ASSESSMENT OF EFFECT ON ICT ADOPTION IN SMALL MEDIUM ENTERPRISES PERFORMANCE: A CASE OF TANGA DISTRICT

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A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION

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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 titled: "**Assessment of Effect on ICT Adoption in Small Medium Enterprises Performance: A Case of Tanga District"**, in partial fulfillment of the requirements for the Degree of Master of Business Management and Administration (MBA) of the Open University of Tanzania.

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(Supervisor)

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DECLARATION

I, **Hassan Shaitu**, 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.

……..……

Signature

……..

Date

DEDICATION

This work dedicated to my beloved wife Mwanate Mohamed my parent Mr & Mrs Adballah Shaitu for their financial and moral support in my academic carrier. They were and remain a source of my dream, success and joy. They always encourage me to achieve higher academic excellence. I thank you God to have them in my life.

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ABSTRACT

The study on impact of ICT adoption on SMEs performance was conducted in Tanga urban. The study intended to assess the factors affecting adoption of ICT, the effect of ICT adoption to SMEs performance, examine the status of ICT adoption in SMEs performance and the challenges facing adoption of ICT in performance of SMEs. The study was guided by Technology Acceptance Model (TAM) developed by Davis in 1989. The study employed quantitative research approach applying a descriptive research design. Total respondents were 100 who included SMEs owners and leaders who were selected through purposive and simple random sampling techniques. Data were gathered through Questionnaires and interviews. Statistical Package for Social Sciences (SPSS) 20th version tool coupled with descriptive analysis technique was used in data analysis. The study findings revealed that majority of the respondents use ICT software such as Tigo pesa, M-pesa, Airtel money and internet in ordering product, processing transaction and extending market share and profit. In deed the adoption of ICT in SMEs positively affect the performance of SMEs as it increase access to market, increase productivity and improve sales. On the other hand the study findings revealed that majority 61(61%) of the respondents use mobile phone in advertising their products and few use Internet. However, lack of ICT knowledge, financial constraints, unreliable power; lack of ICT training coupled with inadequate internet services are emerged challenges that hinder effective and the actual usage of ICT SMEs. The study recommended that the SMEs should install continued power supply and provide regular training of ICT use so as to increase the rate of ICT use among SMEs.

Keywords: Information and Communication Technology, Small and Medium-Sized Enterprises

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LIST OF ABBREVIATIONS AND ACRONYMS

B2B	Business to Business
B2C	Business to Consumer
GCC	Gulf Cooperation Council
ICT	Information Communication and Technology
IT	Information Technology
NGOs	Non-Governmental Organizations
OECD	Organization for Economic Cooperation and Development
SBE	Small Business Enterprise
SCM	Supply Chain Management
SMEs	Small and Medium Enterprises
TAM	Technological Acceptance Model
TV	Television
UNESCO	United Nations Educational, Scientific and Cultural Organization
URT	United Republic of Tanzania

CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction

The chapter presents background of the study, statement of the problem, objectives, research questions and significance of the study.

1.2 Background of the Study

The adoption of Information and Communication Technology (ICT) is recognized as crucial condition enabling SMEs to consider ICT as an important implement in their business to take competitive advantage from the global markets (Tarute and Gadautis, 2014). The development of technology and the mounting use of information communication technology (ICT) have an important role for the business organizations and operations (Gërguri-Rashiti et al., 2017). Recently, rapid development of ICT has made the Internet more reliable and affordable for many customers. Subsequently, it is now easier for the consumer to find information and vendors of a product or service, not only from the local market, but also from the global market (Ibid). ICT is rapidly changing global production, work, business methods, trade and consumption patterns between enterprises and consumers.

In the developed countries including Australia and United Kingdom more than half of all business and over half of all SMEs embark into the use of ICT based on the perceived positive impact like organization productivity (Kazi, 2009). However, adoption of information and communications technology in Sub Saharan countries is still lagging behind OECD countries as there is significant heterogeneity on adoption rates across the countries (Cirera et al, 2016). Kenya has the largest adoption rate of

computer, software, and Internet usage. The Democratic Republic of Congo and Tanzania experience lower adoption rates (Ibid). The low rate adoption of ICT in these countries linked to internal barriers include; owner manager characteristics, cost and return on investment, and external barriers like infrastructure, social, cultural, political, legal and regulatory (Gwangava et al, 2012). In Tanzania particular low rate of ICT adoption resulted from low knowledge needed in using ICT tools, low level of ICT base in SMEs sector, technical problems of some of ICT tools, high adoption costs and low emphasis of ICT usage (adoption) from both governmental and non-governmental institutions (Sanga, 2013).

In attempts the government of Tanzania has introduced reforms and strategies to provide support for diverse initiatives aimed at boosting the usage of these tools in various sectors. For example, the government has since 2003 approved and implemented an ICT Policy framework, which was then subjected to amendments in 2016. The policy stipulates that ICTs are a driving force for the realization of socio-economic growth in all sectors (URT, 2016). Among other things, the National ICT Policy 2016 intends to put in place measures and mechanisms to accelerate broadband penetration and access, strengthen ICT security and standardization, enhance management and efficient utilization of spectrum and other scarce ICT resources, promote business process outsourcing industry and enhance efficiency in e-service and business.

Despite the government's initiatives and reforms to promote the adoption and application of ICTs in all sectors, slow acceptance and implementation of these tools have been registered across the business firms. For example, the usage of software has

been found to be insignificant in all types of business firms regardless of their sizes (Mwantimwa, 2019). Divergently, the usage of Internet services to foster business performance has been recorded to be low in small size firms as compared to medium and large firms.

Regarding the usage of computers, firms of all sizes have been found to deploy these technologies to support their businesses (Cirera et al., 2016). To add BMG et al., (2015) posts that, a quarter of the SMEs in Tanzania reported that they did not possess basic digital skills as there was a positive link between digital skill level and turnover growth. SMEs have an attitudinal barrier towards developing an online presence coupled with lack of awareness about the benefits and opportunities available and a lack of understanding about online security threats (Gërguri-Rashiti et al., 2017). The study intended to assess effect of ICT adoption and performance of SMEs in Tanga urban district.

1.3 Statement of the Problem

The growth in technological advancement has had strong effect on SMEs in most parts of the world including China and Brazil (Manyinka, 2011and Higon, 2011) as cited in Isaac, (2014). This came by as a result of conscious Government efforts through the implementation of policies to make ICT available to SMEs. The government of Tanzania is equally making such efforts by implementing policies to make the ICT sector more advanced through digital broadcasting strategies and ICT security, safety and standardization (URT, 2016). The use of ICT in SMEs in Tanzania still remains a challenge to SMEs. However, in large companies like financial institutions such as banks, insurance companies and Government Parastatals

such as Tanzania Revenue Authority are harvesting greatly from investing in ICT. Studies conducted in Sub Saharan countries revealed that adoption rate of ICT in Tanzania SMEs still lagging behind compared to other East Africa countries like Kenya (Cerera et al, 2016).

Many SMEs however remain unconvinced of the value of ICT and only 43% of them are using a computer based medium such as email, and 57% of SMEs makes no annual investment in ICT (Bais, 2017). The assumption of this study is that innovation of technology may promote trading activity and would contribute to the growth of domestic product (GDP). Therefore, little or scarce studies about the effect of ICT adoption in performance of SMEs in Tanga urban is not clearly known. The study will assess the effect of adoption of ICT on SMEs performance and the factors that may affect the adoption rate of ICT in SMEs with the aim of encouraging the owners of the business firm to use the technology.

1.3 Objectives

The study was guided by general and specific objectives.

1.3.1 General Objective

The study assesses the impact of ICT adoption on SMEs performance in Tanga Urban district.

1.3.2 Specific Objectives

This particular study was guided by four research objectives

(i) To examine the factors affecting ICT adoption in SMES.

(ii) To assess the effect of ICT adoption on performance of SMEs.

(iii) To examine the status of ICT adoption in SME.

(iv) To find out the challenges facing ICT adoption in SMEs and performance.

1.4 Research Question

(i) What are the factors affecting ICT adoption and performance of SMEs?

(ii) What are the effects of ICT adoption in SMEs performance?

(iii) What is the status of ICT adoption and its performance?

(iv) What challenges facing ICT adoption in SMEs?

1.5 Significance of the Study

The study findings will be used in setting plan and strategies that could be used to integrate ICT knowledge into SMEs. The findings also will help policy makers to rectify and adjust the existing police so as to motivate SMEs owners to change their mind set and use ICT in conducting business. The findings will provide data base that will be used in future research. The findings of this study will potentially help SME managers/owners and the Tanzania government in the successful adoption and diffusion of ICT in SMEs located in Tanga Urban.

1.6 Scope of the Study

The study was confined on assessment of the impact of ICT adoption on SMEs performance in Tanga Urban district. Specifically the study examine the factors affecting ICT adoption in SMEs, assess the effect of ICT adoption on performance of SMEs, examine the status of ICT adoption in SMEs and establish challenges facing ICT adoption in SMEs and performance.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

A literature review is the clear and logical presentation of the relevant research work done before in the same area of investigation.

2.2 Definition of Key terms and Concepts

2.2.1 Information and Communication Technology

ICT refers to technologies that provide access to information through telecommunication. It is similar to Information Technology (IT) but focuses primarily on communication technologies. This includes the Internet, wireless networks, cell phones and other communication mediums **(**Ratheeswari, 2018). According to UNESCO "ICT is a scientific, technological and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters.

