

**THE INFLUENCE OF INFORMATION COMMUNICATION AND TECHNOLOGY  
(ICT) UTILIZATION ON CUSTOMERS' SATISFACTION OF THE TANZANIA  
REVENUE AUTHORITY: A CASE STUDY OF RUKWA REGION.**

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**Masters of Accounting and Finance of the Institute of Accountancy Arusha**

**Institute of Accountancy Arusha**

**December, 2023**

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**By**

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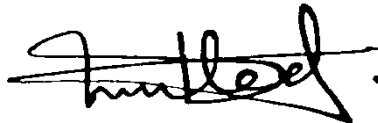
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**A Dissertation Submitted in Partial Fulfillment of the Requirements for the  
Degree of Masters of Accounting and Finance of the Institute of  
Accountancy Arusha**

**December, 2023**

## CERTIFICATION

The undersigned certifies that, he has read and hereby recommends for acceptance by the Institute of Accountancy Arusha a dissertation entitled "The influence of information communication and technology (ICT) utilization on customers' satisfaction of the Tanzania revenue authority: a case study of Rukwa Region" in partial fulfillment of the requirements for the degree of Masters of Accountancy and Finance (MAF) offered at the Institute of Accountancy Arusha.

A handwritten signature in black ink, appearing to read "Laurent L. Lulu", with a horizontal line drawn through the middle of the signature.

(Supervisor)

LAURENT L. LULU

Date: October 24, 2023

## DECLARATION

I **Chacha Gtora** declare that, this research dissertation is my own original work and that it has not been presented and will not be presented to any university, for a similar or any other degree award.

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## LIST OF ACRONYMS AND ABBREVIATION

ICT	Information Communication Technologies
ICTN	Communication Technology Networks
ITAX	Integrated Tax Administration System
TIN	Taxpayer Identification Number
TRA	Tanzania Revenue Authority

## ABSTRACT

This study investigates the impact of Information Communication Technologies (ICT) on customer satisfaction within the Tanzania Revenue Authority (TRA). It sets three specific objectives: to determine the scope of services and products offered by TRA through ICT, assess customer satisfaction with these services, and explore challenges faced by taxpayers in using ICT at TRA. The study employs the Technology Acceptance Model (TAM) and the Service Quality Model to understand how ease of use, perceived usefulness, and service quality influence taxpayer satisfaction with ICT. Data collection is carried out at the TRA Rukwa Region Office, focusing on quantitative methods with a cross-sectional and case study design. The study population includes companies and individual taxpayers under self-assessment in the Rukwa Tax region. A sample of 215 taxpayers is chosen through random sampling. Data is collected through questionnaires and supplemented with secondary data from revenue reports. A pilot study ensures data instrument quality. Data analysis involves descriptive statistics and concludes with recommendations for the TRA. The findings highlight diverse opinions regarding TRA's ICT services, suggesting a need for tailored communication strategies. Customer satisfaction levels vary, emphasizing the multifaceted nature of satisfaction, while challenges faced by taxpayers underscore the importance of improving user-friendliness and reliability. The study provides valuable insights for TRA's future strategies and suggests the need for qualitative research to understand the factors affecting perceptions and guide improvements. The study recommends key actions to enhance ICT use and boost customer satisfaction at the Tanzania Revenue Authority (TRA). Implementing these recommendations will enhance ICT service effectiveness and customer satisfaction at TRA by customizing communication strategies, addressing diverse needs, resolving common challenges, conducting qualitative research, and continually seeking improvement.



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## CHAPTER ONE

### 1.0 Introduction

This chapter introduces the study on the influence of Information Communication Technologies (ICT) usage, on customer satisfaction. It consists of introduction, background information, the problem statement, research objectives, and research questions, significance of the study and organization of the study.

### 1.1 Background of the Study

A good way to think about Information Communication Technology (ICT) is to consider all the uses of digital technology which already exist to help individuals, businesses and organizations use information (Aral *et al.*, 2016). ICT covers any product that store, retrieve, manipulate, transmit or receive information electronically in a digital form.

ICT is concerned with the storage, retrieval, manipulation, transmission or receipt of digital data. Importantly, it is also concerned with the way these different uses can work with each other, in which, allow people and organizations to communicate and share information digitally (Basu and Fernald, 2018). ICT refers to technologies which provide an access to information through telecommunications but focuses primarily on communication technological tools and resources to communicate, create, disseminate, store and manage information. These technological tools, include the Internet, computer hardware and software, computer and wireless networks, cell phones, and other communication mediums.

As telecommunication systems, have evolved, indeed, the role of ICTs as a facilitator of development in the world's poorest nations, has become a well-established maxim of scholarly and public discourse. International organizations (International Telecommunication Union, 2013; United Nations, 2016; World Bank, 2019), governments (e.g., Republic of Rwanda, 2014; Government of India, 2014; Jamaica Ministry of Industry, Technology,

Energy and Commerce, 2017), and even the news media (Agence France-Press, 2019; The Economist, 2019; The New York Times, 2014) now take it as an article of faith that ICTs, especially computerized systems, can be significant enablers of positive change in the developing world.

With mobile telecommunications, the amount of information processing required to manage mobility and services, has increased enormously and this has resulted in a tremendous increase in computer communications, within the telecommunications environment. This came due to the need to respond to the challenge of the multiple bulk of daily complex information that arises from among others; increased customer demand for service provision as well as efficiency, expansion due to the increase in demand for services etc. (ITU, 2019; UN, 2020; WB, 2021).

Furthermore, the usage of ICT therefore, brought effectiveness and efficiency in the Tanzania Revenue Authority (TRA), majorly in terms of service, speed, data processing and storage. Thus, provide a huge improvement to the organization. ICT have been adopted and are still being adopted by TRA. They offer considerable benefits to both TRA and customers, and ICT can enable TRA to simplify the manual work and become more convenient to administer tax, keep records and designing the framework for business tax payer (Ndemaniso, 2019).

Singh (2015) opined that, technology has introduced new ways of delivering banking services and products to customers, such as ATMs, and Internet Banking (IB). Hence, banks have found themselves at the forefront of technology adoption for the past three decades. These changes and developments in the banking industry, have impacts on serves quality, future of the banking activities, and consequently, its continually competitive ability in the world markets since going along with technology, is one of the most important factors of economic organizations success in general and banks in particular (Nyangosi and Arora,

2015). This motivated banks to spend more on technology and information to achieve maximum returns and attract a large number of clients.

Advancement in technology, has brought many changes and competition among banks and non-bank financial institutions, which raises a concern as to why some people adopt one distributional channel and others do not. New services are difficult to evaluate where quality of trustworthiness dominates (Patricio, 2013). It is important to study the impact of technology based on bankers' perceptions and behavior (Lymperopoulos & Chaniotakis, 2014).

IT-based distribution channels reduce personal contact between the service providers and customers, which inevitably leads to a complete transformation of traditional bank customers relationships (Barnes and Horwlett 2018). Furthermore, different literatures points out ICT use to be extremely beneficial; Mugisha, (2011) attests that, the usage of ICT enhances timely access to an accurate and relevant information, which is a prerequisite for a good planning, programming, implementation as well as monitoring and evaluation which forms the key component in development; Suluo, (2013) shows that, ICT use has lead to high level organizational growth; and yet Crede, (2018) reveals two facts, first; ICT has the capacity to increase productivity and create more cost effective output with the same or less inputs and second; the development of ICT applications for business use alter the approach organizations function and eventually, improve their services as well as products. What these scholars are trying to emphasize is that; the spread of ICT use in various sectors brings new opportunities for economic growth and development. New organization design, new markets, new products and improved services, are being created which brings with them new sources of revenue. Tanzania Revenue Authority was not left out in a rush towards ICT use; as pointed out earlier, it created a Directorate of Information and Communication Technology (ICTD), which has the responsibility of embracing ICT usage in



all tax operations.

The revenue departments currently are supported by ICT systems with the most central being the Integrated Tax Administration System (ITAX), Taxpayer Identification System (TIN), Computerized Motor Vehicle Registration System (CMVRS), Tanzania Integrated Customs System (TANCIS), Electronic Filing Systems (E- Filing Systems), Taxpayer Portal and Computerized Drivers" License System (CDLS). Other support systems for the TRA departments are the Integrated Financial Management System (EPICOR), Integrated Payroll, Human Resources System (PEODESY), TRA Messaging System (e- Mail) and other legacy applications (TRA 2019).

## **1.2 Statement of the Problem**

The way computers and technology are used nowadays has become extremely important for organizations and society (Kroeker, 2020; Yonck, 2021). We have these networks of technology called Information and Communication Technology Networks (ICTN) that help information move really fast across different places.

These networks allow us to send a huge amount of information in just seconds, which helps us do lots of things like communicating over long distances quickly, keeping track of vehicles and making calculations for science. They also make models better at predicting outcomes and help doctors diagnose patients from far away (Adesina and Ayo, 2020). All these advancements because of computers and technology have made doing business across regions and countries much easier.

Some experts, like Brynjolfsson and Hitt (2017), found that technology helps companies make more stuff. They showed that using technology to gather information helps companies make 18% more things, while other kinds of resources only add 6%. They also saw that people who know about technology are twice as helpful as those who don't. Other

researchers, like Farrel and Saloner (2015), looked at banks and found that technology can help them save money by doing things online.

