

………………………………………………………………………………

………………………………………………………………………………

Thank You for your cooperation

Appendix 2: Dodoso kwa Wafanyakazi (Kiswahili)

Dodoso kwa ajili ya kukusanya taarifa ya utafiti kuhusu ufanisi wa matumizi ya Tehama kuandaa malipo ya wastafu. Lengo la utafiti huu ni kupima kwa ujumla ufanisi wa matumizi ya Tehama katika uuandaaji wa malipo ya wastafu. Mchango wako ni muhimu sana katika kufanikisha utafiti huu. Hivyo unaombwa kushiriki kikamilifu ili kuleta ufanisi zaidi.

Asante sana kwa msaada na ushiriki wako

Hamis S Mlolwa

1. Una umri gani? Weka alama ya vema kwenye mabano hapo chini.

    (i) Kati ya miaka 21 mpaka 30   (   )

    (ii) Kati ya miaka31 mpaka 40   (   )

    (iii) Kati ya miaka 41 mpaka 50   (   )

    (iv) Kati ya miaka 51 mpaka 60   (   )

2. Jinsia yako ni ipi?Weka alama ya vema kwenye mabano

    (i) Me (   )

    (ii) Ke (   )

3. Unafanya kazi gani?eleza

    ………………………………………………………………………………

    ………………………………………………………………………………

    ….……………………………………………………………………………

4. Ulijiunga lini na mfuko wa hifadhi ya jamii?

    Taja kwa miaka…………………….…………………………………………..

    …………………………………….…………………………………………

5. Taja sababu ya kujiunga na hifadhi ya jamii

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

6. Una taarifa kwamba ofisi ya Sekretariat ya Tanga inatumia TEHAMA kuandaa fao la malipo ya uzee (pensheni ya uzee)?Weka alama ya vema kwenye jibu sahihi

(i) Ndio   (   )

(ii) Hapana (   )

7. Kama jibu ni ndio kwenye swali la hapo juu,eleza kwa nini Sekretariat ya Tanga iliamua kutumia TEHAMA kwenye fao la malipo ya uzee.

(i) ……………………………………………………………………………………

(ii) …………………………………………………………………………………

(iii)…………………………………………………………………………………

(iv)…………………………………………………………………………………

8. Taja Changamoto unadhani Ofisi ya Sekretariat ya Mkoa Tanga inakutana nazo kutokana na maandalizi ya fao la pensheni ya uzee kwa kutumia TEHAMA

(i) …………………………………………………………………………

(ii) ………………………………………………………………………

(iii)………………………………………………………………………

(iv)………………………………………………………………………

9. Eleza mtizamo wako katika maandalizi na malipo ya fao la pensheni ya uzee kwa kutumia TEHAMA. Ni nini mapendekezo yako yawezayo kuboresha zaidi ufanisi wake.

(i) …………………………………………………………………………………

(ii) …..………………………………………………………………………….

(iii) …..………………………………………………………………...……………

(iv) …..………………………………………………………………...……………

Asante kwa ushirikiano

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Our Ref: PG201801009

Date: 3rd August, 2021

RAS
Regional Commissioners' Office,
P.O. Box 5095,
Tanga

RE: RESEARCH CLEARANCE

The Open University of Tanzania was established by an act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No. 55 in the official Gazette. The act was however replaced by the Open University of Tanzania charter of 2005, which became operational on 1st January 2007. In line with the later, the Open University mission is to generate and apply knowledge through research.

To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief background, the purpose of this letter is to introduce to you **Hamis Salula Mlolwa, Reg No: PG201801009** pursuing **Degree of Master of Business Administration.** We hereby grant this clearance to conduct a research titled: **"Effectiveness of Information and Communication Technology in Payment of Old Age Pension: Empirical Evidence from Tanga Secretariat-Tanga Regional, Tanzania"**, he will collect his data in Tanga Regional Secretariat office from 15th August to 16th October 2021.

In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O. Box 23409, Dar es Salaam. Tel: 022-2-2668820. We lastly thank you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours,

Prof. Magreth Bushesha
DIRECTOR OF POSTGRADUATE STUDIES

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

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Unapojibu taja:

Kumb. Na. DA.228/258/06/275

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Mkoa wa Tanga
81 Barabara ya Jamhuri
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21180 TANGA

24 Agosti, 2022

Makamu Mkuu wa Chuo
Chuo Kikuu Huria
S. L. P. 23409
TANGA

YAH:<u>RUHUSA YA KUFANYA UTAFITI BW. HAMIS SALUL MLOLWA</u>

Tafadhali husika na somo hapo juu.

Tunakiri kumpokea mtajwa hapo juu ambae alifanya Research "effectiveness of ICT in payment of Old Age Pension kuanzia July 2022.

Nashukuru kwa Ushirikiano wako.

Yasin Rashid
Kny: KATIBU TAWALA MKOA
TANGA

Nakala: Katibu Tawala Mkoa
                <u>TANGA</u> – aione kwenye jalada

Jiandae kuhesabiwa siku ya jumanne tarehe 23/8/2022