2.2.2 Small and Medium-Sized Enterprises (SMEs)

SMEs are business whose personnel numbers fall below certain limits. Actually the SME sector plays an extremely important part in modern economy, proving to be the most attractive and tremendous innovative system. The number of employees in SMEs vary from industry to industry (Al-Herwi; 2019).

Performance is achievement of the organization in relation with its set goals. It includes outcomes achieved, or accomplished through contribution of individuals or teams to the organization's strategic goals. The term performance encompasses

economic as well as behavioral outcomes. Brumbach views performance more comprehensively by encompassing both behaviors and result.

2.3 Review of Theories

The study was guided by theoretical models to determine the efficacy of information technology on organization performance. The stud adopt Technology Acceptance Model (Davis et al., 1989) as it expected to generate a number of variables that can be used in exemplifying the study variables.

The Technology Acceptance Model Emerging information technology cannot deliver improved organizational effectiveness if it is not accepted and used by potential users. Technology Acceptance Model (TAM) is one of the most successful measurements for computer usage effectively among practitioners and academics (Davis, 1989). TAM is consistent with (Rogers, 1983) theory on diffusion of innovation where technology adoption is a function of a variety of factors including; relative advantage and ease of use. 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,Venkatesh & Davis, 2000, Abdullah and Ward, 2017 and Toft et al, 2014).

In the course of this study therefore, perceived usefulness of the chosen information technology software exposed SMEs owners to new knowledge and experience related to the use of ICT in conducting trading activities. On the other hand perceived ease of use refers to the degree to which a person believes that the use of a system will 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 ownership of computer, knowledge and skills and power to run computer in organization were used in assessing the effect of ICT tools used in SMEs and their effect in raising organization productivity. The study revealed that with the use of ICT SMEs productivity and performance improved.

2.4 Empirical Review

2.4.1 Factors Affecting ICT Adoption in SMEs

Factors influencing emerging ICT adoption vary from one stage of the adoption process to another. The findings revealed that factors such as ease of use, managerial time, customer focus and adoption were the most visible at all the stages. This shows that these factors that influence adoption are not static at one particular stage rather they shape decisions to adopt at multiple stages (Sunday et al, 2018). Review of literature suggests that a number of studies have been carried out to study the adoption

of ICT on Small Business, They emphasize that ICT usage is vital in Small business enterprises in Tanzania, especially in their daily activities in the productivity, market accessibility and profitability which include increase of their business functionality, increased profit margin and enable them to advertise their product and services worldwide (Anthony et al, 2020).

Study by Adnan and Hoque (2019) on the factors that influence the adoption of ICTs among SMEs in rural areas of Saudi Arabia found that relative advantages, top management support, culture, regulatory environment, owner/manager innovativeness and ICT knowledge had a significant relationship with ICT adoption among SMEs in Saudi Arabia, whereas compatibility, complexity and a competitive environment had no significant relationship with ICT adoption.

Study by Okundaye et al (2019) on Impact of information and communication technology in Nigerian small-to medium-sized enterprises find out that ICT adoption in SMEs affected by a number of factors, including the type of technology, availability of financial resources, reliable infrastructure, and availability of ICT skilled resources, role of government, culture and attitude toward technology, perceived benefits and generational differences. Equally studies by (Elbeltagi et al., 2016; Napitupulu et al., 2018; Rahayu and Day, 2017) on the impact of ICT adoption in SMEs in developing countries, indicates that financial limitations, unreliable infrastructure, skills shortage, ICT knowledge gap, and insufficient government support emerged as factors that inhibit ICT adoption, with SMEs affected more than larger organizations.

2.4.2 Status of ICT adoption in SMEs

In many countries like Malaysia, Kenya, New Zealand, and Tanzania many SMEs use ICT tools such as Tally and Quick book in Accounting System (Ndekwa, 2015; Tijani and Mohammed, 2013). Also, SMEs use World Wide Web such as Web sites and e-mail to communicate faster and cheaper with both its suppliers and clients (Mwai 2016; Ndekwa, 2015). Mobile phone is another ICT tool that is mostly used in SMEs. Mobile phones offer a quick, efficient and affordable way of communication in SMEs. It includes m-banking, m-payments and mobile money transfer (Kiveu and Ofafa, 2013). M-internet is a fast growing technology that can be used for mobile commerce to facilitate online marketing, communication, networking, and market research (Kiveu and Ofafa, 2013).

Study by BMG et al (2015) on Digital Capabilities in SMEs: Evidence Review and Re-survey of 2014 Small Business Survey respondents Durhan University find out that, 98% of SMEs use the internet for business purposes, 85% do so at home, 82% at work, and 67% via smart phones. The study findings further indicated that 91% of SMEs have broadband. Thirty-nine per cent have superfast broadband, a proportion, which rises to 56% of medium-sized businesses (with 50-249 employees). SMEs use the internet for a variety of purposes.

Three quarters or more use it for finding out general information relating to the business, customer emails, online banking, paying bills, ordering supplies and paying taxes online. Study by Msuya et al (2018) entitled Assessment of ICT Adoption and Use in Tanzania SMES show that: (i) By year 2014, adoption of ICTs in SMEs had grown from almost nonexistence in year 2004 to 80.1% computer, and over 56.6% for

Internet technologies; (ii) More than 53% of the SMEs were using ICTs as a strategic communication and marketing tool; (iii) 47% of the SMEs were competitive due to use of ICTs. Given these results, the government and key stakeholders can formulate more effective policies and incentives aimed at developing the SME sector. Study by Dr.Bitrina, (2012), entitled Impact of ICTs Adoption and Application on Innovation in Selected Manufacturing Firms in Tanzania found that the entire respondent group (100%) on this study indicated use mobile phone. The usage of computers is also high, covering 75% of the responses. Only the usage IP phones, teller machines, fax, TV and radio calls appeared have coverage of less than 50% of the respondents. Apart from radio and TV, on average the usage of ICTs by surveyed industries is relatively higher than the population averages.

2.4.3 Effect of ICT Adoption on SMEs Performance

Information and Communication Technology influences flexibility of the organizations and companies, use of ICT increase the tendency of companies to perform better in market due to easier differentiation of products and services. Ollo-Lopez and Aramendia-Muneta, (2012) state that ICT adoption seems to have a positive effect on productivity, directly and indirectly depending on the sectors and have great potential to support a sustainable development. Furthermore, the use of e-mail, e-commerce, and social media network has significantly cut down on the physical transportation involved in sending mail, banking, advertising and buying goods (Manochehri, Al-Esmail & Ashrafi, 2012).

Alshubiri, et al (2019), did a study on the impact of ICT on financial development: Empirical evidence from the Gulf Cooperation Council countries. This study aims to

investigate the impact of information and communication technology (ICT) on the financial development index of six Gulf Cooperation Council (GCC) countries from the period 2000 to 2016. The results are reported in terms of two main ICT variables: fixed broadband and Internet users as a proxy of ICT and domestic credit to private sector as a percentage of gross domestic product (GDP) and broad money supply/GDP as two proxies of the financial development index.

This methodology used fixed effects (FEs) estimations, and the results show that an increase in fixed broadband has a statistically significant and positive effect on both proxies of financial development. In terms of domestic credit as a percentage of the GDP proxy, the positive effects of ICT (broadband) are greater than the one from Internet users. A 1% increase in fixed broadband leads to approximately 2% increase in financial development, but the Internet user variable resulted in about a 0.09% increase. The study recommends that GCC countries should take action in building an effective joint information system to help construct efficient economic sectors.

2.4.4 Challenges Facing Adoption of ICT in Performance of SMEs

Many SMEs in developing countries like Botswana, South Africa, Kenya, Uganda, Nigeria and Rwanda are stumbling with number of barriers that make it difficult for SMEs to adopt ICT. These include: Lack of knowledge about the strategic use and potential benefits of ICT, awareness, willingness, readiness and knowledge (Morteza and Norzima, 2012; Ongori and Migiro, 2010). Lack of necessary IT skills-base, lack of ICT infrastructure, management support (Hassan and Ogundipe, 2017); Perceived high setup cost and ever-changing ICT environment (Ogundipe, 2017). This study

reports the use of information technologies among small and medium-sized enterprises (SMEs) in a developing economy. A survey of 161 companies was undertaken in Lagos, Nigeria. It found that a variety of information technologies had been employed and that they had delivered considerable operational improvements. However, a lack of training and awareness is inhibiting their further use and development.

Furthermore, a lack of infrastructure to supply consistent power and Internet services also inhibits their effectiveness. The issue of corruption was also identified as a considerable problem that affects user confidence. While this is a perennial problem that surrounds the use of information technologies in many countries, it appears markedly important in this economy. Consequently, it threatens to be a significant inhibitor to the uptake of technologies.

Study by Wahid (2017) on ICT adoption in SMEs in Tanzania: An Evaluation indicates that ICT adoption among SMEs face the number of challenges including lack of management support and commitment influenced, supportive infrastructure, limited imported machines and inadequate support from government, challenging the quality of works usage, capital, in-built attitude, risky technology and low skilled labor and awareness, willingness, readiness, knowledge and IT skills.