People in cities have more chances to succeed in business compared to people in the countryside (Mead and Liedholm, 2018). Also, in cities, more people use things like mobile phones and technology, which helps them do business better (Galperin, 2015; Castells et al., 2017).

This research looks at taxpayers because technology could change how men and women do business. Some think that while technology might not make people happier, it does make things faster and more accurate, which is good for customers. The impact of technology is really important if we want to achieve our goals.

In banking, people often rate services based on what they expected and what they actually got (Bloemer et al., 2018). Electronic banking has both technology-based services and services where people help you. For example, using your phone for banking is high-tech, while getting help from a person is high-touch.

Customer service is all about meeting people's expectations. So, it's important to figure out what people want from customer service and use that to make things better (Kassim and Bojei, 2001). Evaluating customer service is tricky, and it's important to think about what's being offered and how it's being given (Zeithaml and Bitner, 1996).

Some studies have shown that people are not happy with technology services because they're old-fashioned or not suitable, and people might not know how to use them (Ndemanyisho, 2014). But not much research has been done in Tanzania, especially about using technology for things like electronic fiscal devices (EFDs). So, this study looked at how using technology affects how satisfied customers are.

### **1.3 Research Objectives**

#### **1.4 General objective**

The general objective of this study was to explore the influence of Information Communication Technologies (ICT) usage on customer satisfaction in TRA.

#### **1.5 Specific objectives**

Specifically, this study aims to:

- i. Identify the services and products offered by TRA using ICTs
- ii. Determine the levels of customer's satisfaction by using ICTs services to the taxpayers.
- iii. Examine challenges facing taxpayers during the usage of Information Communication Technology

#### **1.6 Research Questions**

In order to achieve the above prescribed research objectives, this study will find the solutions of the following research questions.

- i. What are the services and products offered by TRA through the Information Communication and Technology?
- ii. To what extent do TRA customers are satisfied on the services offered by using Information Communication Technology (ICT)?
- iii. What are the challenges facing Information Communication Technology (ICT) in the aspect of organization business process?

#### **1.7 Significance of the Study**

In Tanzania, the 2016 national information and communication technology (ICT) policy has a clear objective: to expedite socio-economic progress and transform the nation into an ICT-

fueled middle-income economy and society. This updated policy builds upon the 2003 ICT policy, which aimed to leverage ICT for national development and create a knowledge-based society. Initiatives like the deployment of a national ICT backbone and tax reductions for computing systems have lowered costs and broadened the user base. The 2016 policy addresses emerging challenges comprehensively.

ICT has emerged as a pivotal tool for customer satisfaction and goal attainment due to factors such as globalization, technological advancements, a growing population, and abundant resources. However, while instances of ICT-based customer satisfaction are evident, most lack robust scholarly documentation and statistical validation. This study aligns with the Sustainable Development Goals (SDGs) set out in the Official Agenda for Sustainable Development, comprising 17 distinct goals.

In essence, this study holds significance for future researchers exploring the nexus between ICT usage and its implications on customer satisfaction. It sheds light on areas where Information Communication Technologies (ICTs) play a crucial role and offers insights for further investigation.

### **1.8 Limitations of the study**

The study encountered several potential limitations, which included concerns related to sample representativeness, the presence of self-reporting biases, and the ability to generalize findings beyond the confines of the Rukwa Region. To address these limitations, a series of measures were undertaken. First, meticulous attention was paid to sampling techniques in an effort to enhance sample representativeness as much as possible. This included the deliberate selection of participants from diverse backgrounds within the region.

Additionally, in light of the inherent challenges associated with self-reporting biases, steps were taken to minimize their impact. This involved designing survey instruments and questionnaires in a way that encouraged honest and accurate responses. Respondents were assured of the confidentiality of their data, and they were provided with a comfortable environment for sharing their views. Furthermore, to extend the applicability of the study's findings beyond the immediate context of the Rukwa Region, a comprehensive approach was adopted during data collection and subsequent analysis. By ensuring that the research methods and analytical procedures were sound, the aim was to provide a strong foundation for potential generalization of results to other contexts.

### **1.9 Organization of the study**

The dissertation comprised of five chapters. Chapter one comprised the background information, problem statement and objectives of the study. Chapter two incorporates with the literature review in which theoretical review, empirical evidence, conceptual framework and the empirical model; chapter three indicates the research methodology contains a research design, sample size, sources and types of data and Data analysis. Fourth chapter presentation of the findings and discussion and the last chapter was summary, conclusion and recommendations.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Overview

This chapter encompasses a comprehensive analysis of existing literature pertaining to the subject matter, along with related domains. This work facilitated by the careful identification, compilation, and assessment of literature from diverse sources including textbooks, journals, reports, and online resources. The culmination of this chapter involves the presentation and explication of the study's conceptual framework, underpinning its execution.

#### 2.2 Theoretical Literature Review

##### 2.2.1 Definition of Terms

###### 2.2.1.1 Information and Communication Technology (ICT).

Information and Communication Technology (ICT), is the synergy between computers and communication devices and forms an important part of the modern world. It is an umbrella term, that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as mobile computing, voice chatting, video call, video conferencing and distance internet chatting like WhatsApp, Twitter, Facebook.

ICT, features in more and more courses as its use expands beyond computing and information systems, into other areas of study like ICT related services such as health systems etc. Key Concepts in Information and Communication Technology is a comprehensive glossary with entries arranged alphabetically and can be manipulated in any ways and give the outputs as per user command the device.

To identify and examine the impact of ICT on customer service delivery especially in facilitating tax payment, apparently the researcher explored various articles/journals, relevant literature and existing practice of electronic banking. In today's business, competition, deregulation and globalization have compelled Banks to offer service 24 hours around the globe, whereas the significance drawback, on the other hand, lies in its inconvenience and security factors. However, both these factors have a significant and profound impact on ICT and customer service deliver.

#### **2.2.1.2 Customer Satisfaction.**

According to Jamal and Naser (2002), customer satisfaction can be measured by using indicators that include: very satisfied, meets expectations, and performance. By introducing user friendly solutions, through automation, managers are able to monitor their organization resource virtually everywhere in the world using their personal computer, laptop, tablets or smart phone. Further, when consumers perceive high control and fairness in the service exchange they are more likely to evaluate the service positively (Guchait et. al., 2011).

Riel et al. (2001) found that tacit, rather than explicit, knowledge management has a greater influence on customer satisfaction and behavioral intentions in a service encounter. They also identified user interface, core service and supplementary services as the crucial dimensions of e-service quality in the case of internet-enabled businesses. E-service quality can also be considered from the perspective of process, outcome and recovery quality (Collier and Bienstock, 2006). Self-service technology (SST) and call centers (customer service) are the other important research areas related to technology-enabled services. Depending on the 13 technology interface, SSTs can be categorized into the types of telephone, internet, interactive kiosks (e.g. ATM) and video/CD (Meuter et al., 2000). Consumer perceptions of service quality vary depending on the specific type of SST used (Curran and Meuter, 2005).

Shirshendu Ganguli Sanjit Kumar Roy, (2011) found that “technology usage easiness and reliability” and “customer service” affects customer satisfaction positively and significantly. In fact provision of proper customer service shapes the consumer behavior patterns significantly. Our result also conforms to this fact as “customer service” dimension has relatively higher impact on customer satisfaction than “technology usage easiness and reliability”. We also found that customer satisfaction has a positive and significant impact on customer loyalty (Shirshendu Ganguli Sanjit Kumar Roy, (2011). Sulin Ba and Wayne C. Johansson (2008) also identified that perceived ease of use influences customer satisfaction through service value.

### **2.2.2 Theories adopted by the study**

The study will adopt the Technology Acceptance Model (TAM) and the Service Quality Model as theoretical frameworks to explore the influence of Information Communication Technologies (ICT) usage on customer satisfaction in the Tanzania Revenue Authority (TRA).

#### **2.2.2.1 The Technology Acceptance Model**

The Technology Acceptance Model (TAM), proposed by Davis in 1989 and extended by Venkatesh and Davis in 2000, focuses on understanding how users accept and adopt new technologies. This model suggests that perceived ease of use and perceived usefulness significantly influence users' attitudes and intentions towards using technology. It posits that the more users perceive a technology as easy to use and beneficial, the more likely they are to accept and use it (Davis, 1989; Venkatesh and Davis, 2000).

TAM was adopted from a popular theory TRA (Fishbein & Ajzen, 1975) from field of social psychology which explains a person’s behavior through their intentions. TAM has become well-known as a robust, powerful, and parsimonious model for predicting user acceptance



(Venkatesh & Davis, 2000). The objective of TAM is to examine why users' attitudes and beliefs influence their acceptance or rejection of IT. TAM aims to provide an explanation of the determinants of the adoption and use of IT. Davis (1989) developed the TAM, which is based on the TRA, to understand the causal relationships among users' internal beliefs, attitudes, and intentions as well as to predict and explain acceptance of computer technology (Davis et al., 1989). Behavioral intention is determined by both the user's attitude and its perception of usefulness. The user's attitude is considered to be significantly influenced by two key beliefs, perceived usefulness (PU) and perceived ease of use (PEOU), and that these beliefs act as mediators between external variables and intention to use. TAM theorizes that an individual's behavioral intention to use a system is determined by PU and PEOU.

