INVESTIGATING THE KEY DETERMINANTS OF ELECTRONIC MONEY SERVICES ADOPTION IN TANZANIA: A CASE OF MAKAMBAKO TOWN

VICTOR I. KWAY

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN MONITORING AND EVALUATION

DEPARTMENT OF ECONOMICS

THE OPEN UNIVERSITY OF TANZANIA

2020

CERTIFICATION

The undersigned certifies that he has read and here by recommends for acceptance by the Open University of Tanzania a dissertation entitled: *"Investigating the Key Determinants of Electronic Money Services Adoption in Tanzania: A Case of Makambako Town",* in partial fulfillment of the requirements for the Degree of Master Arts in Monitoring and Evaluation the Open University of Tanzania.

………………………………….

Dr. Hamidu Shungu

(Supervisor)

………………………….………

Date

COPYRIGHT

DECLARATION

I, **Victor I. Kway**, do hereby declare to the senate of the Open University of Tanzania, that this is my own original work and that to the best of my understanding it has not been presented before, anywhere for any purpose or for a degree or similar award at any other university.

……………………………

Signature

…………………………..

Date

DEDICATION

This work is dedicated to my family, Issack Kway (Father) Patrisia Shirima (Mother) Albina Issack (Sister) and my wife Rose Msunga and my son Stephen Kway for there tolerance and support during this work.

ACKNOWLEDGEMENT

I wish to express my sincere thanks to God for his grace, protection and support in my life because I believe without him this work could have been even more difficult. I am grateful to my supervisor Dr Hamidu Shungu for his support, in writing this dissertation.

Special thanks to my wife Rose Msunga, my son Stephano Victor Kway my friend Heri Ppunza and my workmates for their support and encouragement. I equally wish to extend special thanks to my colleagues and students of MA who helped me greatly through all the phases of my studies of coursework and dissertation writing. Their support is highly appreciated and respected.

I am indebted to many individuals for their ideas and assistance; their support is highly appreciated even though their names are not mentioned.

ABSTRACT

This research is intended to investigate the key determinants of electronic money adoption in Tanzania using Makambako Town Council as the case study. Main purpose of the research was investigating factors influencing the use of mobile money services. This study has four specific objectives. This study was done in Makambako Town Council at Njombe Region, Tanzania collecting data from four wards. The study included the representatives of 120 answerers. The answerers were obtained from 4 wards of lyamkena, Mji Mwema Ubena and Mwembetogwa. Primary and secondary data were collected and processed through Statistical Package for Social Sciences (SPSS). The study revealed that popular Mobil money services used by most people included airtime top-up, bills payments, balance enquiries and money transfer. According to the study money transfer was the most used mobile money service. The study revealed that key determinants of perceived usefulness, perceived cost effect, perceived trust & perceived risk influences the adoption of mobile money services. However, cost and trust were found but the study to have greater influence while usefulness and risk had contradictory results on people's perceptions and hypothesis testing. The study finally recommended that further study is needed to critically study the relationships of perceived usefulness and risk to the adoption of mobile money services. Other recommendation is that, service providers should think of people's economic differences when planning for service costs structures and should invest on sustaining the customers trust so as to continue keep their customers.

Keywords: Determinants of Electronic Money Services Adoption

TABLES OF CONTENTS

LIST OF TABLES

xiii

LIST OF FIGURES

LIST OF ABBREVIATIONS

C   Cost

ICT   Information and communication Technology

IS   Information System

ITU   International Telecommunication Union

MMS   Mobile Money Service

PR   Perceived Risk

PU   Perceived Usefulness

R   Risk

TAM   Technology Acceptance Model

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In recent years the use of mobile money has become wide spread as well as continuous to grow for both developed together with developing economies (Miakotko, L. 2017). Mobile cellular market can be described as the fastest growing telecommunication market in terms of subscriber numbers and popularity (Srivastava, L. 2008). According to International Telecommunication Union (ITU) estimates, by the end of 2018 there were 41 million and 4.9 billion mobile cellular subscriptions in Tanzania and worldwide respectively. No other Information and communications technology (ICT) service has been able to reach the same number of subscriptions, particularly in the developing world, in so little time (ITU, 2018). With the explosion and development of the wireless networks and technology such as 4G (fourth Generation) M-commerce is becoming a new issue in Information System (IS) research agenda.

The uses of mobile financial services are also diverse and expanding (Lyall, 2016). Can allow deposit, send, and withdraw funds using mobile phone, as well as purchase of goods and services (Alampay & Cabotaje, 2016; Jack & Suri, 2011), more common services being domestic and international remittances (Davis,2013). With expanding applications, varied models, and contexts, no one knows what the mobile [a]financial ecosystem will look like in years (Davis, 2013). In addition, the norms and expected behaviors surrounding mobile [a]financial services will also grow over time and differ from place to place (Donner & Tellez, 2008).

According to Baptista &Hetmann (2010) Mobile Money Services (MMS) can be defined as a service in which the mobile phone is used to access financial services. Mobile money also represents payment as well as banking services operated under financial regulation, performed through a mobile device (Ho-Young, 2012). It was also asserted in the World Bank report (2012) that mobile money services are the mobile payment, mobile money transfer or mobile wallet, commonly referred to as a joint of both banking and telecommunication services that is operated and performed from a mobile device such as mobile phones, credit or debit card.

Mobile Money Services (MMS) in Tanzania started back in 2008 when Vodacom Tanzania tossed Vodafone M-Pesa with the aim of utilize financial market in area with no commercial banks services like rural, poor and the unbanked population (Lema, 2014). Followed by Zantel Tanzania in the same year launched the service called Z-Pesa and in 2012 it upgraded its service version the Ezy Pesa. Finally, It was followed by Tigo, Airtel and then Halotel Tanzania 2014, 2015 and 2017 in respectively. Currently there are five mobile money products provided by telecom companies in the market, which are M-Pesa, Tigo Pesa, Airtel money, Halopesa & Ezy Pesa. This has made mobile money services in Tanzania to be very unique in terms of competition by having more than one mobile money service providers in comparison with other countries where they have one or few providers.

However, the adoption of mobile money services differs from one country to another (one area to other within a country) depending on the level of technology, education and exposure they have. Countries like Kenya have experienced a faster mobile financial service adoption than other countries like Tanzania (Keeler, 2012; Horne and

Nickerson, 2013). Despite efforts like promotion campaigns and offers offered by the service providers, the adoption of mobile money services is still very low (Castri and Gidvan, 2014).

1.2   Statement of the Problem

According to the Mbamba (2017) a lot of people opt for mobile money services as a means to simplify day-to-day transactions. The rise of mobile money services is highlighted with the practice of mobile phones technology so as to have easy accessibility of financial services. In Tanzania 45% of population use mobile while only 2% use mobile money services like sending and receiving money; paying goods and services; paying bills; buying airtime; borrowing money (M-pawa); saving money (TCRA report, 2017).

However, adoption of mobile money payment system has stood slower slower in low economy countries related to high economy countries; the level of use of mobile money services in Tanzania is still down regardless of countless efforts being taken by public and private sectors (Kihoma, 2016). Many mobile phone user report that they are unable to use money services because its expensive to access and use mobile money (Shrier, D *et al* 2016). Others report that mobile money services are complicated with high risk (Siau, K. *et al* 2003). While the report on factors influencing usage of new mobile technologies in low-income households in Kenya indicated that demographic factors (gender, age, education level, and marital status) have more influence on the adoption of new technologies (Margaret *et al* 2012). Nevertheless, Chemingui and Ben lallouna (2013) reported that many customers are inspired to use the services, which are well-matched with their needs.

In response to this problem, this study proposes to investigate factors influencing consumers' adoption of mobile financial services in Mkambako. Despite several studies which have being done on this category in Tanzania such as Chal and Mbaamba (2015) , Allly and Mbamba (2009), also , the literatures like Tobin (2013), Bhanot et al. (2012), Nyambura et al. (2013), chemungu and Ben laloum 20113, Wessels and Drennan (2010) and Mohamadi (2015) may not sufficiently extinguish factors influencing consumers' adoption of mobile financial services that is specific for Tanzania but can be a stepping stone toward studies in Tanzania. Despite some studies on this area in Tanzania like Chalee and Mbamba. (2015) as well as Allly and Mbamba (2009), this study is aimed to fill this information gap by assessing those factors that influence consumers adoption of mobile financial services in the context of less developed country such as Tanzania specifically makambako town council.

1.3   Research Objectives

1.3.1   Main Objective

To investigate factors influencing adoption of mobile moneys services in Makambako Town council.

1.3.2   Specific Objectives

(i)   To investigate if perceived usefulness determines adoption of mobile money services in Makambako.

(ii)   To investigate if cost influence adoption of mobile money services in Makambako

(iii) To investigate whether Trust can influence adoption of mobile money services in Makambako.