Study by Mwantimwa, (2019), on ICT usage to enhance firms' business processes in Tanzania shows that the nature of firm ownership does not guarantee maximum exploitation of ICTs to enhance business processes, hence the need to avoid underestimating other determinants such as knowledge investments, regulatory

frameworks, and ICT acceptance and motivation to use them. Thus, in order to make ICTs' usage in business processes meaningful, a firms need to build capacity for their human resources so as to enable them to optimally utilize ICTs available to facilitate business activities. The government has to create an ICT friendly environment by modifying the current restrictive regulatory frameworks. The findings further indicate that both business and the government should work towards improving infrastructure to support the usage of ICTs in business activities.

2.5 Research Gap

It is apparently observed that the adoption and use of ICTs in SMEs is increasingly becoming inevitable (Kolawole, 2017). However, lack of skilled in both technical and business areas makes the IT strategy approach gaining low application in Small Enterprises (Anthony et al, 2020). From studies done in Tanzania and Africa, it becomes evident that most of the studies have tended to focus on ICT usage, ICT adoption in SMEs, the effect of ICT adoption in Manufacturing firms (Mwantimwa, 2019; Wahid, 2017; Dr.Bitrina, 2012 and Msuya, 2016) respectively Apparently, there is limited comprehensive study that has been specifically done regarding the effect of ICT adoption in SMEs in Tanga, Tanzania. This study therefore will fill the emerging research gap by assessing the impact of ICT adoption in SMEs performance in Tanga Urban.

2.6 Conceptual Framework

Conceptual framework is the researcher's view of the network of association of the several factors that have been identified as important to the problem (Dionco-

Adetayo, 2011). It also defined as a set of coherent ideas or concepts organized in a manner that makes them easy to communicate to others (Schwartz, 2016).

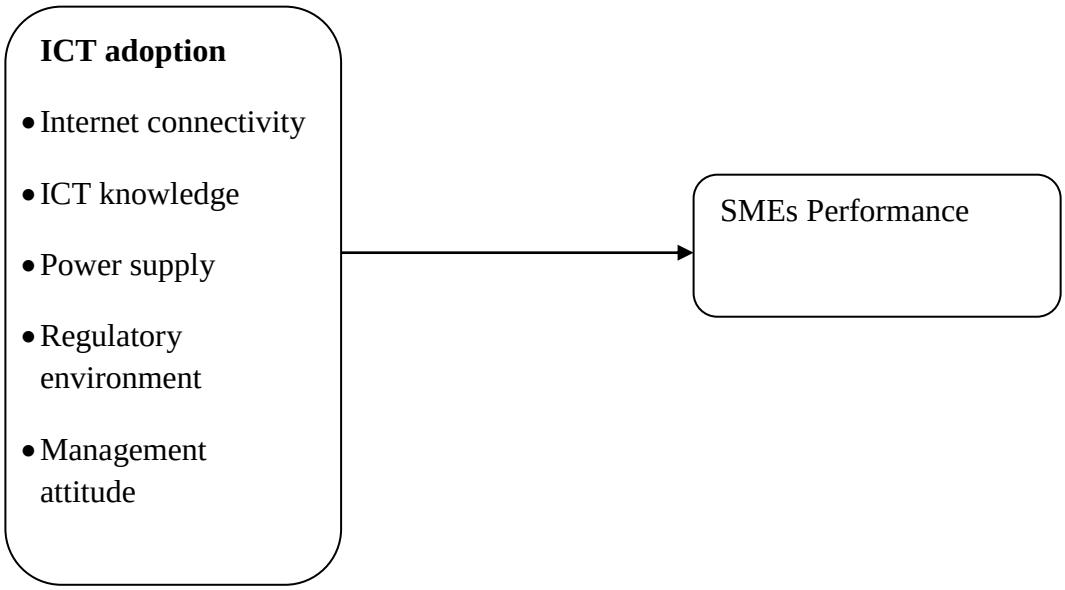

Figure 2.1: Conceptual Framework

Author, 2021

The Figure 2.1 describes the linkage between ICT adoption and SMEs performance. Independent variable includes management support and attitude, ICT knowledge, Power supply, regulatory environment, culture and attitude impacted into new technology. These factors linked to the positive desirable change in SMEs performance and firm productivity. While dependent variable is SMEs performance. These variables were used in assessing its effect on ICT adoption in SMEs performance as the study anticipate that if these factors are well observed the SMEs is likely to increase service innovation.

2.7 Theoretical Framework

This study will extends deeper understanding of technology adoption and its impact on performance of SMEs in global perspectives. While most studies examine

technological adoption of technology and its effects in SMEs and large firms including manufacturing firms. This study makes the use TAM propounded by Devis (1989). The TAM is an established theoretical model used to explain and predict user behavior toward ICT, where perceived usefulness is one of two causal antecedents of adoption and use of new technology (Abdullah and Ward, 2016; Rahayu and Day, 2017). The model uses two main factors as an indicator for predicting the utilization of technology, namely: perceived usefulness and ease of use (Davis, 1989). Davis model was important in this study as it was used in examining the factors affecting adoption of ICT in SMEs performance as it is the expectation of the researcher that technology use influenced by the two premises of perceived easy and usefulness as well as SMEs attitude impacted on the said technology.

2.8 Summary

Thus, the study on the assessment of ICT Adoption in Small Firm in Tanzania has shown that the uses of ICT on small business is important for both leaders in a certain business and the customers as a whole. The extent in which ICT is used in small business it allows to overcome the difference in production from one small business to another. Therefore the study on the assessment of ICT adoption in small business is very important not only from the theoretical point of view, but also for purely practical purposes – from the point of view of the world driving force now days is ICT and the business picture of the world and Tanzania at all lie on advertisement through social media like facebook and WhatsApp. The problem of other small business with absence of ICT resource create problem not only in the study but also to the customer fail to satisfy their needs.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Methodology is the systematic, theoretical analysis of the procedures applied to a field of study (Kothari, 2004). It involves procedures of describing, explaining and predicting phenomena so as to solve a problem; it is the 'hows'; the process or techniques of conducting research. This chapter explains research design, research approach, and description of the study area, sample and sampling techniques, data collection methods and data analysis.

3.2 Research design

A research design is a plan showing the approach and strategy of investigation aimed at obtaining relevant data, which fulfill the research objectives and the research questions (Cohen and Marnion, 2000). A design structures the research, showing how all of the major parts of the research project work together to try to address the central research question (Kombo & Tromp, 2006). In this the study descriptive research design was successful used.

According to Kothari (2004), descriptive study designed to obtain relevant and precise information concerning the current status of a problem or phenomenon and whenever possible to draw valid general conclusions from the facts discovered. Although a descriptive design tends to be quantitative in nature, it also contains qualitative aspects as it has ability of obtaining more information on characteristics within a particular

research problem by providing a picture of practices as they naturally happen (Burns & Grove, 2011; Sreejesh & Anusree, 2014). The choice of the design based on the research objectives and the fact that data and information was obtained using the method without changing the environment (Deyrup, 2013).

3.3 Research Approach

This study was guided by both quantitative and qualitative research approach. According to Jacobs and Sorensen (2010), qualitative research approach considers collecting information from the participants in order to understand the phenomenon under the study from the perspectives of those involved in the research. This study used this research approach in order to have detailed information related to the factors affecting adoption of ICT in SMEs and the challenges facing adoption of ICT. On the other hand, quantitative research approach has been used in collecting data on the status of ICT adoption and performance of SMEs. According to Creswell (2012), quantitative research identifies a research problem based on trends in the field or on the need to explain why something occurs.

3.4 Study Area

The study was conducted in four marketing center of Mgandini, Ngamiani, Uzunguni and Mkwabi supermarket in Tanga Urban district. The four market centers were selected purposely as it allows the researcher to obtain respondents within material time.

3.5 Target Population

Population defined as any group of institutions, people or objects that have at least one characteristic in common (Ogula, 2010). For the present study, the population from

which the researcher was draw conclusions consists of all SMEs owners from the study area.

3.6 Sampling Design and Procedures

3.6.1 Sampling Design

Sampling designs defined as representing the framework within which the sampling occurs, comprising the number and types of sampling schemes and the sample size (Onwuegbuzie and Collins, 2007). It is generally prepared with assistance of 'weighting' factors. These factors represented either by the inverse of the selection probabilities or by a set of numbers proportional to them, are employed in order to prevent inequalities in selection probabilities from causing the introduction of bias into sample estimates of population parameters (Ross, 2005). In this study simple random sampling and purposive sampling was used in determining sample size.

3.6.1.1 Purposive sampling

Purposive sampling is a non-probability technique used widely in qualitative research for the identification and selection of information-rich cases for the most effective use of limited resources (Patton, 2002). This involves identifying and selecting individuals or groups of individuals that are especially knowledgeable about or experienced with a phenomenon of interest (Creswell and Clark, 2011). Therefore, Purposive sampling technique was used in obtaining the SMEs leaders or owners because they are knowledgeable enough about the effect of adoption of ICT on performance.

3.6.1.2 Simple Random Sampling

Simple random sampling is a way of selecting subjects in which every element in the population has an equal chance of being selected (Sekaran, 2003). The design has

been chosen because it provides each subject equal probability of being selected (Kothari, 2004). The respondents from the study area were selected randomly. Basing on the simple random sampling every SMEs owner was randomly selected. Then the number of SMEs selected by creating serial number of owners beginning with one and continued to the total number of SMEs in each market centre. The procedure was used to obtain a total sample of 100 SMEs from four market centers that was selected for this study based on limited time and financial constraints.