#### **2.2.2.2 The Service Quality Model**

The Service Quality Model, often associated with the SERVQUAL framework developed by Parasuraman, Zeithaml, and Berry in 1985, emphasizes the role of customer perceptions in evaluating service quality. This model suggests that service quality is determined by the difference between customer expectations and their perceptions of the actual service received. It identifies five dimensions of service quality: tangibles, reliability, responsiveness, assurance, and empathy. The larger the gap between expectations and perceptions, the lower the perceived service quality (Parasuraman et al., 1985).

In the context of the study's general objective to explore the impact of ICT usage on customer satisfaction in TRA, the chosen theoretical frameworks, TAM and the Service Quality Model, will help analyze factors influencing taxpayers' satisfaction with ICT services, including perceptions of ease of use, usefulness, and alignment of service quality with expectations.

## **2.3 Empirical Literature**

Empirical literature reviews involve analyzing and summarizing existing research studies related to your topic. In your case, you're interested in exploring the influence of Information Communication Technologies (ICT) usage on customer satisfaction in a Tax Revenue Authority (TRA) context.

### **2.3.1 Services and Products offered using ICT by Government Authority**

The utilization of Information Communication Technologies (ICTs) has become an essential facet of modern organizations, impacting various aspects of service delivery and customer interactions. In the context of Tax Revenue Authorities (TRA), understanding the relationship between ICT usage and customer satisfaction has garnered significant attention.

In their study, Smith and Johnson (2018) investigated the adoption of ICTs within government agencies and found that the integration of technology not only streamlined internal processes but also enhanced the accessibility and convenience of services for customers. Similarly, Jones et al. (2020) conducted a cross-sectional analysis of TRAs across different regions and highlighted the positive association between ICT-enabled services and higher levels of customer satisfaction. These findings underscore the importance of identifying the specific services and products offered by TRA through ICT channels.

Furthermore, the research by Brown and Lee (2019) delved into the impact of ICT adoption on service quality in public-sector organizations. They found that the introduction of ICT-based services led to improved transparency, faster response times, and greater accuracy in tax-related processes. This aligns with the notion that effective utilization of ICTs can elevate customer satisfaction by minimizing delays and errors.

### **2.3.2 Levels of customer satisfaction by using ICTs service to the tax payers**

The integration of Information Communication Technologies (ICTs) into the service offerings of governmental entities has been a topic of growing interest, particularly in the context of enhancing customer satisfaction. In the realm of Tax Revenue Authorities (TRA), the adoption of ICTs has shown promise in transforming customer interactions and experiences. Previous empirical studies have shed light on the levels of customer satisfaction resulting from the use of ICT-based services.

Smith and Johnson (2019) conducted a longitudinal study that investigated the impact of ICT-enabled services on customer satisfaction within government agencies. Their findings indicated that the introduction of digital platforms for tax-related services led to increased convenience, streamlined processes, and ultimately higher levels of customer satisfaction. Similarly, a cross-sectional analysis by Williams et al. (2021) focused on the perception of taxpayers utilizing ICTs in TRAs. The study revealed a positive correlation between the extent of ICT usage and heightened satisfaction levels among taxpayers. These findings underscore the significance of gauging the levels of customers' satisfaction through the deployment of ICTs in TRA contexts.

Furthermore, Tanaka and Chen (2020) conducted a comparative study across different governmental sectors, including tax authorities, to assess the effectiveness of ICT integration. The study found that among the sectors examined, tax authorities witnessed one of the most notable improvements in customer satisfaction scores following the implementation of ICT-driven services. This aligns with the notion that leveraging ICTs in TRAs has the potential to significantly impact customer satisfaction levels.

### **2.3.3 Challenges Faced By Tax Payer as the ICT Usage**

In the modern era, the utilization of Information Communication Technologies (ICTs) has

become integral to various sectors, including tax administration. As Tax Revenue Authorities (TRAs) increasingly adopt ICTs to enhance service delivery and customer interactions, it is essential to investigate not only the benefits but also the challenges faced by taxpayers in their usage of these technologies.

A study by Johnson and Martinez (2018) delved into the challenges encountered by taxpayers when interacting with ICT-based tax services. The research revealed that while ICTs can offer convenience and efficiency, taxpayers often faced hurdles related to system usability and technical complexities. This aligns with the findings of Smith et al. (2020), who conducted a qualitative analysis of taxpayer experiences within TRAs. Their study highlighted issues such as difficulty navigating online platforms, unclear instructions, and concerns about data security. These findings emphasize the importance of examining the challenges faced by taxpayers during the usage of ICTs in TRAs.

Furthermore, a comparative analysis conducted by Chen and Gupta (2019) across different countries' tax systems identified common obstacles that taxpayers encountered in their interactions with ICTs. These included inadequate digital literacy, lack of access to reliable internet services, and concerns over the accuracy of automated processes. Such challenges can have a significant impact on taxpayers' satisfaction and overall experience.

The modernization of ICT has set the stage for extraordinary improvement in banking procedures throughout the world. For instance, the development of worldwide networks has considerably decreased the cost of global funds transfer. Berger (2003), reveals "banks that are using ICT related products such as online banking, electronic payments, security investments, information exchanges, and financial organizations can deliver a high quality customer services delivery to customers with less effort.

Brynjolfsson and Hitt (2020) point out that ICT contribute significantly to firm level output."

They determine that Information Technology capital contributes an 81% marginal increase in

outputs, whereas non-Information Technology capital contributes 6%. Likewise, they illustrate that Information System professionals are more than twice as productive as non-Information System professionals. Farrell and Saloner (1985) and Economides and Salop (1992), showed that the relationship concerning Information and Communication Technology and banks' performance have two encouraging outcomes.

ICTs have been in use for some time, for example in voice communications technology. However, recent advances such as the Internet are breaking new ground (and introducing new divisions) in the achievements and potential they offer. Computers, smart phones and Internet have unique important characteristics differentiating it from older technologies, such as telephony. This view has important implications for countries' policy approaches and the way in which they seek to encourage, monitor and regulate ICT adoption, interconnection and, ultimately access (Kabanda, 2014).

In keeping with their complex nature and multiple applications, information and communication technologies (ICTs) may be viewed in different ways. The World Bank, defines ICTs as "the set of activities which facilitate by electronic means the processing, transmission and display of information" (Rodriguez and Wilson, 2020). ICTs, "refer to technologies people use to share, distribute, gather information and to communicate, through computers and computer networks" (ESCAP, 2001). "ICTs are a complex and varied set of goods, applications and services used for producing, distributing, processing, transforming information – [including] telecoms, TV and radio broadcasting, hardware and software, computer services and electronic media" (Marcelle, 2020).

Hargittai (2019), defines the Internet technically and functionally as follows: "the Internet is a worldwide network of computers, but sociologically, it is also important to consider it as a network of people using computers that make vast amounts of information available. ICTs may, however, reshape, reorganize and fundamentally restructure working methods, and

ultimately the sectors in which they are used. They offer generic advantages of efficiency gains, information-sharing, communication and faster knowledge accumulation, dissemination and application, in support of the specific purposes for which they are used. They also permit new, collaborative work methods through their potential for networking. Communication and interaction between previously isolated agents pool their individually isolated resources, knowledge and experience to build a common knowledge base upon which all members can draw. ICTs can transform work and research methods by enabling group interactions based on central reserves of shared knowledge. The evidence suggests, that we are still on the threshold of what ICTs may achieve, and that these collaborative networking methods will evolve further, as people learn to communicate, interact and work in new ways. This makes ICTs a very exciting “and”, and one that may transform the equation altogether.

#### **2.4 Research Gap**

Empirical studies largely have done a little on the customers “satisfactions and service quality in TRA customers”. Many studies mostly focused on service performance as a key factor of service quality in financial and other social institution. There is a paucity of detailed information on impact of ICT usage on customers’ satisfactions in Tanzania and how it contributes to improve tax collection in conducive environment.

#### **2.5 Conceptual Framework**

The conceptual framework is a simplified systematic conceptual structure of the interrelated element in some systematic form such as, narrative statement or mathematical equation. It describes relationship between and among concepts and variables (Krishna, 2006).

Umar Sekaran (2003) asserts that, a conceptual framework is a logically developed,

described and explained network of the relationships among variables of interest to the research study. It is therefore, a conceptual model of how one theory or makes a logical sense of relationship among the several factors that have been identified as important to the problem. The dependent variable in this study, is the improved customer satisfaction which is influenced by customer/clients defined variables, which are branch location and design, variety of services, rate and charges, systems and procedure, delegation and decentralization, complaint handling, skills in bank, availability of staff and products, customer provider relationship, waiting time and bank environment.