(iv) To investigate whether perceived risk can influence adoption of mobile money services in Makambako.

1.3.3   Research Questions

(i) Does customer's usefulness affect adoption of mobile money service?

(ii) Does cost affect the adoption of mobile money services?

(iii) Does trust affect adoption of mobile money service?

(iv) Does perceived risk affect the adoption of mobile money services?

1.4   Justification of the Study

From the penetration of mobile money in Tanzania, the numbers of subscribers and transactions have never been higher than those of other payment systems. This can be seen in the bank of Tanzania report (May 2017) mobile banking transactions reached 243.7 million as of 2013 while mobile money transactions reached TZS 50 Trillion in 2016-17.

Hence, it is important to understand mobile money adoption through investigating consumer factors that influence adoption and this will be as guidance for Telecommunication Company in strategic planning and decision making. If the influencing factors will be understood mobile money transactions will increase like other financial sector system, which resulted to financial development for economic development.

1.5   Significance of the Study

The results from the current study will help to identify the barriers for the adoption of electronic mobile money services as a means of financial transaction in Tanzania and suggest possible ways through which the use of electronic mobile money can be improved. Also may highlight areas where possible amendment of current policies may be implemented to enhance the use of mobile money in Tanzania.

1.6   Scope of the Study

The study was carried in Makambako Tanzania, in particular. This is among the most matured business centers in southern highlands Zone of Tanzania. Within it there are many mobile banking agents with viable information that will be crucial for this research study.

1.7   Organization of the Study

This report contains Five Chapters of which each chapter corresponds to each other as described as follows:

Chapter 2: This section provides relevant literatures related to this study. It discusses basic definitions, theoretical framework on the factors associated with key determinants of electronic money services. Technology acceptance model and motivational model are the two model discussed also different studies in relation to the objectives are discussed.

Chapter 3: This section described the information about the methodology; it encompasses the research area, research design and target population, sample size, sampling techniques and procedures, data collection methods, and data analysis and process.

Chapter 4: This chapter presents and discusses findings of the study conducted in eight wards of Makambako Town Council. The presentation is organized according to the research objectives and emerging issues. The chapter is organized starting with Demographic characteristics of respondents; and the findings from each objectives.

Chapter 5: This section presents discussion on the conclusion made by the researcher on the subject matter and also recommendations made so as to suggest the possible measures for the factors influencing consumer's adoption of electronic money services.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Definition

2.1.1 Adoption

Adoption of mobile banking can be understood as acceptance, capable to accept a new technology as it is introduced and willing to use the service. If a consumer decides to adopt mobile banking service, Mallat et al, (2004) explains that they will be able to obtain and interact with mobile services anytime and anywhere which in turn initiate great value for them.

2.1.2 Customer

A customer is a person who uses a service of which in this scenario it means an individual that uses mobile money services.

2.1.3 Mobile Money

Mobile money can be understood as a technology which people receive, store and spend money using a mobile phone. Also known as a 'mobile wallet' or specifically as M-Pesa, Tigopesa, halopesa etc. Users can store, send, and receive money with mobile phone, may also purchase items in shops/online/pay bills/school fees/ and airtime and withdraw cash from authorized agents.

2.2 Theoretical (Review) Perspective

Technology Acceptance Model (TAM)

According to TAM user's adoption of new service or technology is determined by the user's intention to use the system, which is in turn determined, by the user's beliefs

about the system (Davis, 2013). TAM further suggests that two beliefs _perceived ease of use and perceived usefulness are important in explaining the variances in user's intentions. Where perceived usefulness ss is the degree to which a person believes that using a particular service will make his job easy and the perceived ease of use is defined as the degree to which a person believes that using a particular system would be free of effort (Davis, 20 I 3). These two behavioral belie fs, perceived usefulness ss and perceived ease of use, then lead to individual behavior intention and actual behavior. In his study Davis (2013) found that perceived usefulness is the strongest predictor of an individua is adoption behavior. This model has been extended to include other variable which influences customer behavior in Motivational Model Deci (1975), explained motivation as a situation dealing with environment, and tends to motivate a person's need to feeling competent and self-determining. This will go down when the person is not attaining enjoyment from the activities. Nevertheless, extrinsic motivation activities linked extrinsic rewards, which consequently correlated with satisfaction of primary drives of archiving goal set. Similarly, when it comes the adoption of mobile money services, induced motivation through promotions of available mobile money services may com handy in influencing the adoption of mobile money services.

Motivational Modal

Dec (1975) explained motivation as situation of that deals with environment and tends to motivate persons needs of feeling competent and self-determining. This instructs motivation shall go down when the person is not attaining enjoyment from the activities.

2.2   Empirical Literature Review

To many studies have being done concerning the factors influencing adoption of mobile money? Where by perceived useful ness, perceived trust, risk and cost effect of mobile money technology are the common determinants factors.

2.2.1   Perceived Usefulness

Cheah et al (2011) conducted an empirical investigation with the purpose of studying the factors, which affect the Malaysian consumers from adopting mobile banking services. From this investigation, perceived ease of use, Perceived usefulness and relative advantage found to be positively and significantly related to the intention to adopt mobile banking services while perceived risk became negatively   correlated with the adoption of mobile banking.

Chew (2006). On his study about identify some factors that impact the adoption of M-Commerce technology in the United States. The study use both of written questionnaires and online surveys on gathering of data, while multiple regressive used to estimate relationship coefficient. The study found that E-Commerce use, subjective norm, perceived trust or privacy, innovativeness, perceived usefulness, and perceived ease of use have significant impact on adoption.

Lema (2014) booked into the factors that influence the adoption of mobile financial services for unbanked population in Tanzania, researcher used Technology acceptance model as a basis of his research model development. Using a sample size of 206 answerers and employing regression analysis techniques, the study revealed that

perceived usefulness, perceived cost an social influence had a significant influence on the adoption of mobile financial services Nevertheless, the study found no significant difference m the adoption of mobile financial services between males and females among the unbanked Nevertheless, the study found no significant difference m the adoption of mobile financial services between males and females among the unbanked.

The researchers Mohamad Rokbul Kabir (2013) conducted a research concerning the factors that Influence the use of mobile banking in Banglad esh. He used quantitative approach. And analysis of data was conducted using multiple regressions and the result was, Variables such as ability, integrity, benevolence, perceived usefulness, perceived ease of use relative cost and time advantages resulted to influence the adoption of mobile banking.

Kazemi, SA, et al (2013) this research investigated those factors that determine Mobile Banking Adoption in Iran, Based on the Decomposed Theory of Planned Behavior. The result of this study suggested that there were only two important factors which are Attitude and perceived behavioral control under which factors such as perceived usefulness, perceived ease of use, compatibility and trust plays influence on behavioral attitude to adopt mobile banking.

2.2.2 Perceived Risk

Ramdhony Dineshaw (2013) investigated on the factors preventing customers from adopting mobile banking services in Mauritius. The researchers decided to use quantitative approach, also combined TAM and IDT together with perceived risk and

cost construct to investigate perception of m-banking in Mauritius. Resulted that gender age, and salary had no influence on adoption but rather, Convenience, compatibility and banking needs influenced banking adoption. On the other hand, Perceived security risk and reliability were found to be the only obstacles to m-banking usage but also that m-banking usage is not associated with age, gender and salary.

Kazi and Muhammad adeel mannan (20 l 3) in Pakistan inspected factors affecting Pakistan customers from adopting mobile banking services. The researcher used correlation research design and the analysis was conducted using multiple regressions. TAM model played a big role in this research, variables such as social influence, perceived risk, perceived usefulness, and perceived ease of use to study whether they affected the adoption of mobile banking in Pakistan.

Kazi and Muhammad adeel mannan (20 l 3) in Pakistan inspected factors that affect Pakistan customers from adopting mobile banking services. Data was collected by surveying 372 answerers from two largest cities (Karachi and Hyderabad) of the province Sindh by using judgment sampling method.

Correlation research design was used by the researcher and the analysis was done using multiple regressions in order to come up with the results. TAM model played a big role in this research, variables such as social influence, perceived risk, perceived usefulness, and perceived ease of use to study whether they affected the adoption of mobile banking in Pakistan.

2.2.3   Relative Cost

Chemungui and Beni lalouna (2013) also showed compatibility, tribality, and system quality as other factors influencing adoption of mobile banking technology. On the other hand, Thakur (2014) revealed that customer satisfaction from mobile banking established from earlier use has a positive effect on customer loyalty hence continuous usage of mobile banking technology.

Wessels and Drennan (2010) also discussed about cost effect as the factor that determine the acceptance and hence adoption of mobile banking. Nevertheless, Ishengoma (2011) also observed   that illiteracy among answerers contribute to the resistance on mobile banking technology acceptance, hence low adoption on mobile banking technology.