3.7 Variables and Measurement Procedures

Firstly, a pilot study was initiated in order to test the practicality of the research procedure and research measurement tools, notably feasibility of questionnaire for SMEs. The pilot study was implemented among 25 SMEs in the period of $28^{th}$of March, 20 – 8^{th} of April, 2021 in the Tanga city as this country was considered similar to Kenyan in terms of ICT use for small business companies.

3.8 Data Collection Methods

Data from this study were obtained from both primary and secondary sources. Secondary data were obtained from the articles in journals (Published documents from the SMEs managers or owners, and internets). Through documentary review, the number of SMEs owners adopting ICT was documented. Primary data were collected through questionnaires and interviews.

The questionnaire was administered to SMEs owners and interviews were involves SMEs managers/leaders and ICT technicians in identifying the number of SMEs owners connected to Internet use in their daily basis routine. The questionnaire

survey shall be used to collect quantitative data while interview was used for collection of qualitative data.

3.9 Validity and Reliability of Research Instrument

Validity is the subjective judgment that the instrument measures what it intends to measure in terms of relevance (Babbie, 2010). Validity of this study has been protected through the use of questionnaire survey in data collection. When developing the instruments uncertainties were omitted by using appropriate words and concepts so as to improve clarity and general suitability of the instrument.

3.9.1 Reliability

Reliability refers to the degree to which an assessment tool produces stable, consistent results (Phelan &Wren, 2006). The reliability of questionnaire instrument maintained through the use pre-test during pilot study and through purposive and simple random techniques and survey questionnaire survey. The instrument was prepared in English and translated into Kiswahili to enable everyone chosen from each department to participate in data gathering. Therefore, adjustment of research instrument made whereby some questionnaire item omitted and other modified to suit research purpose.

3.10 Data Processing and Analysis

During the analysis process, quantitative and qualitative data were organized categorically and chronologically, reviewed repeatedly and continually coded and analyzed. Quantitative data were analyzed using Statistical Products for Service Solutions (SPSS, 22nd Version) to generate descriptive and inferential statistical results. Descriptive statistics such as frequency and percentage was successful

employed different variables while inferential statistics was used to analyze the relationship of the variables.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents, analyzes and discusses the findings of the study on the effect on adoption of ICT in SMEs performance. The chapter is organized into five sections, namely the demographic characteristics of the respondents, the factors affecting adoption of ICT in SMEs, effect of ICT adoption on performance of SMEs, the status of ICT adoption in SMEs performance as well as challenges facing ICT adoption on SMEs performance. The discussion was made on the reflection of the empirical literature review presented in chapter two.

4.2 Demographic characteristics of the Respondents

A number of demographic characteristics of SMEs owners, which had contributions to this study, were critically looked upon and their findings presented. Respondents' age, sex and educational background were among the characteristics involved. The study findings were obtained from one hundred (100) SMEs owners in Tanga Tanzania. Data were collected through the use of questionnaires.

4.2.1 Age of the Respondents

The respondents were requested to indicate their age categories and their responses were presented in the Table 4.1. The findings from Table 4.1 indicated that many 41 (41%) of the respondents were in the age category of 20-30, followed by 15-20, which

had 20 (20%) of the respondents. Third group fall at the age category of 50-60, which constitutes 16 (16%) of the respondents and the last fall at the age category of 40-50, which involves 12 (12%) of the respondents. The findings implies that many of sampled SMEs owners were in between the age of 15 and 30 which suggest that they are the economic active group and are likely to engage into trading activities

Table 4.1: Age of the Respondents

Age group	**Frequency**	**Percentage**
15-20	20	20
20-30	41	41
30-40	11	11
40-50	12	12
50-60	16	16
Total	**100**	**100**

Source: Field data, 2021

4.2.2 Sex of the Respondents

The research explores more about the respondents' sex. In this aspect the respondents were asked to indicate their sex. The findings indicated that many 55 (55%) of the respondents were male and 45 (45%) were female (Table 4.2). The researcher was not intended to involve more male but it happens by chance.

Table 4.2: Sex of Respondents

Variable	**Frequency**	**Percentage**
Male	55	55
Female	45	45
Total	**100**	**100**

Source: Field data, 2021

4.2.3 Respondents Educational Background

The study gathered information pertaining to educational background of the respondents. Therefore, respondents were requested to indicate their level of education.

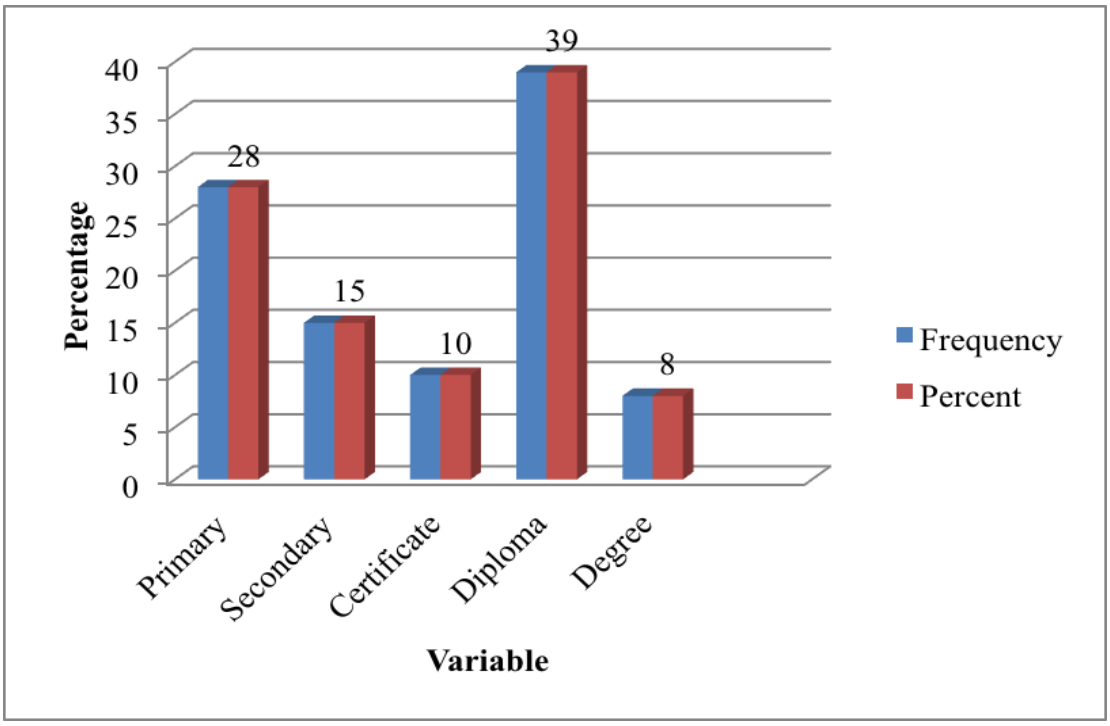

Figure 4.1: Level of Education

Source: Field data, 2021

The findings from Figure 4.1 present information about the respondents level of education. The result showed that many 39 (39%) of the respondents had diploma, 28 (28%) of the respondents had primary level of education. 15(15%) of the respondents had secondary education, 10(10%) had certificate and few 8(8%) were degree holder. It signifies that majority 67(67%) of the respondents had diploma and primary level of education. The contributing factors could be the nature of business carried out by the respondents that do not demand higher level of education.

4.3 Factors Affecting Adoption of ICT in SMEs

In this objective respondent responses categorized into four levels of ever use ICT, type of ICT used in business among the SMEs, regularity use of the chosen ICT and the factors that affect the use of ICT.

4.3.1 The use of ICT in Business

The researcher was interested to know if the respondents use ICT in their business. In response to this the respondents asked if they have ever use ICT in their business or not. The responses categorized into two categories of yes or no.

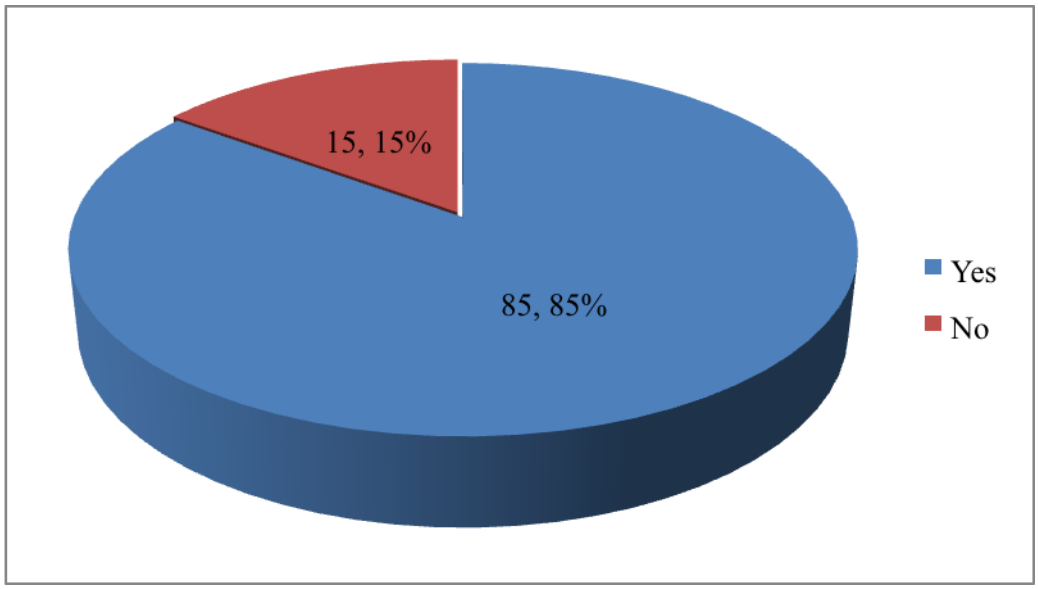

Figure 4.2: Ever use ICT

Source: Field data, 2021

The findings from Figure 4.2 indicated that majority 85 (85%) of the respondents have been using ICT in their business though 15 (15%) of the respondents had never use it. The implication here is that most of these SMEs owners do use the said technology to improve communication with customers and financial transaction through the use of Airtel money or Tigo pesa.