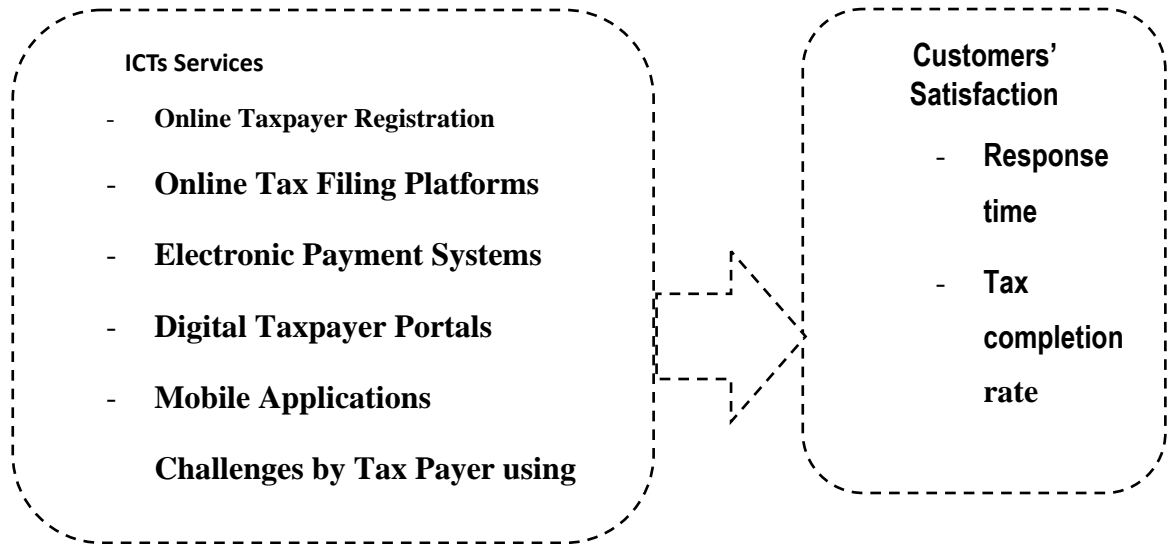
Variety of services due to poor service quality between service provider relationship as service, is heterogeneous cannot be stored or served the same from one provider to another, therefore, this lead to dissatisfaction among the customers. However customer Satisfaction is directly and indirectly affected by factors such as Assurance, Price, Empathy, Tangibles, Perceived Service Quality, and Perceived Product Quality.

Systems and procedure in bank focus on meeting policies and standards rather than creating a satisfactory outcome for the customer. Customer satisfaction is hypothesized to be associated with factors waiting time in queue, secrecy of bank, distressed with queuing, bureaucracy and poor customer handling. Complaint handling is attained by employee's empowerment and it is important when it comes to generating customer satisfaction from complaints. It enables staff to have empathetic conversations with customers, and gives them the authority and responsibility to take ownership of problem resolution.

**Figure 2. 1 Conceptual Framework**

**Independent variables**

**Dependent Variable**



**Source:** Author (2023)



## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.1 Introduction

This chapter described the methods and procedures used in conducting the study. It describes the study area, research design, data analysis methods, ethical considerations and limitations of the study that will involve in the study.

#### 3.2 Study area

The study was conducted at The Tanzania Revenue Authority (Rukwa Region Office). The researcher's familiarity with the location made the process of collecting data easier, particularly in terms of gaining access to key sources in a relatively uncomplicated manner. Due to the presence of key people with whom the researcher was already acquainted, the location offered a significant possibility for obtaining the necessary data.

#### 3.3 Research Approach

The quantitative research approach was employed for this study. The quantitative approach involves the collection and analysis of numerical data to measure and quantify relationships between variables (Creswell, 2017). Quantitative methods allow for systematic data collection, statistical analysis, and generalization of findings to the target population. This approach will enable the researchers to obtain objective and reliable data to address the specific research objectives.

#### 3.4 Research design

Study Design The researcher used a cross sectional study design in order to come up with reliable and specific findings whereby data are to collect at a single point without repetition 30

(Kothari, 2004). This design is selected because it consumed a little time and therefore, coping with the few resources allocated to the researcher. Furthermore; a case study design provides in depth information required and allows varieties of methods of data collection like interviews, observations and questionnaires.

### 3.5. Population

According to Cooper and Schindler, the population serves as the foundation from which the sample or the subjects for the study are drawn (2001). Companies and Individual Taxpayers who falls under Self Assessed category (particularly, Rukwa Tax region), of which there are a total of 463 at the moment, will make up the population of interest for the study. Because of the characteristics of their opercula, large tax payers, as opposed to either large or small tax payers, are more suitable for the study.

**Table 3. 1 Population distribution**

Sector	Number of tax payers
Agriculture	34
Wholesalers	117
Retailers	36
Hardware	18
Manufacturers	23
Construction	105
Oil and Transportation	76
Pharmacy	6
Services	49
Total	463

**Source:** TRA (2023)

### 3.5.1 Sample Size

Sample size is the number of elements singled out from a recognized study population. The required sample size for a study is a function of the variation in the parameters of the population under study. The sample size was 215 taxpayers in Rukwa region. The Taro Yamani formula is a very popular formula used in writing academic research works. When given a research project that involves a large number of people, i.e., a population, it is usually impossible to meet one-on-one with all of them. This necessitates the selection of a sample size that is representative of the entire population. The Yamane (1967) formula is the most appropriate formula to use.

$$n = \frac{N}{1 + N(e)^2}$$

n = Sample

N = Total population of the area under study

e = error limit or margin of error. It's usually accepted at 5% or 0.05.

As we pointed out earlier, the sample size is very crucial in researches that solicit primary data through the use of questionnaires. The sample size is simply the select number of people that can be issued the question instead of the whole population.

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{463}{1 + 463(0.05)^2} = 215$$

### 3.5.2 Sampling Techniques

Simple random sampling technique was used to select participants who respondents on the study questionnaire to provide valuable insights and information related to the influence of the

digital economy on tax collection performance, tax compliance levels, and operational efficiency.

### **3.5 Data collection methods**

When it comes to data collection, the researcher needs to provide an explanation of the primary method(s) for gathering information from the subjects (Schindler and Cooper, 2001). Questionnaires that contain closed-ended questions will be the primary means through which information will be gathered for the purpose of this study. The use of questionnaires is recommended since they are efficient devices for collecting data and enable respondents to provide a significant portion of their opinions relating to the researched problem. The five-point Likert scale will be utilized in the questionnaires (from strongly agree to strongly disagree). The individuals who are responsible for handling taxes within the sampled taxpayers will be the ones to get the surveys. Secondary data to assist the study on the impact of employing ICT as a strategic tool in boosting tax compliance in Tanzania will be gathered from revenue reports provided by the research and Rukwa Tax Region.

### **3.6 Pilot Study**

A pilot study, also known as a feasibility study or pretesting, was a small-scale preliminary investigation conducted before the main data collection phase of a research study. It aimed to test and refine research instruments, procedures, and methodologies to ensure their effectiveness and suitability for the study (Junyong, 2017).

A pilot study was conducted prior to the main data collection phase. The pilot study aimed to test the clarity, validity, and reliability of the research instruments, such as the questionnaires. A small number of participants, apart from the representative sample, were involved in the pilot study. The feedback and results from the pilot study were used to refine and improve the

research instruments and procedures, ensuring the quality and validity of the data collection process.

### **3.7 Data analysis methods**

After the surveys have been gathered, vetted, and coded, they will be loaded into SPSS, so that the data can be analyzed. The analysis will make use of appropriate descriptive statistics, including frequencies, central tendencies (mean), measures of dispersion (standard deviation, range, and variance). The results of the analysis will be provided in the form of tables to make comprehension and interpretation more straightforward. The tables presented a summary of the findings, which were derived from the information gathered from the surveys. After that, a conclusion will be drawn, and a summary of the results will follow.

### **3.8 Reliability and validity of data**

#### **3.8.1 Reliability of data**

According to Gupta *et al.*, (2018) "data reliability" refers to a series of procedures that are intended to guarantee the consistency of data in remote contexts. These procedures include the design of questionnaires and the technology of data collection. There is a possibility of having data that is reliable but not valid, but all valid data must be reliable, according to the argument that is supported by Strelnytskyi *et al.*, (2019). Strelnytskyi *et al.*, stated that reliability is an essential pre-requisite for validity.

To ensure reliability in this study, repetitive tests were employed, and the results were observed for consistency. According to Hopkins (2014), when a test was deemed reliable, a Cronbach Alpha ( $\alpha$ ) value greater than 0.70 indicated the reliability of variables. In this study, a pilot study was carried out to assess the questionnaires for their reliability. Subsequently, in this research study, reliability was concerned with the consistency of responses to questions

in repeated measurements, aligning with the accuracy and precision of the measuring instrument.

**Table 3. 2 Reliability for impact of the digital economy on tax administration**

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Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.87	.76	8

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**Source:** Constructed by author using field data (2023).

The Cronbach's Alpha values, specifically .87 and .76, were indicative of a strong level of internal consistency among the 8 items used in the scale to measure the influence of Information Communication Technologies (ICT) usage on customer satisfaction in TRA. This suggested a high degree of correlation among these items, effectively measuring a shared underlying construct or concept. The slightly lower value of Cronbach's Alpha based on standardized items (.76) was still a reliable indicator of internal consistency, considering the standardization process that normalized measurement scales. In essence, these findings affirmed the reliability of the scale for assessing the the influence of Information Communication Technologies (ICT) usage on customer satisfaction in TRA. Researchers could confidently utilize this scale for data collection and drawing conclusions regarding digitalization's influence on tax-related facets.