Rogers and Shoemaker (I 971) in Lule (2008) describes that customers go through a process of knowledge, persuasion decision and confirmation before they are ready to adopt a product or service. Chtungo and Munongoo (2013) adoption/rejection of an innovation may begin when the consumer grows awareness of the product or service. Adoption of mobile financial services is not the same for all countries across the globe. Difference in economic environment determines the adoption of money transfer system, i.e. the adoption in developed countries is not the same as in developing countries and the adoption in urban is not the same with that in rural areas (Marumbwa and Mutsikiwa, 2013).

In Lule Rogers & Shoemaker (I 971) (2008) extinguished, customers go through a process of knowledge, persuasion decision & confirmation before they are ready to

adopt product/service. According to Chitungo and Munongo (2013) adoption/rejection of an innovation may begin at the point the consumer becomes aware of the product or service. Adoption of mobile financial services is not the same for all countries across the globe. The difference in economic environment determines the adoption of money transfer system, that is the adoption in high economies country is not the same as in low economies countries and in urban is not the same as in rural areas (Marumbwa and Mutsikiwa, 2013).

Koenig et al (2010) investigated on the barriers towards Mobile Banking System adoption among young people in Germany. This study was based on the Technology acceptance model (TAM) model. They received 155 responses from all the questionnaires that were sent, they also used a structure equation modeling (SEM) approach to tests the hypothesis. The results of the study indicated that compatibility, perceived usefulness, and risk are significant indicators for the adoption of Mobile banking systems in Germany Chitungo, S. K., & Munongo, S. (20 I 3) Zimbabwe, conducted an analysis on the factors that influence mobile banking adoption in the rural Zimbabwe through extending the technology acceptance model. The researcher adopted use of stratified random sampling and the results of the study suggested that factors such as perceived usefulness, PEOU, relative advantage, personal innovativeness and social norms influenced the intention to accept and use mobile banking.

Data collection methods used were different. Generally, studies above showed perceived benefit was not the only factor that leads to acceptance and adoption of mobile banking technology.

2.2.4   Perceived Trust

Dahlberg, Malat, and Omi, (2004) in their study of mobile payment solutions developed a trust enhanced technology enhanced model, which included the original TAM model (Davis, 1989) and the integrated TAM model (Venkatesh et al, 2002). The integrated model involved intrinsic motivation and extrinsic motivation. Extrinsic motivation describes an individual's personal gain associated with the use of a   particular technology and it replaced perceived use fullness. Intrinsic value describes the perceived enjoyment associated to the use of a particular technology itself, different from possible performance outcome of the use. New trust enhanced model included disposition to trust and perceived trust.

Kuismaa et al., (2007) and Lian, et al. (2012) investigation was conducted to understand the reasons   for customer resistance to adoption of mobile banking, online shopping and internet banking respectively, results of this study suggested that there is a significant relationship between Osage Barrier and consumers' resistance to adoption.

Kuisma et al., (2007) and Lian et al., (2012) study was conducted to examine the reason for customer resisting adoption of mobile banking, online shopping and internet banking respectively, results of this study suggested that there is a significant relationship between Osage Barrier and consumers' resistance to adoption.

23   Summary of Literature Gap

A number of different studies in the field of mobile money have been conducted since years back in North America, Europe, Asia and some from African countries such as

Kenya, Ghana, Nigeria and Zimbabwe. Researcher's such as Al- Fahim, N. H. (2012) presented evidence for a number of variables that influenced consumer behavior intention to use mobile money, however the study of mobile money has been given little attention in the literature in Tanzania, this study is meant to shed light on issues that influence adoption of mobile money services in order to create an understanding of this new technology in the financial sector in Tanzania – Makambako.

2.4   Conceptual Framework
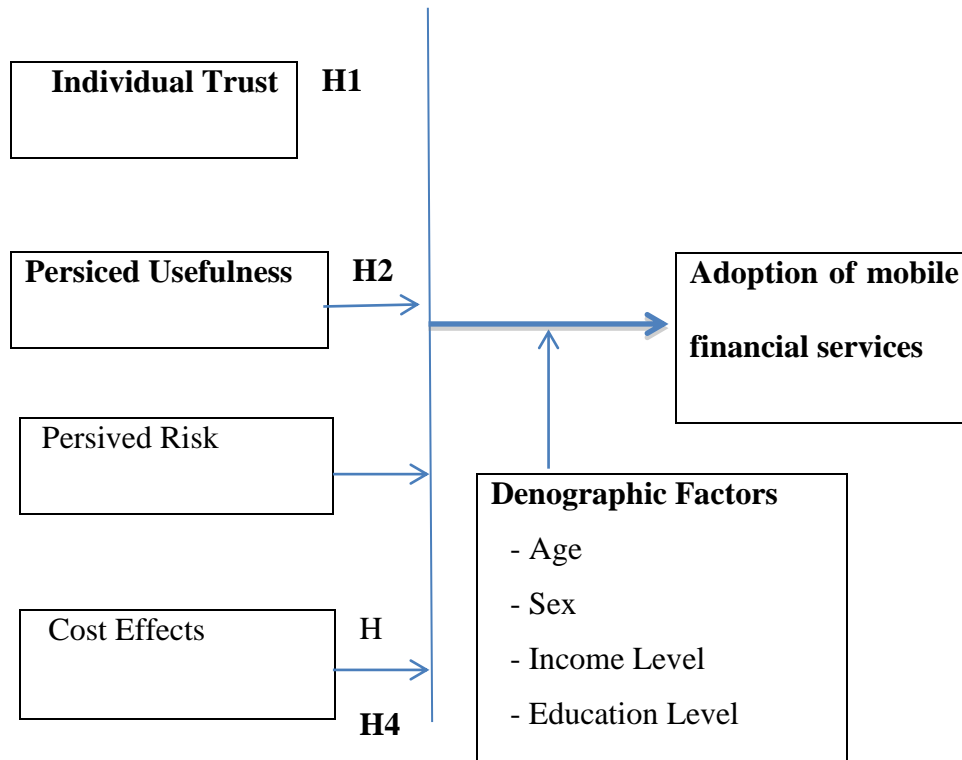
Figure 2.1: Conceptual Framework

From above diagram, individual trust, perceived usefulness, perceived Cost, perceived risk is independent variables, which determine the adoption of mobile financial services which the   dependent variable. Also, the perception may change depending on - Level, and Education Level as illustrated in the above diagram.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1   The Study Area

The research was conducted in Njombe (Mkambako) Region. The areas was selected on the basis of having rapid population growth of about 6.4% and enable us to answer our research questions promptly.

3.2   Research Design

This proposed research used an explanatory research which seeks to establish casual relation between variables, the emphasis of explanatory study is to investigate problem in order to explain relationship among variables (Saunders et al l20090 the choice of this design is based on the fact that purposed to determine the relationship among variables that is factors influencing adoption of mobile money services.

3.3   Target Population

The target population of this study included people above 18 years who own and use mobile phones in Makambako and sampling of two hundred people will be selected randomly. According to Zikmund and Babin (2010), Population is any complete group whose members share some common set of characteristics.

3.4   Sample Size and Sampling Procedure

3.4.1   Sample Size of the Study

The sample size of the study comprised of 120 answerers from four selected wards of Lyamkena, Mji Mwema, Ubena_and Mwembe Togwa. From each selected ward 30

answerers were fetched to be used in the study. To achieve the reliable data, for the proposed research, the researcher adopted a principle by Sandelowski (1995) that adequate sample in research is the one that permits the deep, case-oriented analysis that is a hallmark of all qualitative and that results in a new and rich texture understanding of experience.

3.4.2 Sampling Procedure

Given the fact that Makambako Town Council has 8 wards, four wards were randomly selected within which 30 answerers were randomly fetched respectively which in total made 120 sample size to be used in the study. Through simple random sampling three streets were randomly picked from each ward within which 10 answerers from each street were randomly selected. Therefore, the study comprised a sample size of 120 answerers. Also, from each selected ward, four mobile money service providers were randomly selected to be used as key informants for this study.

3.5   Research Approach

This study employed qualitative and quantitative research. And used word descriptions to present the findings in terms of personal opinions, expressions, views and attitudes of the answerers as obtained from field. Quantitative research approach was used for analyzing and presenting the statistical information obtained from the field.

3.6   Data Collection Techniques

Primary and secondary data were in accordance to the objectives of the study. The study based much on both qualitative and quantitative data.

3.6.1   Primary Data

Collection of primary data from field was done through the focus group discussions and interviews as explained below;

3.6.1.1 Interviews

Interviews were used to collect data from the key informants. This method was used to obtain any information that the researcher would have missed during the use of the research questionnaires. Both structured and unstructured questionnaires were used in data collection of the study. Questionnaires were the appropriate technique since the answerers were provided with the opportunity of freedom to express what they know and understand on the presented problem without being influenced by the researchers or any other parties.