4.3.2 Type of ICT used in Business

The researcher further asked the respondents to identify type of ICT used in their business. The findings indicated that 34 (34%) of the respondents use Tigo Pesa, followed by 20 (20%) use Airtel money. The findings further revealed that 18 (18%) of the respondents use M-Pesa, 15 (15%) use internet and 13 (13%) use computer to smooth the progress of their business (Figure 4.3).

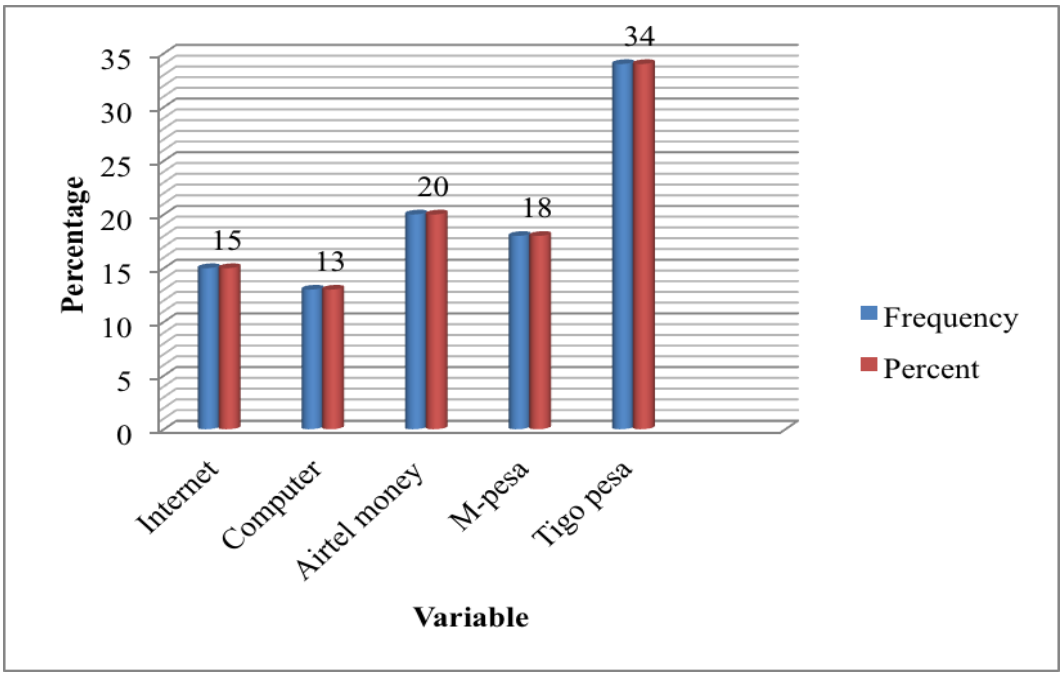

Figure 4.3: Type of ICT used in SMEs
Source: Field data, 2021

4.3.3 The Regularity use of ICT in SMEs

In this respect the respondents were also requested to indicate the rate in which ICT used in their business. In response to this the respondents were required to say how often they do use the chosen ICT type and their responses categorized into three levels of rarely, frequently and most frequently.

Table 4.3: Frequency/how often ICT used in SMEs

Variable	Frequency	Percentage

Rarely	27	27
Frequently	35	35
Most frequently	38	38
Total	**100**	**100**

Source: Field data, 2021

The findings from Table 4.3 indicated that many 38 (38%) of the respondents use the chosen ICT most frequently, 35 (35%) use frequently and 27 (27%) of the respondents use rarely. This implies ICT is commonly used to improve the progress of business as most of the respondents use the Tigo pesa and M-pesa to make financial transaction.

4.3.4 Factors affect Adoption of ICT in SMEs

In examining the factors that influence the adoption of ICT in SMEs, the respondents were asked to identify what is applied in their firms from a list of responses given.

Table 4.4: Factors Affect Adoption of ICT in SMEs

Variable	Frequency	Percentage
Improve work flow and business processes	42	29
Improvement of communication with customers	53	37
Simplify distribution and supplier interaction	30	21
Improve productivity	19	13
Total	**144**	**100**

Source: Field data, 2021

The findings from Table 4.4 shows that many 53 (37%) of the respondents argued that adoption of ICT influenced by the improvement of communication with customer, 42 (29%) argued on improve work flow and business processes, 30 (21%) reported that adoption of ICT simplify distribution and supplier interaction. Few 19 (13%) of the respondents commented that ICT in SMEs improve productivity.

4.4 Effect of ICT Adoption on Performance of SMEs

In examining cumulative effect of ICT adoption on performance of SMEs, the respondents were asked whether the adoption of ICT had any effect on SMEs performance or not. Their responses categorized into yes or no.

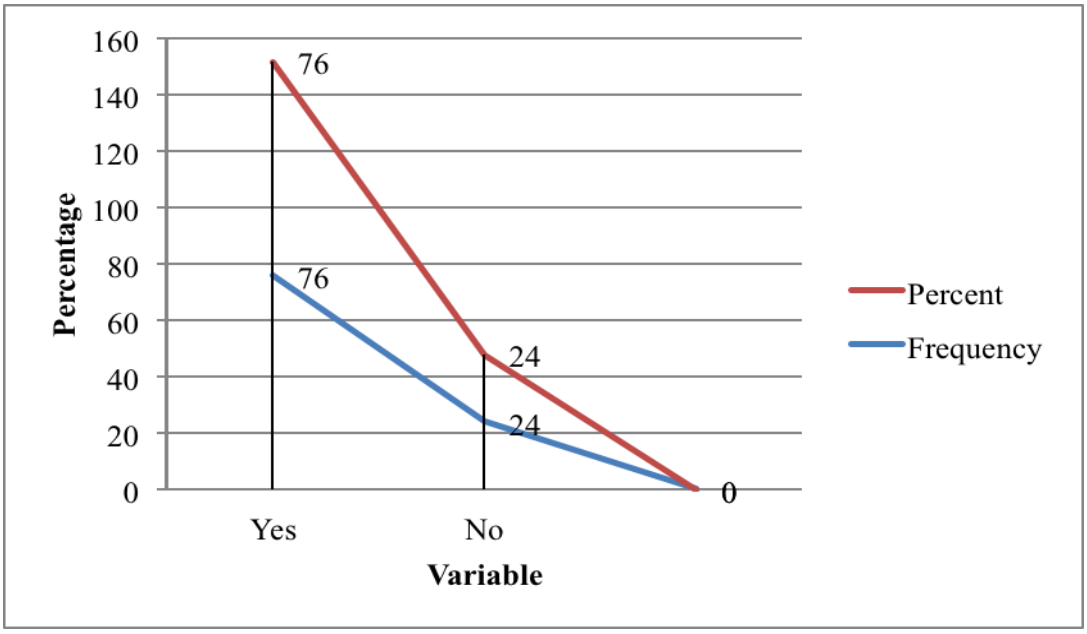

Figure 4.4: Respondents Responses on the Effect of ICT Adoption

Source: Field data, 2021

The results from Figure 4.4 shows that majority 76 (76%) of the respondents commented that ICT had positive impact on SMEs performance. However, few 24 (24%) of the respondents commented that ICT had no any effect on SMEs performance. The effect of ICT adoption in SMEs performance include: Increase market share and profit, increased in sales, online marketing increase productivity, customer satisfaction, enhance access to market, promote flexibility of SMEs and useful in advertising and buying goods as rated in five likert scale.

Table 4.5: Adoption of ICT helps to Increase Market Share and Profit

Variable	Frequency	Percentage

Agree	58	58
Strongly agree	22	22
Disagree	15	15
Strongly disagree	2	2
Not sure	3	3
Total	**100**	**100**

Source: Field data, 2021

Table 4.5 present findings on the effect of ICT adoption on SMEs performance. The results revealed that many 58 (58%) of the respondent agreed that adoption of ICT help to increase market share and profit, 22 (22%) strongly agreed, 15 (15%) of the respondents disagree, 2 (2%) strongly disagree with the assertion, 3 (3%) were neither agree nor disagree. The findings signifies that majority 80 (80%) of the respondents agreed that with the use of ICT contribute positively to the performance of SMEs.