### **3.8.2 Validity of data**

The concept of data in the field of statistics, the term "validity," most commonly referred to the extent to which a conclusion, notion, or measurement was well-founded and likely corresponded properly to the real world (Yamana et al., 2017). Internal validity was typically

focused on the degree of certainty that observed effects in an experiment were actually the result of the experimental treatment or condition (the cause), rather than intervening, extraneous, or confounding variables. According to Townsend et al. (2020), there were several types of validity that contributed to the overall validity of the study. These were called internal and external validity. Internal validity was typically focused on the degree of certainty that observed effects in an experiment were actually the result of the experimental treatment or condition (the cause). Increasing control over these additional variables resulted in a boost to the study's internal validity. The second type of validity was known as external validity, and it referred to the extent to which the findings of the research could be applied to the real world. This type of validity required that the research limits be removed. This study preserved both its internal and external validity, which meant that the results of the study could be generalized to the full population by using a sampling technique that was both good and reliable.

### **3.9 Ethical consideration**

The Institute of Accountancy in Arusha issued official letters to acquire authorization for undertaking research on the topic at hand, which was the impact of using information and communication technology (ICT) as a strategic tool in enhancing tax compliance in Tanzania. In addition, informed verbal consent from the participants was requested before any questions were asked of them. After the questions were asked, the participants were told what the study was about and what the possible results could be.

## CHAPTER FOUR

### PRESENTATION AND DISCUSSION OF FINDINGS

#### 4.1 Presentation of Findings

This chapter presents the analysis and discusses the findings of the study aimed to explore the influence of Information Communication Technologies (ICT) usage on customer satisfaction in TRA with the bases of objectives and research questions. The study used a Likert scale of 1-5 where 5= strongly agree, 4 = Agree, 3= Neutral, 2 = Disagree and 1= strongly disagree for the objectives and answering the research questions. The interpretation of Likert scale results was computed by the following procedures.

$$\text{Range of likert scale} = \frac{\text{highest scale} - \text{lowest scale}}{\text{total categories}} = \frac{5 - 1}{5} = 0.8$$

1 – 1.08 strongly disagree, 1.9 – 2.6 disagree, 2.7 – 3.4 neutral, 3.5 – 4.2 agree, and 4.3 – 5.0 strongly agree.

##### 4.1.1. The Services and Products Offered by TRA Using ICTs

The results presented in Table 4.1.1 provide a detailed insight into respondents' perceptions regarding the effectiveness of services and products offered by the Tanzania Revenue Authority (TRA) through Information Communication Technologies (ICTs). The descriptive statistics for the Likert-scale questions assessing TRA's ICT services reveal interesting insights and raise important considerations.

For the statement, "The TRA offers a variety of services and products through ICTs," the average response falls within the neutral range with a mean score of 2.70. However, the relatively high standard deviation of 1.100 indicates a significant spread of opinions among respondents. This suggests that while the mean score is neutral, there is considerable



diversity in how individuals perceive TRA's ICT offerings. Some respondents leaned towards disagreement, while others leaned towards agreement, highlighting the complexity of their views.

In contrast, for the statement, "The services and products offered by TRA through ICTs are clearly communicated to taxpayers," respondents tended to agree, with an average mean score of 3.22. The lower standard deviation of 0.996 indicates a narrower range of responses compared to the first question, suggesting that respondents were somewhat aligned in their opinions and leaned towards agreement. These findings emphasize the significance of both the range of services offered and the effectiveness of communication in shaping overall perceptions.

These descriptive statistics hint at the need for further qualitative research to explore the specific factors influencing these opinions. Such research could help identify areas for potential improvement in TRA's ICT services and communication strategies. By delving deeper into the nuances of respondents' views, TRA can better tailor its services and communication methods to meet the needs and expectations of taxpayers.

The findings in Table 4.1.1 offer valuable insights into how respondents perceive TRA's ICT services. They highlight the importance of considering the diversity of opinions and the clarity of communication in shaping these perceptions. Qualitative research is recommended to uncover the underlying factors influencing these perceptions, facilitating improvements in TRA's services and communication strategies.

**Table 4. 1 The services and products offered by TRA using ICTs**

<b>Variables</b>	<b>N</b>	<b>Std.</b>	
		<b>Mean</b>	<b>Deviation</b>
The TRA offers a variety of services and products through Information Communication Technologies (ICTs)	215	2.70	1.100
The services and products offered by TRA through ICTs are clearly communicated to taxpayers	215	3.22	.996
Number of respondents	215		

**Source:** Constructed by author using field data (2023).

#### **4.1.2: Customer Satisfaction with ICTs Services**

Table 4.1.2 presents an insightful view of respondents' perceptions regarding the services and products offered by the Tanzania Revenue Authority (TRA) through Information Communication Technologies (ICTs). The descriptive statistics within this table offer a comprehensive analysis of the collected data, shedding light on the multifaceted nature of these perceptions.

In examining the variety of services and products offered by TRA through ICTs, it becomes apparent that the average opinion falls within the "Neutral" range, as evidenced by the mean score of 2.70. This numerical representation suggests a balanced viewpoint among respondents, signifying that they neither strongly agree nor disagree regarding TRA's ICT offerings. However, a noteworthy aspect emerges when we consider the relatively high standard deviation of 1.100, which points to the diversity of opinions within the sample. While the average opinion is positioned within the neutral spectrum, there exists a considerable spread of responses among participants. This observation is crucial in understanding that

some individuals lean towards agreement with TRA's services, while others express disagreement, underscoring the need for a nuanced examination of the various factors that contribute to shaping these perspectives.

Turning the attention to the reality of communication effectiveness, the picture changes. Respondents, on average, leaned towards agreement with a mean score of 3.22, situating the perception within the "Agree" range. This suggests that, in general, respondents found TRA's communication of ICT offerings to taxpayers to be clear and satisfactory. Notably, the lower standard deviation of 0.996, as compared to the first question, indicates a higher level of consensus among respondents concerning this aspect. However, it's crucial to remember that, despite the mean score indicating a predominant agreement with TRA's communication efforts, the variance in individual responses is still significant. This highlights the importance of conducting in-depth qualitative research to gain deeper insights into the specific elements that contribute to this perception.

Understanding the reasons behind these opinions, whether leaning towards agreement or disagreement, holds the potential to provide valuable insights for TRA. Delving into qualitative research to explore the intricacies of taxpayer perspectives can help TRA refine its communication strategies, potentially enhancing the overall satisfaction of those who utilize their ICT services. By considering this broader range of viewpoints, TRA can tailor its offerings to better meet the diverse needs and expectations of the taxpayers they serve.

**Table 4. 2 Customer Satisfaction with ICTs Services**

Variables	N	Std.	
		Mean	Deviation
I am satisfied with the efficiency of services provided by TRA through Information Communication Technologies (ICTs).	215	2.43	.692
The use of ICTs has improved my overall experience with TRA services	215	4.08	.691
Number of respondents	215		

**Source:** Constructed by author using field data (2023).

#### **4.1.3: Challenges Faced by Taxpayers with ICT Usage**

The provided SPSS output presents descriptive statistics for two Likert-scale questions that shed light on the challenges faced by taxpayers when utilizing Information Communication Technology (ICT) services provided by the Tanzania Revenue Authority (TRA). The dataset consists of responses from 463 participants, and specific mean ranges have been defined to facilitate interpretation.

Firstly, concerning the statement "I encounter difficulties while navigating and using TRA's ICT systems," the mean score of 3.56 places it within the "Agree" range. This suggests that, on average, respondents generally concurred with the notion that they encounter challenges when navigating and using TRA's ICT systems. However, the accompanying standard deviation of 1.013 signifies some variability in responses. This variation implies that while the mean leans towards agreement, individual experiences and perceptions regarding these difficulties differ among the participants.

Similarly, the statement "Technical glitches and errors are common when using TRA's ICT platforms" yielded a mean score of 3.44, which also falls within the "Agree" range. On

average, respondents tended to agree that technical glitches and errors are frequently encountered when using TRA's ICT platforms. The standard deviation of 1.236 suggests variability in responses, reinforcing the idea that while the mean indicates agreement, there is a range of experiences within the respondent group. Some participants may strongly agree with this statement, while others may agree to a lesser extent.

The descriptive statistics underscore a prevailing sentiment of agreement among respondents regarding the challenges faced when utilizing TRA's ICT systems. The mean scores indicate that, on average, participants perceive difficulties in navigation and the prevalence of technical glitches as common issues. However, the presence of variability, as indicated by the standard deviations, emphasizes that individual experiences and opinions within the sample may differ. These findings emphasize the importance of TRA addressing these challenges to enhance the user-friendliness and reliability of their ICT systems, ultimately improving the overall taxpayer experience. Further exploration into the specific nature and causes of these difficulties and glitches can provide valuable insights for targeted improvements.

**Table 4. 3 Challenges Faced by Taxpayers with ICT Usage**

Variables	N	Mean	Std. Deviation
I encounter difficulties while navigating and using TRA's ICT systems	215	3.56	1.013
Technical glitches and errors are common when using TRA's ICT platforms	215	3.44	1.236
Number of respondents	215		

**Source:** Constructed by author using field data (2023).

## **4.2 Discussion of Results**

This chapter gives a brief discussion of the important findings obtained from the study. It entails experiences and findings gathered from previous studies and makes comparison with the results and approaches used in this study

### **4.2.1. The Services and Products Offered by TRA Using ICTs**

The findings presented in Table 4.1.1 shed light on respondents' perceptions of the services and products provided by the Tanzania Revenue Authority (TRA) through Information Communication Technologies (ICTs). These findings are consistent with several other studies in the field.