3.6.1.2 Focus Group Discussion

Was used to collect qualitative data from different formed small groups of 10 people and obtained their perceptions and opinions.

3.6.2   Secondary Data

Secondary data was obtained from various documented information such as journals, books, articles and magazines concerning mobile money adoption.

3.7   Data Processing and Analysis

From interviews and questionnaires Qualitative data obtained were analyzed through content analysis. The data were presented, interpreted and organized based on the conceptual description of ideas that were expressed by answerers during the

discussion. Most of the information here were those obtained through unstructured questionnaires and interviews.

Statistical Package for Social Sciences (SPSS) was used to analyze quantitative data. Percentages, frequencies and statistical means were determined through descriptive statistics. In order to study the relationships between the independent and dependent variables a multiple regression analysis was used.

The multiple regression model for the study was be as follows:

$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$

Where: Y: Mobile money Adoption

Y = the dependent variable

X= Independent variables are as follows:

X1: Perceived risk,

X2: Cost,

X3: Trust,

X4: Usefulness

a= constant

β= is the coefficient on the First, second, third and fourth predictor variable.

3.7.1   Reliability and Viability

3.7.1.1 Reliability

Reliability can be understood as a degree to which measurements used can yield suitable results because they are free from errors. According to Hair, Black, Babin, &

Anderson, 27 (2006) reliability means assessment of the degree of consistency between multiple measurements of a variable.

Cronbach's alpha will be used in the calculation to ensure the reliability of the measurement scales Where by a higher value of above 0.6 will mean that the variables are while the values above 0.9 are regarded as most reliable but anything below 0.6 is regarded inconsistent with the reliability scales as according to George & Mallery, (2003) who suggested that in order for a scale to be reliable, the Cronbach's alpha value should be above 0.6.

3.6.1.2 Validity

Validity can be understood as having some level of similarity in the original idea of research and the actual idea after getting the answers. According to Saunders et al (2000) the concept of validity measures whether the findings in the research are really about what they appear to be about and check the relationship between variables, A pilot test will be used to ensure validity, a pre-test will be   sent to five answerers to see if the questionnaire contains anything that is hard to interpret.

3.6.1.3 Instrumentation Development and Measurement Scales

The data analysis of this study will use of multiple regression analysis.

The measurements and scales will be a five point scale (1 = Strongly Disagree   and 5 = Strongly Agree) as validated from previous researchers such as Davis et al (1989), Ajzen (1991), Fishbein & Ajzen (1975) and Triandis (1977).

Table 3.1: Measurements of all Variables

		Variable codes and labels	Measurement	Scales of measurement (Codes and values)
Demographic	Q1	Gender	Nominal	1=Female 2=Male
	Q2	Age	Ratio/ordinal	1=(18-23) 2=(24-28) 3=(29-34) 4=(35-onwards)
	Q3	Education level	Ordinal	0=(No formal education) 1=(primary) 2=(secondary)3=(technical and vocational) 4=(university)
	Q4	Subscription to MMS	Nominal	0=No 1=Yes
	Q5	User of MMS	Nominal	0=No 1=Yes
	Q6	Years of transaction	Ordinal	1=(1 year) 2=(2 years) 3=(more than 2 years
	Q7	Use of MMS	Norminal	0=TF 1=CAB 2=PB 3=CW
	Q8	MMS Number of use	Nominal	0=Daily, 1=Once a week, 2=once a month, 3= many times a mont
Dependent variable		Adoption of mobile money	Ordinal	5 point likert scale
Independent variable		PR,C,PU,T	Ordinal	5 point likert scale

CHAPTER FOUR

RESULTS PRESENTATION, INTERPRETATION AND DISCUSSIONS

4.1 Overview

This section of the research was used by the researcher to present the study results, interpret them and discuss their implications. The section includes the demographic characteristics of the answerers and the discussions of the research objectives. The flow of the research follows the conceptual framework of this particular study.

4.2 Demographic Characteristics of the Answerers

Demographic characteristics of the answerers were assessed during the study. Characteristics assessed included age and sex of the answerers, marital status, education level, occupation and level of income of the respondent. Then the research found out the association of each variable to adoption of electronic money services.

4.2.1 Age Groups of the Answerers

Table 4.1 presents the age groups of the answerers as they were used in the study. The results show that majority (40%) of the answerers were in the age group of 18 – 25, followed by the age group of 26 – 30 that comprised of 33.3% of the answerers; 31 – 35 age group was comprised of 15% and lastly was that between the age group of 36 and above comprised of 11.7%.

The results show that most of the answerers in this study (73.3%) were in the age group of youths and at the age of owning a phone and have used at least one of the electronic money services providers. With reference to the research objectives, the

answerers were relevant to the study objectives as most of the answerers were at the legal age that allows them to use mobile phones and attempt any sort of transactions through mobile money services.

According to this study, the age determines the group of people that significantly easily adopt electronic mobile money services. The results shows that people aging between 18 and 25 years and 26 – 30 years of age are the most consumers of the mobile telecom services, this could be caused by the fact that people of this group of age are at the productive age and that they highly involve themselves in various socio-economic activities that include communicating and sending and receiving money, therefore they need much of communication services.

The World Bank (WB) and African Development Bank (ADB) reported that there are 650 million mobile users in Africa, many being youths, in some African countries more people have access to mobile phones than to clean water, a bank account or electricity. Youths as defined by the United Nations as those aged 15-24 are using mobile phones for everything; communicating, listening to the radio, transferring money, online shopping, mingling on social media and more (Sambira, 2013).

Table 4.1: Age Groups of the Answerers

Age groups of the answerers	Frequency (n=120)	Percentage (%)
18 – 25	48	40
26 – 30	40	33.3
31 – 35	18	15
36 and above	14	11.7
Total	**120**	**100**

Source: Research data, 2020

However, during the study, it was observed that as people grow up they also lose interest in mobile telecom services. This study is in agreement with the study by Lwakatare *et al.,* (2014) who found that the number of the telecom services consumers falls as the number of age increases.

4.2.2 Gender of the Answerers

Results (Table 4.2) show that males were the most of the answerers used in the study comprising of 77% of the answerers as compared to their female counterparts who comprised of only 23%. The results implied that, being the major bread winners in the households, men are more likely to use mobile telecom services including adoption of electronic mobile money services provided by the telecommunication companies.

The article by Vital Waves consulting (2013), mentioned that women are 21% less likely than men to enjoy the benefits of mobile phone ownership. This figure increases to 23% if she lives in Africa, 24% if she lives in the Middle East and 37% if she lives in South Asia. The study continues to reveal the existence of gender disparities among men and women even in decision to adopt the uses of mobile phones services.

Table 4.2: Gender of the Answerers

Sex	Frequency (n=120)	Percentage (%)
Male	92	76.6%
Female	28	23.4%
Total	**120**	**100**

Source: Research data, 2020

Lwakatare *et al.*, (2014) described the difference in mobile uses between men and women where as women were found to use moble phones more for social media surfing while men were less interested in social media but more in other services including electronic mobile money transactions and communications for business purposes.

4.2.3   Marital Status of the Answerers

The marital statuses of the answerers were analyzed as presented in Table 4.3. The majority of answerers were single with 58.3%, while married were 25.1%, widows were 8.3% and the rest answerers were divorced/ separated with 8.3 percent. With regard to majority of the answerers used in this study being between the age group of 18 – 30 (73.3%), it was obvious that majority of them were not married, as they are still youths struggling with life.

However, even though majority of the answerers were single, still it there is no association with the adoption of electronic mobile money services. This is due to the fact that even the married people frequently use electronic mobile money services to send and receive money to and from their family members and relatives.

> *"... I normally send money to my wife through the mobile especially when I am not around. I think this is the easiest way than waiting until I get to the bank, sometimes they urgently need the money so I can send them faster when I have my phone…"* one of the answerers explained during the interview.

From his statements it is clear that he is married and opts to use electronic mobile money transaction as he perceived it to be the easiest and fastest way of sending and receiving money. Therefore, marital status does not determine the adoption of

electronic mobile money services; there are other factors that determine the adoption of the services.

Table 4.3: Marital Status of the Answerers

Marital status	Frequency (n=120)	Percentage (%)
Married	30	25.1
Never married	70	58.3
Separated	10	8.3
Widowed	10	8.3
Total	**120**	**100**

Source: Research data, 2020

4.2.4 Educational Level of the Answerers

The results (Table 4.4) show that 48.3% had college/university education level; 35.8% had only a secondary education level; 8.3% of the interviewed answerers had not attended a formal education system; and only 8.3% of the answerers had just a primary school education. This implied that educational level is a social determinant to own mobile phones and adoption to electronic mobile money services.