Table 4.6: ICT Adoption Help Increase Sale

Variable	Frequency	Percentage
Agree	43	43
Strongly agree	31	31
Disagree	15	15
Strongly disagree	9	9
Not sure	2	2
Total	**100**	**100**

Source: Field data, 2021

The findings from Table 4.6 indicated that many 43 (43%) of the respondents agreed that the use of ICT increased in sales, 31 (31%) strongly agreed, 15 (15%) of the respondents disagree with the assertion, 9 (9%) of the respondents strongly disagreed

and few 2 (2%) were not sure. It is clearly noticed that majority 74 (74%) of the respondents were in agreement that with the use of ICT in their business contributed positively to an increase in sale as they are able to advertise their product through internet and use ICT tools like mobile phone in strengthening communication with their customers.

Table 4.7: ICT Adoption help to Increase Online Marketing Products

Variable	Frequency	Percentage
Agree	27	27
Strongly agree	40	40
Disagree	18	18
Strongly disagree	12	12
Not sure	3	3
Total	**100**	**100**

Source: Field data, 2021

The findings from Table 4.7 indicates most 40 (40%) of the respondents strongly agreed that with the use of ICT contributed to an increase online marketing products. 27 (27%) agreed with the statement, 18 (18%) disagreed, 12 (12%) of the respondents strongly disagree and few 3 (3%) were neither agree nor disagree.

Table 4.8: ICT help to Increase Customer Satisfaction

Variable	Frequency	Percentage
Agree	21	21
Strongly agree	30	30
Disagree	25	25
Strongly disagree	15	15
Not sure	9	9
Total	**100**	**100**

Source: Field data, 2021

The result further showed that 30 (30%) of the respondents were strongly in agreement that ICT help to increase customer satisfaction, 25 (25%) disagreed, 21 (21%) of the respondents agreed. 15 (15%) of the respondents strongly disagreed with the statement while 9 (9%) were neither agree nor disagree (Table 4.8). It is clearly noticed that many 51 (51%) of the respondents strongly agreed that the use of ICT had great impact business as it contributed positively to the improvement of SMEs firms productivity.

Table 4.9: ICT Enhance Access to Markets

Variable	Frequency	Percentage
Agree	27	27
Strongly agree	20	20
Disagree	15	15
Strongly disagree	22	22
Not sure	16	16
Total	**100**	**100**

Source: Field data, 2021

The study findings showed that 27 (27%) agreed with the statement that ICT enhance access to markets in making customer place order, 22(22%) strongly disagreed, 20 (20%) of the respondents strongly agreed with the statement, 16 (16%) were neither agree nor disagree, 15(15%) were in disagreement with the assertion (Table 4.9).

Table 4.10: ICT help to Promote Flexibility of SMEs

Variable	Frequency	Percentage

Agree	20	20
Strongly agree	13	13
Disagree	27	27
Strongly disagree	32	32
Not sure	8	8
Total	**100**	**100**

Source: Field data, 2021

The findings from Table 4.10 indicated that 32 (32%) of the respondents strongly disagree that ICT adoption cannot promote flexibility of SMEs, 27 (27%) disagree with the assertion, 20 (20%) agreed, 13 (13%) of the respondents strongly agree. Few 8 (8%) were neither agree nor disagree. It signifies that many 57 (57%) of the respondents strongly disagreed with the assertion. This is attributed by training and weak management support.

Table 4.11: ICT useful in Advertising and Buying Goods

Variable	Frequency	Percentage
Agree	25	25
Strongly agree	43	43
Disagree	14	14
Strongly disagree	7	7
Not sure	11	11
Total	**100**	**100**

Source: Field data, 2021

The findings from Table 4.11 indicates that 43 (43%) of the respondents strongly agreed that ICT is useful in advertising and buying goods, 25 (25%) agreed with the assertion, 14 (14%) disagree, 11 (11%) were not sure while 7 (7%) were strongly disagree. This implies majority 68 (68%) of the respondents acknowledge that with

the use of ICT they are able to advertise their product and buying goods through the use of internet and mobile phones.

4.5 Status of ICT adoption in SMEs performance

The researcher was also interested to examine the status of ICT use in performance of SMEs. In attesting the status of ICT use the responses were presented in four levels of: types of ICT tools mostly used in performance of SMEs, level in which SMEs satisfied with the chosen ICT tool, ways in which the chosen tool used and the perceived usefulness.

4.5.1 Types of ICT Tools used in Performance of SMEs

The respondents were asked to indicate the types of ICT tools mostly used in performance of their daily basis activities. The responses presented into three categories of: mobile phone, internet and computer.

Table 4.12: Types of ICT Tools Mostly used in Performance of SMEs

Variable	Frequency	Percentage
Mobile phone	61	61
Internet	16	16
Computer	23	23
Total	**100**	**100**

Source: Field data, 2021

Table 4.12 presents the findings about the types of ICT tools used mostly in performance of SMEs. The results shows that majority 61 (61%) of the respondents use mobile phone, 23 (23%) use computer and few 16 (16%) of the respondents use internet to ran their business. The implication here is that the chosen ICT types depend on the nature of business and customers.

4.5.2 Level in which SMEs Owners Satisfied with the use of the chosen ICT Tools

The respondents were requested to indicate the level of satisfaction with the use of ICT tools chosen to run their business. The responses presented in three levels as shown in the Table 4.13.

Table 4.13: Level of Satisfaction with the use of the Chosen ICT Tool

Variable	Frequency	Percentage
Highly satisfied	42	42
Satisfied	44	44
Undecided	14	14
Total	**100**	**100**

Source: Field data, 2021

Table 4.13 presents the findings about the level of satisfaction with the use of ICT tool chosen in performance of SMEs. The results showed that many 44 (44%) of the respondents were satisfied with the chosen ICT tools, 42 (42%) were highly satisfied. However, few 14 (14%) of the respondents were undecided. This attributed by the accessibility and perceived usefulness of the chosen ICT tool like mobile phone, computer and internet.

4.5.3 Ways in which Mobile Phone used in Performance of SMEs

The researcher also investigated the ways in which mobile phone used in performance of SMEs. The respondents were asked to state clearly the way in which mobile phone used. The study findings showed that many 49 (39.8%) of the respondents use mobile phone in calling, 45(36.6%) for ordering products and 29(23.6%) use mobile phone for advertising product (Table 4.14). This signifies that almost all respondents use

mobile phone for the sake of improving productivity and increase efficiency and extending market of their product.

Table 4.14: Ways in which Mobile Phone used in SMEs Performance

Variable	Frequency	Percentage
Calling	49	39.8
Ordering product	45	36.6
Advertising	29	23.6
Total	**123**	**100**

Source: Field data, 2021

4.5.4 Perceived Usefulness of Internet in SMEs Performance

In examining the status of ICT use in SMEs performance the researcher was also interested to know the way in which respondents perceive the use of internet in facilitating business.

Table 4.15: Perceived Usefulness of Internet in SMEs Performance

Variable	Frequency	Percentage
Facilitate online marketing	16	14
Facilitate marketing research	36	31
Communication purpose	40	35
Extending networking in customer services	23	20
Total	**115**	**100**

Source: Field data, 2021

The study findings revealed various usefulness of internet in performance of SMEs. 40 (35%) of the respondents use internet for communication purpose, 36 (31%) argued on facilitation of marketing research, 23(20%) believe on extending networking in customer services and 16 (14%) reported on online marketing (Table 4.15).

4.6 Challenges Facing ICT Adoption on SMEs Performance

The last research question focused on the challenges facing ICT adoption on performance of SMEs. The respondents were asked to state challenges they face in using ICT on performance of SMEs. The responses presented in two levels of, challenges facing ICT adoption and extent to which regulatory environment affect adoption of ICT.

Table 4.16: Challenges Facing ICT Adoption on Performance of SMEs

Variable	Frequency	Percentage
Financial constraints	32	22
ICT knowledge	33	23
Unreliable power supply	31	21
Inadequate internet services	16	11
Lack of training	20	14
Lack of management support	13	9
Total	**145**	**100**

Source: Field data, 2021

The findings from the Table 4.16 showed that 33 (23%) of the respondents argued on ICT knowledge, 32 (22%) reported that financial constraints as a big challenge, 31 (21%) reported unreliable power supply, 20 (14%) of the respondents reported that lack of training hinder the use of ICT, 16 (11%) inadequate internet services and 13 (9%) lack of management support.

4.6.1 Extent to which Regulatory Environment affect Adoption of ICT in SMEs

In determining the challenges facing ICT adoption the respondents was also asked to indicate the extent to which regulatory environment affect ICT adoption in performance of SMEs. The findings showed that many 53 (53%) of the respondents reported that regulatory environment affect the adoption of ICT in SMEs moderately, 29 (29%) argued that the regulatory environment affect adoption of ICT in less extent, few 18 (18%) argued on great extent (Table 4.16). It signifies that SMEs owners business environment discourage them from the use of ICT to facilitate their trading activities.

Table 4.17: Extent to which Regulatory Environment affect Adoption of ICT in SMEs

Variable	**Frequency**	**Percentage**
Great extent	18	18
Moderate	53	53
Less extent	29	29
Total	**100**	**100**

Source: Field data, 2021

4.7 Discussion of the Findings

The discussion of the findings based on the application of the ideas from the relevant empirical literature review and theoretical review as discussed in chapter two. The discussion is based on research objectives as presented and analyzed from the previous chapter. The study findings revealed that majority of the respondents had been using ICT to run their business. The common type of ICT used was Tigo peas as many respondents had access on it. On the other hand few respondents proclaimed that they also use internet to extend market and advertise their products. It has been

observed that SMEs owners use these ICT tools most frequently as all financial transaction made through Tigo Pesa.