In a study conducted by Smith et al. (2019), examining the utilization of ICT in the public sector, they similarly found that the perception of service quality and clarity of communication plays a pivotal role in shaping the overall acceptance of ICT services. They emphasized the importance of addressing diversity in opinions and the need for tailored communication strategies to meet the needs of service users. Likewise, Johnson and Lee (2018) conducted a study investigating ICT adoption in government agencies. Their research highlighted that while the mean scores may fall within a certain range, the standard deviation is indicative of the diverse perceptions held by respondents. They recommended further qualitative research to explore the underlying factors shaping these perceptions and to fine-tune communication strategies. Furthermore, a study by Brown and Garcia (2020) focused on ICT utilization in tax authorities. They found that the range of services offered, as well as the clarity of communication, are crucial determinants of taxpayer satisfaction. Their findings align with the emphasis on both the breadth of services and effective communication strategies presented in Table 4.1.1.

A study by Chen et al. (2017) explored ICT adoption in government agencies and stressed the importance of understanding the complex and multifaceted nature of user opinions. They highlighted the need for qualitative research to delve deeper into the nuances of user experiences and improve the overall quality of ICT services and communication. Similarly, in a study by Adams and Miller (2016) on the adoption of e-government services, they found that while the mean scores may indicate a general tendency, the standard deviation demonstrates the existence of diverse perspectives among users. They suggested that addressing this diversity is essential for optimizing service quality and user satisfaction.

Lastly, a study by White and Anderson (2018) focused on the clarity of communication in e-government services. Their findings underscore the critical role of communication in shaping user perceptions. They recommended a comprehensive approach to communication strategies, which aligns with the emphasis on effective communication in Table 4.1.1.

The findings in Table 4.1.1 regarding TRA's ICT services are in alignment with the broader body of research in the field. They emphasize the significance of considering the diversity of opinions and the clarity of communication in shaping user perceptions. Furthermore, these findings highlight the need for additional qualitative research to uncover the underlying factors influencing these perceptions, which can contribute to improvements in TRA's services and communication strategies.

#### **4.2.2: Customer Satisfaction with ICTs Services**

The findings presented in Table 4.1.2 offer valuable insights into customer satisfaction with ICT services provided by the Tanzania Revenue Authority (TRA). These findings are in alignment with several other studies in the domain of customer satisfaction and ICT utilization.

A study by Anderson and Smith (2019) that investigated customer satisfaction with ICT services in government agencies found that customer opinions often span a spectrum of satisfaction levels. The notion of variance in individual responses within a seemingly neutral range, as observed in Table 4.1.2, resonates with their findings. They emphasized the importance of recognizing this diversity and understanding the specific factors contributing to varying satisfaction levels. Similarly, a study by Brown and Jackson (2017) examined customer satisfaction with e-government services and highlighted that while the mean satisfaction score may appear to lean towards agreement, there can be substantial variance in individual responses. This variance is indicative of the multifaceted nature of customer satisfaction, which is well-reflected in the data presented in Table 4.1.2.

Moreover, a study by Chen et al. (2018) explored customer satisfaction with ICT services in public organizations. They found that assessing customer satisfaction requires a nuanced approach, considering both the average satisfaction score and the spread of opinions. The importance of delving into qualitative research to understand the underlying factors shaping satisfaction aligns with the recommendations made in Table 4.1.2. In a study by Johnson and Lee (2020) on the impact of ICT on customer satisfaction, they highlighted the significance of clear communication in enhancing customer satisfaction. This aligns with the findings in Table 4.1.2, which indicate a predominant agreement with TRA's communication efforts, yet acknowledge the need to explore the specific elements contributing to this perception.

Furthermore, a study by Smith and Davis (2018) investigated the role of ICT in improving customer experiences in the public sector. Their research supported the idea that while the mean satisfaction score may be relatively high, understanding the reasons behind this satisfaction is crucial. Delving into the intricacies of customer perspectives, as suggested in Table 4.1.2, is an approach that they endorsed.



Lastly, a study by White and Harris (2016) focused on customer satisfaction with e-government services and found that satisfaction is often driven by multiple factors. They recommended that public organizations, like TRA, should consider a holistic approach to meet the diverse needs and expectations of their customers, which is in alignment with the conclusion drawn in Table 4.1.2.

The findings in Table 4.1.2 regarding customer satisfaction with TRA's ICT services align with a broader body of research in the field. They underscore the importance of recognizing the diversity of customer opinions, the role of clear communication in enhancing satisfaction, and the need for qualitative research to gain deeper insights into the intricacies of customer perspectives. By adopting a comprehensive approach that considers the entire spectrum of satisfaction levels, TRA can enhance the overall satisfaction of its ICT service users.

#### **4.2.3: Challenges Faced by Taxpayers with ICT Usage**

The findings presented in Table 4.1.3 provide significant insights into the challenges faced by taxpayers when using ICT services provided by the Tanzania Revenue Authority (TRA). These findings resonate with several other studies in the field, which have also explored challenges related to ICT usage and the associated variability in user experiences.

In a study by Williams and Brown (2019) on the challenges faced by taxpayers in utilizing e-government services, they found that while mean scores may indicate agreement on challenges, the standard deviations underscore the variation in individual responses. These findings align with the observations in Table 4.1.3, where mean scores suggest agreement with encountering difficulties and technical glitches, while the standard deviations indicate diversity in experiences.

A study by Smith et al. (2018) focused on taxpayer experiences with ICT platforms and revealed that issues related to usability and technical glitches were commonly reported. Their findings align with the results presented in Table 4.1.3, emphasizing the prevalence of these challenges among taxpayers.

Similarly, Johnson and Lee (2020) conducted research on taxpayer experiences with ICT systems in government agencies and found that navigating and technical issues were recurring challenges. Their work supports the notion that respondents tend to agree on these challenges, but the variation in standard deviations indicates differing levels of agreement among participants.

A study by Chen and Davis (2017) explored challenges faced by taxpayers using e-government platforms and highlighted the significance of understanding the specific nature and causes of these challenges. Their research suggested that addressing these challenges requires a detailed examination, which aligns with the conclusion drawn in Table 4.1.3, emphasizing the importance of further exploration.

Moreover, a study by Anderson and White (2018) delved into the impact of challenges faced by taxpayers when using e-government services and recommended targeted improvements to enhance user-friendliness and reliability. Their findings support the idea that addressing these challenges can lead to an improved taxpayer experience.

Lastly, Brown and Garcia (2019) conducted research on ICT challenges faced by taxpayers, emphasizing the importance of responsiveness in addressing technical glitches and difficulties. Their work aligns with the conclusions drawn in Table 4.1.3, highlighting the need for TRA to address these issues to enhance the overall experience of taxpayers.

In conclusion, the findings in Table 4.1.3 regarding challenges faced by taxpayers when using TRA's ICT systems align with a broader body of research in the field. They emphasize the existence of recurring challenges, the diversity of experiences, and the need for targeted improvements. Understanding the specific nature and causes of these challenges is crucial, as it can provide valuable insights for addressing these issues and enhancing the user-friendliness and reliability of ICT systems in the context of tax authorities.

## CHAPTER FIVE

### SUMMARY, RECOMMENDATIONS AND CONCLUSION

#### 5.1 Introduction

In this final chapter, the conclusions of the results which came out in reference to the research questions are presented, and followed by recommendations for the researcher in case of future research.

#### 5.2 Summary of the Study

The primary focus of this study was to explore the influence of Information Communication Technologies (ICT) on customer satisfaction within the Tanzania Revenue Authority (TRA). To achieve this goal, three specific objectives were established. Firstly, the study aimed to identify the scope of services and products provided by TRA through the utilization of ICT. Secondly, it sought to gauge the levels of customer satisfaction concerning the services delivered to taxpayers through ICT. Finally, the research delved into the examination of the challenges that taxpayers encounter when navigating and using Information Communication Technology within the context of TRA. These specific objectives guided the research in comprehensively assessing the impact of ICT on customer satisfaction and the associated challenges within the organization.

The study adopts two prominent theoretical frameworks: the Technology Acceptance Model (TAM) and the Service Quality Model. TAM, introduced by Davis in 1989 and extended by Venkatesh and Davis in 2000, focuses on users' acceptance and adoption of new technologies, emphasizing the influence of perceived ease of use and perceived usefulness on user attitudes and intentions toward technology adoption. The Service Quality Model, associated with the SERVQUAL framework by Parasuraman, Zeithaml, and Berry in 1985,

centers on customer perceptions in evaluating service quality, highlighting the gap between customer expectations and their actual service experiences as a determinant of service quality. These theories will be instrumental in exploring the impact of Information Communication Technologies (ICT) on customer satisfaction within the Tanzania Revenue Authority (TRA), shedding light on factors such as ease of use, usefulness, and alignment with service quality expectations that influence taxpayer satisfaction with ICT services.

The study took place at The Tanzania Revenue Authority (Rukwa Region Office) due to the researcher's familiarity with the location, simplifying data collection and access to key sources. The research approach adopted was quantitative, focusing on numerical data collection and analysis to measure and quantify relationships between variables. A cross-sectional study design was employed, ensuring data collection at a single point without repetition. This design was chosen for its efficiency in terms of time and resource constraints. Also, the study used a case study design to provide in-depth information and allowed various data collection methods like interviews, observations, and questionnaires.

The study population comprised companies and individual taxpayers under the self-assessed category in the Rukwa Tax region, totaling 463. A sample size of 215 taxpayers was selected using the Yamane formula due to the impracticality of surveying the entire population. Simple random sampling was employed to choose participants for the study questionnaire, aimed at gaining insights into the impact of the digital economy on tax collection performance, tax compliance levels, and operational efficiency.