This is due to the fact that most of the answerers interviewed and who own mobile phones have either attained a secondary or college/university level of education. Also, the more an individual attain education, the more he/she becomes exposed and early adaptor of the technology (Shirima, 2016).

The study entails that level of education is a determinant factor to adopting electronic mobile money services as most of the people in this category highly demand a simplified way to do their daily activities. According to the answerers, electronic

mobile money services have influenced the efficiency and effectiveness of their activities.

> *"... I do not need to use much time on queue in the bank just to do a financial transaction including payment of bills and fees, I can easily pay them through my phone, this is a 21st century so we need to embrace the changes in technology. That is the meaning of being educated..."*

One of the answerers who is also a college student replied when asked on why she sees electronic mobile money services as significant to the today's community.

Table 4.4: Education Level of the Answerers

Education level	Frequency (n = 120)	Percentage (%)
Non formal education	10	8
Primary education	10	8
Secondary education	43	36
College/university education	58	48
Total	**120**	**100**

Source: Research data, 2020

4.2.5   Occupation of the Answerers

The results as presented in Table 4.5 show that answerers were fetched from different occupations and professions, whereas majority of the answerers were entrepreneurs comprised of 40.4%, followed students 28.3% percent, civil servants comprised of 15%, peasants 13.3% and lastly is the retired that do not engage in any livelihood activities 3%. This implies that that, entrepreneurs highly enjoy electronic mobile money services as compared to other individuals from other social groups. This is due to the fact that most entrepreneurs prefer to use electronic mobile money services as they are the fast, simplified financial transaction services that meet the demand of

their activities than those services that requires one to move from his/her business to the banks for the financial services that consumes much time. Thus, occupation is proved by this study as a determinant factor to adoption of electronic mobile money services.

Students are also having positive attitudes towards the electronic mobile money services; this is because students especially college/university students perceive the reduced time in paying fees, receiving and sending money through electronic mobile money services as the major development in the financial services that has helped in saving so much time. Also according to the interviewed answerers, the electronic mobile money services have benefited them through the offers and bonuses provided by the telecommunication companies to the users of their services. Students seem to enjoy electronic mobile money services especially when the service is provided without being required to pay for service charges or at the minimal charges as compared to those given by banks. This influences people to adopt the electronic mobile money services so easily and fast.

For the business people, electronic mobile money services has simplified their business activities and increased profit generation. Basing on Dr. Jones findings, mobile phones are playing an important role in business activities as they simplify transactions. Therefore, entrepreneurs will early adopt to electronic mobile money services as they simplify their business transactions and saves so much time.

Table 4.5: Occupation of the Answerers

Occupation	Frequency (n = 120)	Percentage (%)
Entrepreneurs	48	40.4
Students	34	28.3
Civil servants	18	15
Peasants	16	13.3
None of the occupation	4	3
Total	**120**	**100**

Source: Research data, 2020

4.3   Most Popular Electronic Mobile Money Services in Tanzania
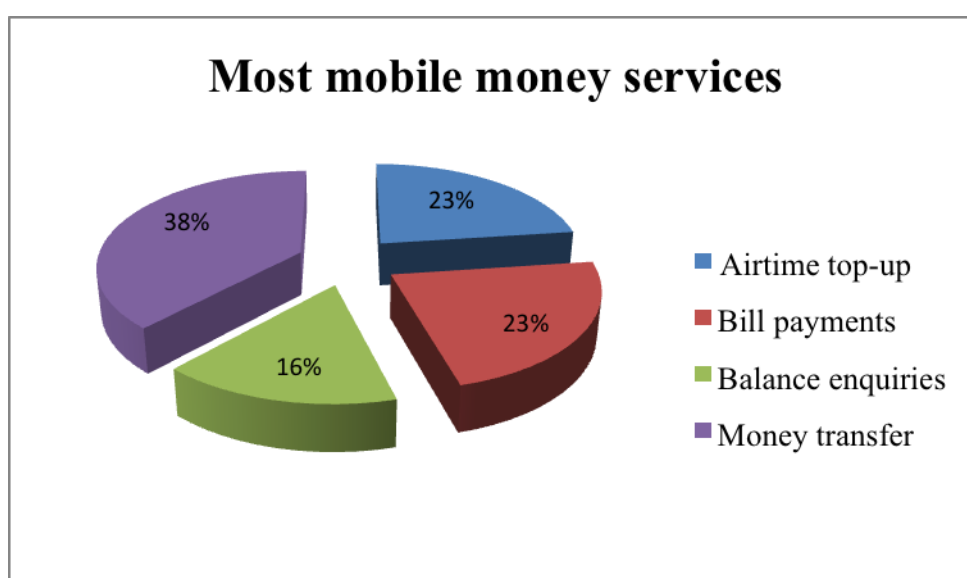
Figure 4.1: Most Popular Mobile Money Services

Source: Research data, 2020

4.4   Perceived Usefulness on Influencing of Electronic Mobile Money Services

   in its Adoption

The adoption of electronic mobile money services is influenced by a number of factors one being the usefulness of a particular service. From the study, it was revealed that the more the financial service is useful, the more it will be adopted by

people. To measure the people's perception on this objective, likert scale questions were used and the results were as presented below:

4.4.1 Frequently used to Pay Bills

Research findings show that most of answerers were influenced to use electronic mobile money services as they help in bills paying. According to the results, majority (75%) of the answerers strongly agreed to the statement that they used electronic mobile money services to pay for their different bills including water, electricity, television packages, school fees and many others.

On the other hand, 20% agreed and only 5% were not sure of whether the usefulness of electronic mobile money influenced them or not. When interviewed, the mobile telecommunication service provider from Vodacom Tanzania, Makambako branch supported to the statement.

The service provider added that,

> *"...people always will look for simplified ways to meet their needs, when it comes to money transferring and other financial transaction such as bills payments, individuals will go for electronic mobile money services as they are cheap, safe and saves time..."*

The world is now monopolized by stiff competitions and advancement of technologies in different sectors. Every company, be it public or private will find ways to keep their clients by studying all the aspects including ways to pay bills without consuming much of the clients' time. This is why today, every institution has established a special payment number and reference code that would help their clients to pay bills in time and access their services electronically without being needed to move from their areas.

This has helped both clients and companies to have a balance in bill payment and service provisions, hence has influenced more people to adopt electronic mobile money services.

The fact implies that as much people are able to meet their demands at a minimized time cost, they will be highly influenced to adopt the services. Also according to Bristol and Mangleburg (2003) type of the services provided will affect the perception of the customer when they decide to buy a product. When they decide using which mobile service provider, most of customers will think which mobile service providers are more effective in time factors including tose that support online payments of bills to different authorities.

4.4.2   Frequently used for Sending and Receiving Money

The results show that when answerers were asked if they adopted electronic mobile money services because it is easy to frequently send and receive money through these services, 56.7% of the answerers strongly agreed to the statement; 38.3% agreed; 3.3% disagreed and only 1.7% strongly disagreed with the statement. Basing on the results, the study suggests that easy and faster processes of financial transactions such as sending and receiving money play a significant role in influencing individual adoption of electronic mobile money services. The results show that approximately 95% of the interviewed answerers had a positive perception on the statement.

According to the answerers, access to electronic mobile money services is more likely closer to people than physical banks. Banks are more settled in towns and cities where there is huge circulation of money but not in rural areas. For the rural people,

electronic mobile money services are friendlier as they can attempt any financial services and transactions without physically visiting the banks.

> *".... You can even notice that even banks have now introduced electronic mobile money services and transactions. This is because they understand that without doing so, reaching more people especially in the rural is very difficult..."* one of the answerers argued.

4.4.3   Electronic Mobile Money Services are Easily Accessed

Accessibility and availability of electronic mobile money services seem to have played a vital influence in motivating people to adopt electronic mobile money services. Results in Table 4.4 show that, 33.3% of the answerers strongly agreed to the statement; 41.7% agreed; 21.7% were not sure of the statement; while 3.3% disagreed and none of the answerers strongly disagreed. The results indicated that the higher the services are easily accessed by the users the easier the users will adopt the services and make them part and parcel of their life.

Normally people utilize services that they have easy access to. Unlike physical bank services that people are required to physically visit them for services, follow specific procedures and queues which sometimes are so long and consume much time, they decide to opt for electronic mobile money services which are easily accessed any time as long as the network is available. According to Lwakatare *et al.*, (2014), when the services are available, people become more familiar to the services and aware on how and where to access them whenever they need them. For instance, most people are using Vodacom M-Pesa as their electronic mobile money services providers due to high availability of its services. Vodacom has extended its operations even in rural areas whereby it has made easy access of the services to both rural and urban people (Lwakatare *et al*, 2014).

Service accessibility reflects the extent to which a product or service meets or exceeds consumers' expectations on reaching them. So, the success of the telecommunication sector in market place particularly in financial transaction services is also depending on the services quality and availability (Al Mahmud *et al.,* 2007).