The contributing factors toward the use of ICT include improvement of communication with the customer, work flow and business processes, simplify distribution and supplier as well as improve productivity. These factors linked to the advantages of ICT adopted in SMEs, which ranges from management support to personal attitude on the use of Internet, computer and mobile phone to smoothen trading activities. Anthony et al, (2020) argued that, ICT usage is vital in Small business enterprises in Tanzania, especially in their daily activities in the productivity, market accessibility and profitability which include increase of their business functionality, increased profit margin and enable them to advertise their product and services worldwide.

Contrary to this study by Adnan and Hoque (2019) on the factors that influence the adoption of ICTs among SMEs in rural areas of Saudi Arabia found that relative advantages, top management support, culture, regulatory environment, owner/manager innovativeness and ICT knowledge had a significant relationship with ICT adoption among SMEs in Saudi Arabia.

The study findings indicate that ICT adoption had numerous effects on performance of SMEs. Among the effect raised were: Increase of market share and profit, increase sales, increase online marketing product, and advertising and buying goods. It is clearly revealed that many respondents were in agreement that adoption of ICT

contributes to an increase of market share and profit by opening the business to many customers and suppliers. This is attributed by the use of mobile phone and internet in communication and ordering products.

Similarly study by Nyangarika and Zacharia (2020) on Role of ICT usage in marketing Accessibility of SMEs in Tanzania revealed that, 62.5% of the respondents agreed that ICT widens marketing coverage. However, the interview discovered that only 5% uses ICT in their marketing campaign. Thus, despite agreeing only 5% of the respondents had in some respects used ICT in the marketing campaign.

Furthermore, the study findings revealed that majority of the respondents ICT help to increase sales. This is linked to the wide use Tigo pesa, M-pesa and Airtel money to reduce transaction costs and increasing the speed and reliability of transaction. On the other hand few respondents strongly disagreed that ICT use does not contribute to an increase of sales. This is due to the fact that most of them were reluctant to accept technology in their business.

Majority of the respondents agreed that adoption of ICT contributed to an increase in customer satisfaction. The finding is in line with Masenge (2014) who argued that to a great extent use of information and communication technology has led to better quality of goods and services of business by customer satisfaction as expressed by a mean score of 3.734. To add majority of the respondents reported that adoption of ICT enhance access to market. This is attributed to the wide use of mobile phone and internet to advertise their product. In doing so SMEs owners are able to improve their business productivity more efficient. Alberto and Fernando (2007) argued that the use

of ICT can improve business competitiveness with internet providing numerous opportunities for SMEs to compete equally with large corporations.

With respect to the status of ICT adoption the findings indicated that mobile phone is highly used by SMEs owners to run their business followed by computer, but internet represents low percentage in use. This is linked to accessibility, knowledge and skills of operating the devices and affordability of the said technology as most of the respondents had no access to internet. To add majority of the respondents accept mobile phones because it allow them to communicate with their customers and ordering products with minimum costs unlike internet as their customer do not have access to internet. Similarly the Study by Dr.Bitrina, (2012), entitled Impact of ICTs Adoption and Application on Innovation in Selected Manufacturing Firms in Tanzania found that the entire respondent group (100%) on this study indicated use mobile phone.

The study findings further revealed that majority of the respondents were satisfied with the chosen ICT tool (Mobile phone) as it is useful to communicate with their customer, ordering product and advertising their product. This is because most of the respondents had smart phone, which is more efficient and effective in advertising their product in a distant manner. The use of mobile phone associated with the perceived usefulness like communication purpose.

On the other hand the use of internet linked to the extension of marketing in customer services, facilitating online marketing as well as marketing research, though this is adopted by few respondents with skills and access to internet services. Similarly, the

study by BMG et al (2015) on Digital Capabilities in SMEs: Evidence Review and Re-survey of 2014 Small Business Survey, Durhan University find out that, 98% of SMEs use the internet for business purposes, 85% do so at home, 82% at work, and 67% via smart phones. The study findings further indicated that 91% of SMEs have broadband.

The study observed that adoption of ICT in performance of SMEs facing a number of challenges. These challenges were ICT knowledge, financial constraints, unreliable power supply, lack of training, inadequate internet services and lack of management support. These challenges projected to prohibit SMEs owners from the use of ICT and may result into low firms productivity and efficient. Similarly, study by Wahid (2017) on ICT adoption in SMEs in Tanzania: An Evaluation indicates that ICT adoption among SMEs face the number of challenges including lack of management support and commitment influenced, supportive infrastructure, limited imported machines and inadequate support from government, challenging the quality of works usage, capital, in-built attitude, risky technology and low skilled labor and awareness, willingness, readiness, knowledge and IT skills.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter presents the summary, conclusion and imperative recommendations with respect to the main findings of the study.

5.2 Summary of the Findings

The study assessed the impact of ICT adoption in SMEs performance in Tanga urban. To achieve this, the study was guided by four specific objectives of: to examine the factors affecting ICT adoption in SMEs; to assess the effect of ICT adoption on performance of SMEs; to examine the status of ICT adoption in SMEs and to find out the challenges facing ICT adoption in SMEs. The theoretical framework that underpinned the study was Technological Acceptance Model (TAM) by Devis (1989)

with its main constructs of perceived usefulness and perceived easy of the technology. The following were the summary of the main findings:

5.2.1 Factors Affecting Adoption of ICT in SMEs

The findings indicated that almost all respondents use ICT tool to improve communication and financial transaction with their customer in minimal costs. Among the types of ICT used by the respondents include Tigo Pesa, M-pesa, Airtel money, internet and computer. This contributes to an increase of organization productivity and reduces the cost of running business to the maximum.

The study findings also revealed that the use of ICT facilitate communication with the customers. This motivates SMEs to invest more in modern ICT tools like internet so as to reduce the costs of transaction and coordination within the firma and maximize profit.

Many respondents reported that adoption of ICT play a significant role to simplify distribution and supplier interaction. The implication here is that with the use of Tigo-P:esa and airtel money contributed to the increase of organization productivity and expanding market share.

5.2.2 Effect of ICT Adoption in Performance of SMEs

The findings showed that majority of the respondents declared that ICT had effect in performance of SMEs. The contributing factors linked to perceived usefulness of the ICT including marketing research, communication purpose as well as extending networking in customer services.

The respondents agreed that the use of ICT impacted into an increase in market share and profit. This signifies that with the use of ICT offer customer innovative technology that can simplify communication and ordering products.

The respondents further agreed that positively adoption of ICT contribute to an increase customer satisfaction. This suggests that for effective and efficient of a firm ICT use is closely linked to SMEs performance and customer satisfaction as the product advertised through the use of both internet and mobile phone.

The findings also showed that ICT adoption enhance access to market. This signifies that with the use mobile phone in ordering product and advertising purpose reduce the costs to be encored by the customer as they can land money to the businessman with affordable costs.

5.2.3 Status of ICT Adoption in SMEs Performance

The study findings revealed that trend of ICT use varies according to the demand and wishes of the owner considerable. For example majority of the respondents relay into the use of mobile phone in ordering product as in remote areas had access to mobile phone unlike other technology. It is also revealed that few respondents make the use of internet in their daily basis activity. The observed high percentage of respondents who use mobile phone associated with the level education as most of the respondents ended form four few had degree. The nature of business is small and most of their customers do not have access to internet.

The study findings also revealed that the use mobile phone linked to the perceived usefulness of the ICT tool chosen. Such usefulness includes: facilitating online marketing, marketing research as well as extending network. These findings conquered to what Davis (1988).

5.2.4 Challenges Facing Adoption of ICT in Performance of SMEs.

The study revealed critical challenges facing adoption of ICT in SMEs performance. These challenges raised by the respondents are:

Majority of the respondents reported that ICT knowledge; financial constrains hinder effective use of ICT in SMEs performance. The findings indicated that lack of ICT knowledge is great challenges that deter most respondents to use ICT to improve their business. This is linked to the perceived difficult use as propounded by Davis in his model of technological acceptance (TAM). On the other hand financial constrains reduce the number of respondents to use Internet and purchase modern ICT tool to smoothen the progress of their business.

Another challenge raised by the respondent was unreliable power supply, lack of training, inadequate internet services and lack of management support. Unreliable power supply linked to overdependence on Hydro Electric power as there is no alternative source of energy to be used.

The implication here is that if electricity shortage persists for so long the firm will be affected. Majority of the respondents reported that inadequate Internet services hinder

the adoption of ICT in SMEs performance. The problem associated with low knowledge and skills on the use of Internet among the respondents.

5.3 Implications of Findings

The study findings on the impact of ICT adoption to the performance of SMEs in Tanga urban have diverse implications.

5.3.1 Implication to Practice

The study finding provides empirical data on the adoption of ICT in SMEs and its impact in day-to-day firm activities. Thus, the study findings was unique as it discover some usefulness of ICT adoption in SMEs including profit maximization, reduce cost to be incurred by customers in services delivery which was not deeply elaborated in empirical studies consulted.