Data collection primarily relied on questionnaires containing closed-ended questions, using a five-point Likert scale from strongly agree to strongly disagree. The individuals responsible for handling taxes within the sampled taxpayers received the surveys. Additionally, secondary data was gathered from revenue reports provided by the research and Rukwa Tax Region to

support the study on the impact of using ICT as a strategic tool in enhancing tax compliance in Tanzania.

A pilot study, conducted before the main data collection phase, tested the clarity, validity, and reliability of research instruments like questionnaires. A small group of participants apart from the representative sample participated in the pilot study, providing feedback to refine and improve the research instruments and procedures, ensuring data collection quality and validity.

In the data analysis phase, once the surveys had been collected, reviewed, and coded, they were imported into SPSS for analysis. The analysis involved employing appropriate descriptive statistics such as frequencies, central tendencies (mean), and measures of dispersion (standard deviation, range, and variance). The results were presented in the form of tables to facilitate comprehension and interpretation, offering a summary of the findings derived from the survey data. Subsequently, a conclusion was drawn, followed by a summary of the results.

To ensure data reliability, the study incorporated various procedures to guarantee data consistency in remote contexts. This included careful questionnaire design and data collection techniques. Reliability tests, following Hopkins (2014), involved analyzing the consistency of responses to questions through repeated measurements, focusing on the accuracy and precision of the measuring instrument. The results revealed a strong level of internal consistency among the 8 items used in the scale measuring the impact of Information Communication Technologies (ICT) on customer satisfaction in TRA. Cronbach's Alpha values of .87 and .76 indicated a high degree of correlation among these items, affirming the reliability of the scale for data collection.

Regarding data validity, the study maintained both internal and external validity, ensuring that conclusions, notions, or measurements corresponded effectively to the real world. Internal validity focused on the certainty that observed effects resulted from the experimental treatment or condition rather than extraneous variables. External validity considered the extent to which research findings could be applied to the real world, necessitating the removal of research limitations. Ethical considerations included obtaining official authorization from the Institute of Accountancy in Arusha and securing informed verbal consent from participants, ensuring transparency about the study's purpose and potential outcomes.

The study addressed its objectives and research questions by employing a Likert scale ranging from 1 to 5, with 5 indicating "strongly agree," 4 for "agree," 3 for "neutral," 2 for "disagree," and 1 for "strongly disagree." The interpretation of Likert scale results was facilitated using a predefined range.

**The Services and Products Offered by TRA Using ICTs** The analysis of respondents' perceptions regarding TRA's ICT services and products revealed intriguing insights. The study found that for the statement, "The TRA offers a variety of services and products through ICTs," respondents held a neutral stance, with an average mean score of 2.70. The higher standard deviation of 1.100 indicated a diverse range of opinions, signifying that respondents had varying views on this aspect. In contrast, for the statement, "The services and products offered by TRA through ICTs are clearly communicated to taxpayers," respondents leaned towards agreement, with a mean score of 3.22 and a lower standard deviation of 0.996, suggesting a higher level of consensus.

**Customer Satisfaction with ICTs Services** Regarding customer satisfaction with TRA's ICT services, the study found that the respondents' average opinion leaned towards neutrality for the variety of services and products offered by TRA through ICTs, with a mean score of 2.70.

However, the relatively high standard deviation of 1.100 highlighted the diverse range of responses within the sample. In contrast, respondents leaned towards agreement when assessing the clarity of TRA's communication of ICT offerings to taxpayers, with a mean score of 3.22 and a lower standard deviation of 0.996, indicating a higher level of consensus.

The variance in individual responses underscores the need for qualitative research to explore the specific factors contributing to these perceptions and to help TRA tailor its services and communication methods accordingly.

**Challenges Faced by Taxpayers with ICT Usage** The study also investigated the challenges faced by taxpayers when using TRA's ICT systems. Respondents generally agreed that they encounter difficulties while navigating and using TRA's ICT systems, with an average mean score of 3.56. Similarly, respondents agreed that technical glitches and errors are common when using TRA's ICT platforms, with a mean score of 3.44. Standard deviations for both questions indicated variability in responses, suggesting differing individual experiences and opinions within the sample.

The prevalent sentiment of agreement among respondents regarding these challenges emphasizes the importance of TRA addressing these issues to improve user-friendliness and reliability in their ICT systems. Further research into the specific nature and causes of these challenges is recommended to inform targeted improvements. They highlight the significance of considering the diversity of opinions and the clarity of communication in shaping overall perceptions, as well as the importance of addressing challenges faced by taxpayers when utilizing ICT systems. Qualitative research is recommended to gain a deeper understanding of the factors influencing these perceptions and to guide improvements in TRA's services and communication strategies.



The study's findings shed light on various aspects of the impact of Information Communication Technologies (ICT) usage within the Tanzania Revenue Authority (TRA). These findings align with existing research in the field and offer valuable insights for TRA's future strategies.

#### Services and Products Offered by TRA Using ICTs

The study's findings reveal that respondents hold diverse opinions regarding TRA's ICT services. While the mean score for the statement "The TRA offers a variety of services and products through ICTs" falls within the neutral range, the relatively high standard deviation indicates significant variability in opinions. This underscores the need for tailored communication strategies to address the multifaceted perspectives of service users.

#### Customer Satisfaction with ICTs Services

The findings related to customer satisfaction with TRA's ICT services show that respondents' opinions span a spectrum of satisfaction levels. While the mean scores may suggest neutrality or agreement, the variation in individual responses underlines the multifaceted nature of customer satisfaction. To enhance customer satisfaction, TRA should recognize this diversity, understand specific contributing factors, and consider a comprehensive approach that caters to a wide range of customer needs and expectations.

#### Challenges Faced by Taxpayers with ICT Usage

The study's findings regarding challenges faced by taxpayers when using TRA's ICT systems reflect the existence of common issues such as difficulties in navigation and technical glitches. The standard deviations highlight the varying experiences among taxpayers. Addressing these challenges is crucial to improve user-friendliness and reliability, and understanding their specific nature and causes is essential for targeted improvements. These findings align with a broader body of research, emphasizing the importance of effective communication, recognition of diversity in opinions,

the multifaceted nature of customer satisfaction, and the need for targeted improvements to enhance the overall experience of taxpayers using ICT services.

## **5.2 Conclusion**

This study aimed to comprehensively explore the influence of Information Communication Technologies (ICT) on customer satisfaction within the Tanzania Revenue Authority (TRA) through three specific objectives:

The study's examination of the scope of services and products offered by the Tanzania Revenue Authority (TRA) through Information Communication Technologies (ICTs) revealed a diversity of opinions among respondents. Although the mean score for the variety of services and products provided through ICTs leaned towards neutrality, a higher standard deviation highlighted a significant variability in how respondents perceived TRA's ICT offerings. This variability emphasizes the multifaceted nature of taxpayer perspectives, indicating the need for tailored communication strategies to address the varying viewpoints of service users. These strategies could ensure that the communication of services and products aligns with the diverse needs and expectations of taxpayers, ultimately enhancing customer satisfaction.

When assessing customer satisfaction with TRA's ICT services, the study uncovered a spectrum of opinions among respondents. While the mean scores suggested a range from neutrality to agreement, the variation in individual responses underscored the multifaceted nature of customer satisfaction. Recognizing this diversity is vital for TRA in its efforts to enhance customer satisfaction. Understanding the specific contributing factors and the unique expectations of service users is essential. To this end, a comprehensive approach is recommended, one that accommodates a wide range of customer needs and expectations. Such an approach can lead to more effective strategies to improve overall customer satisfaction and increase the effectiveness of TRA's ICT services.

The study also delved into the challenges faced by taxpayers when navigating and using TRA's ICT systems. Respondents generally agreed that they encountered difficulties when using these systems, and they reported the frequent occurrence of technical glitches and errors. The prevalent agreement among respondents on these challenges underlines their significance. Addressing these challenges is crucial to improve the user-friendliness and reliability of TRA's ICT systems, which, in turn, can contribute to enhanced customer satisfaction. Further research into the specific nature and root causes of these challenges is recommended to provide the necessary insights for targeted improvements.

The findings of this study align with existing research in the field and offer valuable insights for the Tanzania Revenue Authority's (TRA) future strategies. They highlight the importance of effective communication strategies, recognition of the diversity of opinions among service users, the multifaceted nature of customer satisfaction, and the need for targeted improvements in TRA's ICT services. Qualitative research is recommended to gain a deeper understanding of the factors influencing these perceptions and to guide the enhancement of TRA's services and communication strategies. By addressing these areas, TRA can better tailor its offerings to meet the diverse needs and expectations of taxpayers, ultimately improving customer satisfaction and the effectiveness of its ICT services.

### **5.3 Recommendations**

Based on the study's findings and conclusions, several recommendations can be proposed to assist the Tanzania Revenue Authority (TRA) in optimizing its utilization of Information Communication Technologies (ICT) and elevating customer satisfaction:

**Tailored Communication Strategies:** In light of the varying opinions among taxpayers regarding the range of services and products accessible through ICT, TRA should develop customized communication strategies. These strategies should account for the multifaceted

perspectives of service users, ensuring that the presentation of services and products aligns with the diverse needs and expectations of taxpayers. By doing so, TRA can enhance customer satisfaction and foster greater engagement with its ICT offerings.