4.4.4   The use of Electronic Mobile Money Services

During the study, 73.3% of the interviewed answerers strongly agreed that using mobile money services would easily help to accomplish their banking tasks faster; 20% of the answerers agreed to the statement; 6.7%t were not sure of the statement and none of the answerers whether disagreed or strongly disagreed. The results implied that electronic mobile money services are perceived by the people to be the faster services for financial transactions and easy to learn and use.

Basing on the statistics of the study results as presented above, it is perceived that electronic mobile money services provided by mobile telecom services providers attract new customers to adopt as they are considered faster and easy to learn to use. This is evidenced by the results of the study whereby 93 percent of the interviewed answerers agreed to the statement. The companies that tend to connect to their customers reducing the complications to pay for their services by providing special reference numbers for payments through mobile phones are said to be preferred by most people.

Moreover, electronic mobile money service providers like Vodacom M-Pesa, Tigopesa and Airtel Money frequently uses large-scale marketing campaigns to attract customers, often sending representatives to various events like festivals, sporting or

other populated events. Sponsoring these events with reduced service charges and give away that includes various facilities with the company's logo on them as a way to get their name in front of potential customers (Toran, 2009).

4.4.5 Electronic Mobile Money Enables to Accomplish the Financial Tasks Quickly

The results show that 46.7% of the answerers strongly agreed to the statement; 31.7% of the answerers agreed to the statement; 11.7% were not sure; 6.7% disagreed to the statement and only 3.3% strongly disagreed to the statement. The results indicated that the use of electronic mobile money services enables individuals to accomplish their financial tasks quickly as approximately 78% of the interviewed answerers stated that mobile money services help them to carry out their transactions so fast.

According to Mtambalike (2012), recently the competition in the telecom industry of Tanzania has increased tremendously. Each and every company is coming out with a creative strategic plan to survive in the tough competition of winning the hearts of the mobile subscribers. With Tanzania targeting to reach 36 million mobile phone users by 2015 as reported by the local magazine, The citizen. Mobile money services was the best plan that these companies would come up with to win more attention of the users.

Due to stiff competition among the mobile telecom companies, provision of mobile money services seems to be a reliable strategy to win the favor of many telecommunication services consumers (Lwakatare *et al.,* 2014). According to the study results above, the strategy of introducing electronic mobile money services was

the best service that consumers enjoy as approximately 78% of the interviewed answerers responded positively to the statement.

4.5   Perceived Cost Effect on Adoption of Electronic Mobile Money Services

The research also intended to assess how the service cost of the electronic mobile money services influences the individuals' adoption of the services. Haque and Rahman (2010), on their paper discussing the factors determining the choice of mobile service providers mentioned that customers' price comparison propensity and price knowledge positively influence external reference price. Thus, price is a significant indicator of quality across services categories.

One thing that influences people's adoption of certain services is the cost for using that service. Results in Table 4.7 show that about 25% of the interviewed answerers strongly agreed that the cost effect influenced their adoption on mobile money services, 26.7% of the answerers agreed to the statement, 10% percent were not sure while 13.3 percent disagreed and 25% of the answerers strongly disagreed. The findings revealed that approximately 52% of the interviewed answerers were influenced by the service costs of electronic mobile money while at the same time 38% did not consider the cost when adopting the electronic mobile money services in their areas.

Because the community we live in is comprised of people with different sources of income and therefore differ in levels of their financial status. When services providers set the price for their services, among the important aspect that should be clearly assessed is the financial condition of their targeted services consumers as it plays an

important role in influencing their adoption of the services. Correspondence of the service costs of electronic mobile money services seems to appeal to people's desires to use services at a minimal cost. During the study, answerers were very excited with those service providers whose costs are low than those with slightly higher service charges.

Moreover, people that consume the services that do not isolate them according their financial conditions feel more loyal and see no need to jump to other services (Lwakatare *et al.,* 2014). This being the case, cost was found to play a role in influencing people to adopt electronic mobile money services as they are perceived low compared to other financial services.

An affordable cost/service charge plays a vital role in adaptation of telecommunication service especially for the mobile telecommunication services providers. It includes not only the purchase price, call and rental charges, but also charges in extra services like online/electronic payments and saving provided by the companies. Lower services costs leads to positive perception and acceptance of the service and products by the (Kollman, 2000).

This study revealed the significant influence of cost effect on consumers' adoption of electronic money services. The findings of this study are supported by the arguments of Abdinoor and Mbamba (2017) if mobile banking is to be accepted by the users, service providers must ensure that the services are of less expensive as compared to the traditional banking methods. Are more motivated by the price to choose certain services providers, since mobile money services are perceived cheap and cost

effective and less complicated procedures, most people today opt to use them instead of other financial services providers as their processes are perceived a little bit complicated.

4.6 Perceived Trust Influencing Adoption of Electronic Mobile Money Services

Perceived trust of any service plays a significant role in influencing people's decision to adopt particular services. The results of this study revealed that the more the service providers are trusted with their services stability and availability; people will easily adopt the services. There are variables used to assess how trust influences the adoption of electronic mobile money services.

4.6.1 Safety Feeling by using the Mobile Money Services

When asked whether a respondent feels safe using the services provided by mobile money service providers, 33.3% of the answerers strongly agreed to the statement; 41.7% agreed; 21.7% were not sure of the statement; while 3.3% disagreed and none of the answerers strongly disagreed. The results indicated that feeling safe using the services influences the adoption behaviors of the answerers on using mobile money services.

According to the study, 75% of the interviewed answerers agreed that having a feeling that your money is safe influences the decision to opt to use the service. On the other hand, the study is on hand with the Goldsmith *et al.*, (2000), who suggests that consumer has generally a consideration that financial services with greater safety mechanisms are more influential compared to other that safety seems to be a

challenge. Also according to Hussain and Jamil (2011), it is a general principle that the services you are sure with easily convince you to believe in and entrust your investments.

In addition if such financial services offer extra assurance such as insurances for which when happens that the money was lost or in any case of destruction, the money can be retained is more persuasive. This study therefore establishes the argument that the feeling of safety by the mobile money service consumers creates an attitude of trustworthiness, which in turn influences adoption of electronic mobile money services.

4.6.2   Service Providers Have the Skills Needed for Providing the Services

The results show 1.7% of the answerers strongly agreed to the statement; 3.3% agreed; 40% were not sure; 38.3% disagreed and only 16.7% strongly disagreed with the statement. Basing on the results, the study suggests that they consumers either are not sure whether the mobile money service providers have the necessary skills needed for services provision. According to the results, consumers' awareness of whether the service providers have the operational skills or not does not have any influence on adoption of the electronic mobile money services.

According to the study, 95% of the interviewed answerers were either not sure or disagreed the statement that they were influenced by the skills of the mobile money service providers. One the answerers gave a scenario that,

> *"... I don't think that these guys have the specified skills. They just need to know to read and write, use a mobile phone. My neighbor just brought his relative to help him stay at his M-Pesa Kiosk. So we just trust them, not because they attended specific trainings for the services..."*

However, Khan, (2016) argued that the product and services consumers have strong trust to the person who is practical having related knowledge, expertise in encouraging area. Service provider with high knowledge and skills has high power of influencing as compared to the providers with low expertise.

In this case, the knowledge and skills of the service provider might not seem as important in influencing users' adoption attitude, still the role it plays to influencing consumers' adoption behavior cannot be ignored. As mentioned by Khan before, users and consumers have high trust to the providers that they believe have higher service provision skills, knowledge and experience, as they feel safe being served by them.

4.6.3 Services are Rarely Affected by the Network Problems

The results show that 31.7% of the answerers strongly agreed that to the statement that network coverage and stability plays a significant role to their trust and adoption of mobile money services. Furthermore, other 36.7% of the interviewed answerers agreed to the statement; 21.7% of the answerers were not sure of the statement while 8.3% disagreed and only 1.7% strongly disagreed to the statement.

Results revealed that, the fact that network coverage has extended to almost 90% of the country, mobile money services are now substantial as compared to other financial services. It is true that at some point, the mobile money transactions can be interrupted or affected by network problems, whereby 31.7% of all interviewed answerers were convinced that the transactions can be affected by the network problems. On the other hand, more than half of the interviewed answerers perceive that the network rarely affect the mobile money services.

"... My mother is in the village, very far from here, but I normally send her money through her phone number and she gets the money very quick. If it was to use banks, then it would have been very hard as I would suppose to take the money to her myself. She does not have a bank account, even if she had, there are no banks in the village..."

The network coverage and stability plays a very important role in order to gain more and attract the competitors' users to join as their users. High speed, spread and stable connection and various office features would help companies and their workers become more productive in challenging economic times (Lwakatare, *et al.,* 2014). Network effects in telecommunication are not necessarily connected to the infrastructure or hardware-level but rather to some virtual network, which is made up of all the consumers who can be reached (Bristol and Mangleburg, 2003).