5.3.2 Implication to SMEs

The findings of this study have implications for all SMEs engaged in business related matters. Thus, ICT adoption enables SMEs to improve communication ability in search for their product market, improve customer relations in service delivery, exchange information and make financial transaction easily.

5.3.3 Implication to Theory

In the course of theory the findings related TAM propounded by Devis (1989) to the extent that adoption of ICT on SMEs affected by perceived benefit and perceived ease of use. However, the assumption seems to be weak because most SMEs owners encounter a number of challenges that deter the actual use of ICT to run their business

smoothly. Among the raised challenges include; unreliable power supply, lack of training, inadequate Internet services and lack of management support.

5.3.4 Implication to Policy Makers

The study findings raise curiosity for the government to formulate effective laws and policy guideline that ensure the utilization of power resources for effective and reliable supply of power in the country. This will help the SMEs owners who run their business with the use of modern technology to improve productivity and create competition in advertising product through the use of Internet. This will also attract and encourage the customer to use ICT in ordering products and made financial transaction easily.

5.4 Conclusion

As it has been discussed in the previous section of chapter four, this particular chapter gives out the following conclusions drawn from this study: Majority of the respondents have been using ICT to run their business. This is because the owners of SMEs are so conversant and committed enough on the use of ICT tools in simplifying the task of processing transaction and communication with their customers.

Majority of the respondent identified Tigo pesa, M-Pesa, Airtel money and internet as the pre dominant types of ICT adopted used in these SMEs. This is due to the perceived usefulness of the chosen ICT type as it reduces costs to be incurred by both part and improving communication with customer.

In examining cumulative effect of ICT adoption on performance of SMEs majority of the respondents agreed that positively ICT affect SMEs performance. among the

effect raised by the respondents include increase market share and profit as there would be competition in running business, increase online marketing product, increase customer satisfaction as well as enhance access to market. These and other factor resulted into an increase of SMEs productivity and competition.

There are factors affecting the adoption of ICT in performance of SMEs. Such factors range from individual commitment, perceived usefulness and easy to use the technology and technical skills as well as it level of satisfaction among the respondents and SMEs performance. However, the respondents identified factors such as improve workflow and business processes, improvement of communication with customers, simplify distribution and supplier interaction and improve productivity.

The status of ICT adoption indicated that majority of the respondents use mobile phone for advertising of their product and few use internets as a means of facilitating market research. Despite the adoption of ICT most SMEs faced challenges in adopting ICT. These challenges are ranging from technical support or services and economic. However the respondents identified challenges such as lack of ICT knowledge, financial constraints, unreliable power, lack of training, inadequate internet services and lack of management support affect SMEs performance negatively. Hence, lower SMEs productivity and performance.

5.5 Recommendations

The following recommendations were made:

(i) There should be installation of continuous power supply in SMEs. This can be achieved by involving the Government ministries and departments like Ministry of power and energy resource supply.

(ii) There is a need of installing generator as an alternative means of minimizing the problem of power shortage. This can be achieved by encouraging SMEs owners to embark back on the use of generator instead of depending more from electricity as the Government relay on one source of power resource.

(iii) There government should provide ICT tools with affordable cost to the SMEs owners so as to enable lower income earners to own at least one ICT tool. This can be achieved by discouraging tax which contributes toward price fluctuation of the said technology.

(iv) There is need to have regular training regarding the use of ICT among the SMEs. This can be provided with consideration to government initiative and NGOs effort.

5.6 Limitation of the Study

The study encountered some of the limitations while searching for the right information on the impact of ICT adoption on SMEs performance in Tanga Urban district. In this study, researcher underwent shortage of money for typing, printing, and writing materials, which in one way or the other limited the operations during conducting of this study. The study could be finished without the efficiency required due to lack of money to perform various activities. However, the researcher tried to use the money available with economy in all the steps in order to come up with the

desired outcome. With that monetary discipline this study was done to its best, the issue of money remained as no challenge to the researcher.

The study also encounter time constraint as most of the respondents were so busy with their daily related task. So to assemble them in one place for data collection was so difficult. The researcher convince SMEs owners to spare one hour in data collection, then the respondents agreed to what the researcher request and able to collect data as planned.

The study also failed to use interview as planned since most of SMEs owners were so busy in such a way that involving them in interview was so difficulty. This made the researcher to use questionnaire tool in data collection. Lack enough the instrument provided the researcher with enough and reliable data supporting this particular study.

5.7 Areas for Future Research

This particular study was in the area of impact of ICT adoption in SMEs performance. It is the wish of researcher to see many researches that by following recommendations made in this study are conducted in the following tone:

(i) Similar study should be conducted in other SMEs found in Tanzania for comparison purpose.

(ii) To examine SMEs owners perception on the use of ICT.

(iii) To assess the effectiveness of ICT adoption in performance of SMEs

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APPENDICES

Appendix I: Questionnaires for SMES Owners

Dear participants,

The aim of this research is to assess the impact of adoption of Information Communication Technology to the SMEs performance. You are among those chosen to participate in this study. The researcher thus, kindly requests you for your sincere input and your willingness to support this work. The researcher believes that you will find the questionnaires clear and look forward to receiving your responses. All information from you will only be used for the purpose of this study and will be treated confidential.

Section A: Demographic

1. District ……
2. Age ……
3. Sex …….
4. Level of education

Part B: Factors affecting adoption of ICT in SMEs

5. Have you ever use ICT in your business? Yes☐ No ☐
6. If yes, what type of ICT used in your business? Chose among the alternatives given
    a) Internet
    b) Computer
    c) Airtel money
    d) M-pesa
    e) Tigo pesa

7. How often do you use the chosen information communication technology in your daily activities?

   a) Rarely ☐

   b) Frequently ☐

   c) Most frequently ☐

8. The following are the factors that may affect adoption of ICT in SMEs (Tick what is applicable in your case)

   a) Improve work flow and business processes

   b) Simplify distribution and supplier interaction

   c) Improvement of communication with customers

   d) Improve productivity

   e) Others…….

   f)

Part C: Effect of ICT adoption on performance of SMEs

9. In your opinion do you think that the adoption of ICT had any effect on SMEs performance? Yes/No

10. The following statement related to the effect of ICT adoption on SMEs performance. Indicate the level of agreement or disagreement in a likert scale.

S/No.	Items	1	2	3	4	5
1	Increase market share and profit					
2	Increased in sales					
3	Online marketing increase productivity					
4	Customer satisfaction					

5	Enhance access to market					
6	Promote flexibility of SMEs					
7	Useful in advertising and buying goods					

Part D: The status of ICT adoption in SMEs performance

11. The following are the ICT tools mostly used in performance of SMEs (tick what is appropriate)
    a) Mobile phones
    b) Internets
    c) Computer
    d) Others……

12. To what extent are you satisfied with the use of the chosen ICT tool from question 11 above? (Tick what is applicable).
    a) Highly satisfied
    b) Satisfied
    c) Undecided
    d) Unsatisfied

13. In what ways mobile phone used in SMEs performance
    i. …….
    ii. ……..
    iii. ……

14. The following are the perceived usefulness of Internet in SMEs performance. What is applicable in your case
    a) Facilitate online marketing
    b) Facilitate marketing research
    c) Communication purpose
    d) Extending networking in customer services

Part E: Challenges facing ICT adoption on SMEs performance

15. What challenges do you face in ICT adoption and use in your daily basis activities? Tick what is applicable in your case
    a) Financial constraints/ perceived high cost in installing ICT tools
    b) ICT knowledge
    c) Unreliable power supply
    d) Inadequate internet services
    e) Lack of training
    f) Lack of management support

16. To what extent regulatory environment affect adoption of ICT in SMEs performance
    a) Great extent
    b) Moderate
    c) Less extent

17. What measure should be used to reduce the problem that affect the adoption of ICT in SMEs performance

    i. ……..

    ii. ……..

    iii. …….

Thank you for your participation

Appendix I: Interview Schedule for SMEs leaders

Region……..

District…….. Level of Education ……

Sex: Male ……..Female ……..

1. For how long have you been in your present position?
2. Do you have enough knowledge on the use of ICT performance of SMEs?
3. If yes have you ever used ICT?
4. What type of ICT tool used in SMEs?
5. What is the factors affecting the adoption of ICT?
6. In your own understanding how ICT enhance advertisement and communication with the customer?
7. What is the effect of ICT adoption in SMEs performance?
8. What challenges encountered in the use of ICT?
9. What are your recommendations towards the use of ICT in business?

Thank you very much for your cooperation

Appendix III: Research Activities or Schedule

RESEARCH ACTIVITIES OR SCHEDULE

Activities	**Months**					
	1	**2**	**3**	**4**	**5**	**6**
Acceptance of the research proposal	√					
Talks with local representative in local study		√				
Development of research tools		√				
Sample selection and talk with community		√				
Intervention in individual identified as small business practice			√			
Pilot study			√			
Validation of equipment			√			
Data collection				√		
Data entry and analysis					√	
Thesis report writing						√
Information to community and authorities						√

ESTIMATED RESEARCH BUDGET

The research is approximated to use Tsh 1,800,000/= from the first stage up to the report writing.

Expected time of commencing the study

The expected time of commencing the study will be March 2021.

Expected time of completing the study

The expected time of completing the study will be Agost 2021.

Signatures

Student……..

Date……...……

Comments of the Supervisor

Supervisor……..

Date…….