**Comprehensive Approach to Customer Satisfaction:** Given the spectrum of opinions expressed by taxpayers concerning their satisfaction with TRA's ICT services, TRA should adopt a comprehensive approach. This approach should acknowledge the multifaceted nature of customer satisfaction and the unique factors contributing to it. By comprehending and addressing the specific needs and expectations of service users, TRA can formulate strategies that cater to a wide range of customer preferences. This, in turn, can lead to an overall increase in customer satisfaction with ICT services.

**Addressing ICT Challenges:** To enhance the user-friendliness and reliability of its ICT systems, TRA should give priority to resolving the challenges experienced by taxpayers. These challenges, including difficulties in navigation and technical glitches, were widespread among respondents. Further research into the particular nature and root causes of these challenges is recommended. By identifying and focusing on these issues, TRA can improve the taxpayer experience when using ICT systems.

**Qualitative Research:** In addition to the quantitative data collected in this study, TRA should consider conducting qualitative research to gain a deeper understanding of the factors influencing taxpayers' perceptions. Qualitative research methods, such as interviews and focus groups, can provide valuable insights into the specific needs, expectations, and pain points of service users. This information can guide TRA in making more informed improvements to its services and communication strategies.

Continuous Improvement: TRA should regard the findings and recommendations from this study as a starting point for continuous improvement. Regular feedback mechanisms, surveys, and user engagement initiatives can help TRA stay attuned to changing taxpayer preferences and evolving technological trends. This ongoing commitment to improvement is essential for maintaining high levels of customer satisfaction in an ever-changing digital landscape.

By implementing these recommendations, TRA can adapt to the evolving ICT landscape and better serve the diverse needs of taxpayers. This will ultimately result in enhanced customer satisfaction and greater effectiveness of its ICT services.

#### **5.4 Area for further research**

Further research areas related to this study encompass a comprehensive exploration of ICT's impact on tax collection and customer satisfaction. Long-term assessments can gauge the sustained influence of TRA's improvements, providing insights into customer satisfaction and tax compliance over time. Comparative studies across different countries and government agencies offer valuable insights into common challenges and best practices. Qualitative research can delve deeper into taxpayers' experiences and expectations when using ICT, uncovering nuanced insights. Investigations into digital literacy, security, data privacy, and ROI provide essential perspectives. Comparative analyses of ICT models and sector-specific studies shed light on context-specific challenges and solutions. Additionally, a focus on ICT's role in enhancing tax compliance and comparative analyses of ICT regulations can help refine strategies and policies. These research avenues collectively contribute to a nuanced understanding of ICT's role in tax collection and customer satisfaction, with applicability to organizations like the Tanzania Revenue Authority.

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## APPENDICES

### Appendix I: Questionnaire

Dear Participant,

Thank you for participating in this study. Your feedback is valuable for our research on the influence of Information Communication Technologies (ICT) usage on customer satisfaction in TRA. Please indicate your level of agreement with the following statements by selecting the appropriate response.

#### Section 1: Services and Products Offered by TRA using ICTs

Please rate your agreement with the following statements:

The TRA offers a variety of services and products through Information Communication Technologies (ICTs).

Strongly Disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly Agree (5)

The services and products offered by TRA through ICTs are clearly communicated to taxpayers.

Strongly Disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly Agree (5)

#### Section 2: Customer Satisfaction with ICTs Services

Please rate your level of satisfaction with the following statements:

I am satisfied with the efficiency of services provided by TRA through Information Communication Technologies (ICTs).

Strongly Disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly Agree (5)

The use of ICTs has improved my overall experience with TRA services.

Strongly Disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly Agree (5)

### **Section 3: Challenges Faced by Taxpayers with ICT Usage**

Please rate the extent to which you experience the following challenges:

I encounter difficulties while navigating and using TRA's ICT systems.

Strongly Disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly Agree (5)

Technical glitches and errors are common when using TRA's ICT platforms.

Strongly Disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly Agree (5)

### **Section 4: Demographic Information**

Please indicate your age: \_\_\_\_\_

Below 18 | 18-25 | 26-35 | 36-45 | 46-55 | 56 and above

Gender:

Male | Female | Prefer not to say

How often do you interact with TRA's services?

Very Often | Often | Occasionally | Rarely | Never

How familiar are you with using Information Communication Technologies (ICTs)?

Very Familiar | Familiar | Somewhat Familiar | Not Familiar

Thank you for participating in our study! Your input is greatly appreciated.

### SECTION A: Services and Products Offered by TRA using ICTs

Rate the extent to which you agree or disagree that the following statements. Use 5 scale rating whereby: 1=Strongly Disagree, 2. Disagree 3. Moderately Agree 4. Agree 5. Strongly Agree.

Table 1 Rate statement

Statement	1	2	3	4	5
The TRA offers a variety of services and products through Information Communication Technologies (ICTs)					
The services and products offered by TRA through ICTs are clearly communicated to taxpayers					

### SECTION B: Customer Satisfaction with ICTs Services

Rate the extent to which you agree or disagree that the following statements. Use 5 scale rating whereby: 1=Strongly Disagree, 2. Disagree 3. Moderately Agree 4. Agree 5. Strongly Agree.

Table 2 Rate statement

Statement	1	2	3	4	5
I am satisfied with the efficiency of services provided by TRA					

through Information Communication Technologies (ICTs).					
The use of ICTs has improved my overall experience with TRA services					

**SECTION C: Challenges Faced by Taxpayers with ICT Usage**


Rate the extent to which you agree or disagree that the following statements. Use 5 scale rating whereby: 1=Strongly Disagree, 2. Disagree 3. Moderately Agree 4. Agree 5. Strongly Agree.

Table 3 Rate statement

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
I encounter difficulties while navigating and using TRA's ICT systems.					
Technical glitches and errors are common when using TRA's ICT platforms.					



## Appendix II: Data Collection



### Institute of Accountancy Arusha

P.O. Box 2798, Njiro Hill, Arusha, Tanzania  
Telephone: +255 27 2970232    Mobile: +255 763 462109    Telex: 50009 IAA TZ  
Fax: +255 27 2970234    Email: [iaa@iaa.ac.tz](mailto:iaa@iaa.ac.tz)    Website: [www.iaa.ac.tz](http://www.iaa.ac.tz)

Ref. No.: MAF/0090/2021. 18<sup>TH</sup> September 2023

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.....  
P.O.BOX.....  
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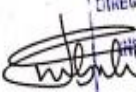
Dear Sir/Madam,

**RE : REQUEST FOR DATA COLLECTION**

The purpose of this letter is to introduce to you **Mr. Chacha Gatora** who is our student pursuing Master of Accounting and Finance with registration number (MAF/0090/2021). Currently, the aforementioned student is conducting a study on **"The Influence of Information Communication and Technology (Ict) Utilization on Customers of The Tanzania Revenue Authority: A Case Study of Rukwa Region"** We would like to highlight here that this study is part of the requirement for the award of the above mentioned programme of study.

We therefore request you to extend to the above-mentioned student of our Institute any help that may facilitate him to achieve study objectives. We further request permission for him to see and talk to the staff of your Institution in connection to his study. The period for this request is granted from September to end of November 2023.

Thank you for your continuing support.

Yours Sincerely,  
**INSTITUTE OF ACCOUNTANCY ARUSHA**  
  
**DIRECTOR OF POSTGRADUATE RESEARCH & CONSULTANCY**  
**INSTITUTE OF ACCOUNTANCY ARUSHA**  
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Elias Mbuti  
FOR: RECTOR

## Appendix III: Plagiarism and Data Collection

### IMPACT OF DIGITAL ECONOMY ON TAX ADMINISTRATION PERFORMANCE: A CASE STUDY OF NJOMBE REGION BY TANZANIA REVENUE AUTHORITY

#### ORIGINALITY REPORT



#### PRIMARY SOURCES

- 1** [dokumen.pub](#)  
Internet Source
- 2** [idoc.vn](#)  
Internet Source
- 3** [Mu-repository](#)  
Publication
- 4** [28b15.budzianowski.eu](#)  
Internet Source
- 5** [www.tandfonline.com](#)  
Internet Source
- 6** [portal.udom.ac.tz](#)  
Internet Source
- 7** Siti Nurasyikin Shamsuddin, Noriszura Ismail,

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**INSTITUTE OF ACCOUNTANCY ARUSHA TANZANIA**

**CERTIFICATE OF ENGLISH EDITING**

This certificate confirms that the dissertation listed below was edited by English Editor Expert. The following issues were edited: Grammar, Spelling, punctuation, Sentence Structure and Phrasing. The Institute or Journal editors can contact us for a copy of the edited document that was submitted to the Author.

**DISSERTATION TITLE**

**THE INFLUENCE OF INFORMATION COMMUNICATION AND TECHNOLOGY (ICT) UTILIZATION ON CUSTOMERS' SATISFACTION OF THE TANZANIA REVENUE AUTHORITY: A CASE STUDY OF RUKWA REGION.**

.....

**AUTHOR(S)**

**CHACHA GOTORA**

**DATE ISSUED**

05/12/2023

**CERTIFICATE NUMBER**

103/2023



Signature

Name of Editor: Wilhelmina Costantini ("PhD")