4.7   Perceived Risk Effect on Adoption of Mobile Money Services

The adoption of electronic mobile money services can be affected by the risks associated with its operations. The study revealed that there are risks associated with the use of electronic mobile money services, which at some point they can affect the adoption process of the mobile money services. Several risk factors were assessed during the study, these included performance risk, financial risk, security/privacy risk, social risk and time risk. The responses were as explained below.

On the performance risk, answerers were asked whether they consider that mobile money services may not perform well due to network and less expertise challenges. About 77% of the answerers argued that risk may affect the performance of the mobile money services. However, answerers had concerns with the advancements step of mobile networks that most service providers' networks are stable. The study is in

agreement with Masinge (2010) whose findings indicated that performance risk had no significant effect on the adoption of mobile banking as all answerers remained neutral.

On the financial risk, the study findings indicated that there is no significant effect on mobile money services adoption as 65% of the answerers stated that there is a risk of losing their money when transaction mistakes are involved or when the passwords are not strong. The findings are in contradictions with the literatures.

On the case of security/privacy risk, 80% of the answerers were sensitive and felt uncomfortable with the issue of sharing their personal information on mobile systems. Therefore, the study found that risk had no significant effect on adoption of mobile money services.
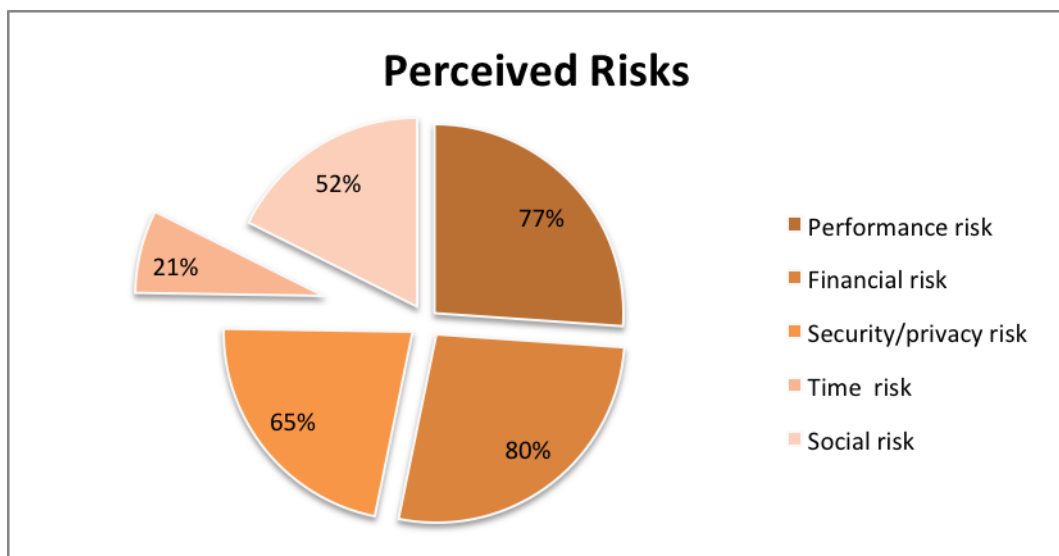

Figure 4.2: Graph for the Perceived Risks

Source: Research data, 2020

About 21% of answerers felt that the use of mobile money services had time risks. The results implied that time risk had a significant effect on adoption of mobile money services. According to the results, mobile money is considered less time consuming, thus attracting much individuals to adopt the services. The results are in agreement with the literatures that suggested that due to its time saving, mobile money services attract more customers (Masinge, 2010).

4.8   Pearson Correlation Coefficient Test

Pearson Correlation Coefficient is a method that measures the strength of the linear relationship between two variables. Hair *et al.* (2007) noted that the Pearson Correlation Coefficient indicates the direction, the strength and significance of the relationship among all variables. The value of a Pearson's correlation can fall between 0.00 and 1.00. The value of 0.00 means there is no correlation whereas 1.00 means that is a perfect correlation. H_0 is rejected when, P value <0.01, otherwise accepted. In this study, the researcher measured the existing direction, strength and significance of the independent variables (perceived usefulness, perceived cost, perceived trust and perceived risks) with the dependent variable "adoption of electronic mobile money services".

Table 4.6: Correlation Coefficient

Coefficient Range	Strength of Association
± 0.91 to ± 1.00	Very Strong
± 0.71 to ± 0.90	High
± 0.41 to ± 0.70	Moderate
± 0.21 to ±0.40	Small but definite relationship
± 0.00 to ±0.20	Slight, almost negligible

Source: Hair et.al, (2007). Adopted in the 2020 research

Table 4.7: Pearson Correlation Coefficient of the Study

Correlations

		Usefulness	Cost	Trust	Risk	Service Adoption
USEFULNESS	Pearson Correlation	1	.552**	.334**	.601**	.793**
	Sig. (2-tailed)		.000	.001	.000	.000
	N	120	120	120	120	120
COST	Pearson Correlation	.552**	1	.393**	.628**	.580**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	120	120	120	120	120
TRUST	Pearson Correlation	.334**	.393**	1	.429**	.401**
	Sig. (2-tailed)	.001	.000		.000	.000
	N	120	120	120	120	120
RISK	Pearson Correlation	.601**	.628**	.429**	1	.712**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	120	120	120	120	120
SERVICE ADOPTION	Pearson Correlation	.793**	.580**	.401**	.712**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	120	120	120	120	120

**Correlation is significant at the 0.01 level (2-tailed)

Source: Research findings, 2020

Table 4.7 shows that independent variables had a positive linear relationship to the dependent variable at a significant level of 0.01. The study reveals that there is a positive significant relationship between perceived usefulness of the services and customer adoption of the services; this is because perceived usefulness and service adoption are significant at 0.000 and the p-value of 0.01. Moreover, the value of correlation coefficient between the variables is 0.793 that falls under the coefficient range of $\pm$ 0.71 to $\pm$ 0.90 which indicates a high positive relationship between usefulness and customer service adoption.

The study also shows that there is a relationship between perceived cost and service adoption with the significance of 0.000 and the p-value of 0.01. The value of the correlation coefficient between the variables is 0.580 and it falls under the coefficient range of ± 0.41 to ± 0.70 which indicates a moderate relationship between cost of services and the services adoption.

According to the study, there is an association between perceived trust and service adoption with the significance of 0.000 and the p-value of 0.01. Furthermore, the correlation coefficient value of the variables is 0.401 which falls under the coefficient range of ± 0.21 to ± 0.40. Thus, according to the results, there is a small but definite relationship between trust and service adoption.

The relationship between perceived risk and service adoption is significant with the value 0.000 and the p-value of 0.01. The value of correlation coefficient between the variables is 0.712 that falls under the coefficient range of 0.71 to ± 0.90 that indicates there is a high relationship between risk and customers service adoption.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1   Summary

The research intended to investigate factors influencing the adoption of mobile money services in Tanzania using Makambako Town Council as the case study. Specifically, the study scrutinized the key determinants that influence consumers' adoption of electronic mobile money services.

The study results show that mobile money services have been adopted in the Tanzania community. According to the findings, popular mobile money services used mostly are airtime top-up, bills payments, balance enquiries and money transfer services. The findings revealed that at one point, an individual has used at least one of the mentioned services, with mobile money transferring scoring highest (38%) as the most used mobile money service. This indicates that mobile money services are adopted in the community.

Majority of the answerers used in the study were between the age group of 18 – 25 as they comprised of 40% of the total sample size used. Males were the dominant gender in the study with 77% of the answerers used in the study while 58% of the answerers have never been married. On the case of educational level, 48% of the answerers had a college/university level of education, which implied that most of the answerers had attended school. The last demographic variable that was assessed was the occupation of the answerers where 40% of the answerers claimed to be entrepreneurs. Considering the demographic variables, the researcher had ideal answerers to be used in the study and obtain useful data for the study.

The study revealed that, majority of answerers at some point of their life time had used at least one of the mobile money services. The study found that most popular mobile money services used in Tanzania included airtime top-up, bills payments, balance inquiries and money transfer services. The most mobile money service used by people was money transfer whereby 38% of the answerers claimed to use this service more often than other services.

The study found that usefulness of the mobile money services influences its adoption. All the items used under this variable were responded positively by the answerers. The study suggested that cost effect has significant influence on the adoption of mobile money services. All the items used under this variable were responded positively by the answerers to indicate that cost influences adoption of mobile money services.

The study also found that trust has a significant role in influencing the people to adopt mobile money services. According to the results, the items used under this variable were responded positively by the answerers to indicate that trust affects the adoption of the mobile money services.

Lastly the study concluded that risk can affect the adoption of mobile money services as all the items used under this variable had a positive response from the answerers which indicated that risk can affect the adoption of mobile money services.

5.2   Conclusions

The research has tried to investigate the key determinants of electronic money services adoption in Tanzania using Makambako as a case study. The study has

established the relationship between the identified key determinants and services adoption decisions. The information obtained was analyzed and helped the researcher to draw the following conclusions;

There is a significant influence of the identified determinants towards the adoption of mobile money services. The study revealed that, when the service is frequently used, has perceived minimal costs, trusted by many individuals and proved to have reduced risks such service can easily be adopted by the people in the community. Although rejected by the hypothesis, usefulness of the service still play a significant role towards the service adoption process. People are more likely to adopt the technology and service, which they use frequently than the one they don't often use.

5.3   Recommendations

The study has proved for the existence of influence between the identified determinants towards the adoption of electronic money services in Tanzania. The researcher recommends the following with regard to the findings;

Cost effect and trust were positively supported by the people's perceptions. This indicated that people may utilize the services that correspond to their economic status and those that they trust more. Therefore, this research recommends that, for the mobile money service providers to have more loyal customers, they should come up with cost structures that meet the standards of different individuals in the community.

The cost strategies should consider that the community they are intended to is comprised of audience from different income backgrounds, thus all these groups

should be considered and met. Also, the confidentiality and honesty aspects are important to consider. Customers should be made clear that their money are safe with the service systems which will make them comfortable and trustworthy to the services.

REFERENCES

Abdinoor, A., & Mbamba, U. O. (2017). Factors influencing consumers' adoption of mobilefinancial services in Tanzania. *ia, Cogent Business & Management,4:1, 1392273* , 16.

Al Mahmud, S., Raquib, A., & Ali, K. (2007). *Consumer perception and it's choice Mobile Telecom Service Provider in Malaysia.* Globethics.

Bristol, I., & Mangleburg, N. (2003). *Factors Affecting Customer Perception. .* England: UK Essays.

Goldsmith, R., Lafferty, B., & Newell, S. (2000). The Impact of Corporate credibility and Celebrity Credibility on Consumer Reaction to Advertisement and Brands. *Journal of advertizing* , 51-54.

Haque, R. A., & Rahman, M. (2010). Business in Economics Research Journal; Factors Determinants the Choice of Mobile Service Providers.

Hussain, M., & Jamil, S. (2011). Relationship of Celebrity Endosement and Consumer Impulse Buying in Peshawar. *Interdisciplinery Journal of Research in Business* , 67-72.

Khan, J. (2016). Influence of Service Provider Endorsement on Consumer Purchase Intention. *Journal of Business and management Vol. 18* , 06-09.

Kollman, T. (2000). The Price/ acceptance Function; Perspective of a Pricing Policy in European Telecommunication Market. *European Journal of innovation Management* .

Lwakatare, B. M., Issaya, U. C., & Lukuwi, E. Y. (2014). *Mobile Telecom Offers: Community's Views in Iringa Municipality.* Iringa: Academia Medu/University of Iringa.

Masinge, K. (2010). *Factors influencing the adoption of mobile banking services at the Bottom of the Pyramid in South Africa.* Pretoria, South Africa: University of Pretoria.

Mtambalike, J. (2012). *The Price and the Market Share Mobile Companies Tanzania.* Dar es Salaam: ICT.

Sambira, S. (2013). Consumer Evaluations of Sales Promotion: The Effect on Brand Choice. *European Journal of Marketing, Vol. 39 (1/2) .*

Shirima, A. (2016). *Promotion and Marketing Communications in the Information Market Place.* Iringa: University of Iringa Libraries.

Toran, W. M. (2009). *Going Beyond the Call; Attract the New Customers.* London.

APPENDICES

Appendix 1: Research Questionnaires

Dear respondent,

I am Victor Kway, a student of the Open University of Tanzania (OUT), pursuing a Master of Arts in Monitoring and Evaluation. As a part of my dissertation which is aimed at **"Assessing factors influencing the adoption of mobile money services"**; I request you to fill this questionnaire so as to accomplish this research.

I assure you that, in no circumstance your name will be used in this research and all the information you provide will be kept confidential and will be used only for this research.

Section A: Questionnaire Identification

Ward: _____

Street: _____

Date of Interview: _____

Name of Enumerator: _____

Questionnaire No.: _____

Section B: Background Information of the Respondents

Please put a tick (√) on the appropriate response

1. What is your age? _____

2. Sex; (a) Male   (   ) (b) Female   (   )

3. What is your highest level of education?

   (a) Non-formal education   (   )

   (b) Primary education   (   )

   (c) Secondary education   (   )

   (d) College/University   (   )

4. What is your marital status?

   (a) Married   (   )

   (b) Never married   (   )

   (c) Separated   (   )

   (d) Widowed   (   )

5. What is your main occupation?

   (a) Entrepreneur   (   )

   (b) Students   (   )

   (c) Civil servants   (   )

   (d) Peasants   (   )

   (e) None of the occupation

Section C: Most Popular Electronic Mobile Money Services in Tanzania

6. What are the most services you get through electronic mobile money?

   (a) Airtime top-up   (   )

   (b) Bill payments   (   )

   (c) Balance enquiries (   )

   (d) Money transfer   (   )

Section D: Factors Influencing the Adoption of Mobile Money Services.

How do you rate the factors influencing mobile money services in the community? The factor statements are scaled from strong agree to strong disagree. Please tick according to your perception.

1 = Strong Agree (SA); 2 = Agree (A); 3 = Neutral (N); 4 = Disagree (D); 5 = Strong Disagree (SD)

SN	Statements of the radio role	SA	A	N	D	SD
Perceived Usefulness on Influencing of Electronic Mobile Money Services in its Adoption						
1.	I use mobile money for paying my bills frequently					
2.	I frequently use mobile money for sending and receiving money					
3.	Electronic mobile money services are easily accessed					
4.	The use of electronic mobile money services is easy and faster in carrying out banking baking services					
5.	Electronic mobile money enables to accomplish the financial tasks quickly					
Perceived Cost Effect on Adoption of Electronic Mobile Money Services						
6.	I think the equipment cost is expensive to use.					
7	I think it is expensive to access and use mobile money					
8	I think the transaction fee is expensive to use.					
Perceived Trust Influencing Adoption of Electronic Mobile Money Services						
11	I feel safe using mobile money services					
12	Service providers have the skills needed for providing the services					
13	Services are rarely affected by the network problems					

Perceived Risk Effect on Adoption of Mobile Money Services

14. Do you think the below risks can affect the adoption of mobile money services.

You can choose more than one item.

(a) Performance risks (   )

(b) Financial risks   ( )

(c) Time risks   ( )

(d) Privacy/security risks ( )

(e) Social risks   ( )

Appendix II: Research Clearance Letter

THE OPEN UNIVERSITY OF TANZANIA

DIRECTORATE OF POSTGRADUATE STUDIES

P.O. Box 23409
Dar es Salaam, Tanzania
http://www.openuniversity.ac.tz

Tel: 255-22-2668992/2668445
ext.2101
Fax: 255-22-2668759
E-mail: dpgs@out.ac.tz

REF: PG201701358

29th **July 2020**

Executive Director,
Makambako Town Council,
P. O. Box 292,
NJOMBE.

RE: RESEARCH CLEARANCE

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

To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief background, the purpose of this letter is to introduce to you **Mr. Victor Issack Kway, Reg. No: PG201701358** pursuing **Master of Arts in Monitoring and Evaluation.** We here by grant this clearance to conduct a research titled *"Investigating the Key Determinant of Electronic Money Service Adoption in Tanzania: A Case Study of Makambako ". He* will collect his data in your district between 01st to 30th August 2020.

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

Yours Sincerely,

Prof. Hossea Rwegoshora
For: VICE CHANCELLOR
THE OPEN UNIVERSITY OF TANZANIA

Appendix III: Plagiarism Report

INVESTIGATING THE KEY DETERMINANTS OF ELECTRONIC MONEY SERVICES ADOPTION IN TANZANIA: A CASE STUDY OF MAKAMBAKO TOWN

ORIGINALITY REPORT

27% SIMILARITY INDEX	21% INTERNET SOURCES	9% PUBLICATIONS	20% STUDENT PAPERS

PRIMARY SOURCES

1	repository.out.ac.tz Internet Source	4%
2	www.tandfonline.com Internet Source	2%
3	Submitted to Institute of Accountancy Arusha Student Paper	1%
4	Submitted to Universiti Teknologi MARA Student Paper	1%
5	Submitted to Bindura University of Science Education Student Paper	1%
6	Submitted to Eiffel Corporation Student Paper	1%
7	Bedman Narteh, Mahmoud Abdulai Mahmoud, Simon Amoh. "Customer behavioural intentions towards mobile money services adoption in Ghana", The Service Industries Journal, 2017	1%