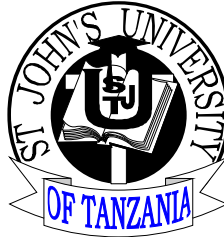


**ST. JOHN'S UNIVERSITY OF TANZANIA**



**MASTERS OF BUSINESS ADMINISTRATION - CORPORATE MANAGEMENT**

**FACTORS FOR SUCCESSFUL PROVISION OF MOBILE FINANCIAL SERVICES IN  
MPWAPWA DISTRICT, TANZANIA**

**RAYMOND C. NKYA**

**A dissertation submitted in partial fulfillment of the requirements for the degree  
of Masters of Business Administration- Corporate Management of St John's  
University of Tanzania**

**2017**

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**CERTIFICATION**

I .....certify that I have read and hereby recommends for acceptance by the St John’s University of Tanzania the Dissertation entitled: “Attributes Of Successful Provision Of Mobile Financial Services In Rural Areas In Tanzania: A Case Of Subsribers In Mpwapwa District” in partial fulfillment of the requirements for the degree Masters Of Corporate Management at the St John’s University of Tanzania.

.....

**(Supervisor)**

**DECLARATION**

I, Raymond C. Nkya declare that, this dissertation is my own work and that it has not been presented and will not be presented to any other university for a similar or any other degree award.

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## **ABBREVIATIONS**

- ATM - automatic teller machine
- BOT - Bank of Tanzania
- CBA - Commercial Bank of Africa
- DIT - Diffusion innovation Theory
- DFID - Department for Financial International Development's
- DTPB- decomposed theory of planned behavior model
- EFMTS- E-Fulusi Mobile Transaction Switch
- IM - Instant Messaging
- ITBM- initial trust-building model
- KCB – Kenya Commercial Bank
- MMT - mobile-phone money transfer
- MNOs - mobile network operators
- MFS - Mobile financial services
- NFC - Near Field Communications
- NGOs- non-governmental organizations
- SPSS - Statistical Package for Social Sciences
- TAM - The Technology Acceptance Model
- TCRA - Tanzania Communications Regulatory Authority
- TRA - Theory of Reasoned Action
- TPB - Theory of planned behavior
- UK - United Kingdom
- USA - United State of America
- URT - United Republic of Tanzania
- Wi-Fi - wireless fidelity

## **ABSTRACT**

A mobile financial service is importantly termed as a successful driver for economy and smooth financial services operation. This study mainly sought to assess the factors for successful provision of mobile financial services in Mpwapwa District. The specific objectives that were covered in this study are to; assess utilization of mobile financial services among mobile phone subscribers in Mpwapwa District, determine knowledge on regulatory procedures in providing mobile financial services among subscribers and agents in Mpwapwa District, examine the competitive advantage of mobile financial services utilization in Mpwapwa District. This study was used a cross sectional design to facilitate collection of information on the factors for successful provision of mobile financial services in Mpwapwa District. This was organized at one point in time and analysed in defined time. This study was used primary data that were collected through questionnaires from 91 respondents. The secondary data were collected through a review of literature in various reports and documents. Data were summarized and analyzed through data processing software named SPSS. The findings revealed that, mobile financial services mostly facilitate withdrawals of money and used as a wallet. This facilitated the utilization of mobile financial services in various transactions. The subscribers mostly comply with money transfer charges and regulatory framework that displayed the significant results. The competitive advantages were observed on the ability to eliminate manual paper work and ultimately lower transaction cost. The findings conclude that, mobile financial services are highly utilized by majority of subscribers in Mpwapwa District. The improvement of mobile financial services require improved regulatory framework. The TCRA is mostly used regulatory frame work to force providers in extending services based on network coverage in rural areas.

# CHAPTER ONE

## INTRODUCTION

### **1.0 Overview**

This chapter presents the background of the study to show attributes of successful provision of mobile financial services all over the world. It extends to the respective study area, statement of the problem and research objective. The research questions have been presented followed by a significant of the study and its respective purpose. It was managed to address the study findings in the basis usefulness in policy action.

### **1.1 Background to the study**

Mobile financial services have become an important driver for facilitating financial services in the economy all over the world. Certainly, this recognized as the most cheap and accessible way that, bridge finance to the unbanked with limited means and accessibility of formal financial services (Abbey and Boateng, 2014).

The developed nations such as the USA, Japan, Germany and UK use mobile financial services to create more opportunities for subscribers in payments services, bills, electricity, water and other utilities (Khraim, Shoubaki and Khraim, 2011).

The innovations in mobile financial services were used to facilitate subscribers in storage, transfer and borrowing money even without credit history. This situation increases access of financial services among subscribers' in various dimensions (Koenig, Palmer and Moll, 2010). The current financial market growth created strong

agent network that was allowed customers to cash in and cash out (Aker, Rachid , Amanda , and Niall, 2011).

In developing countries Mobile financial services are provided by mobile network operators (MNOs), banks and non-banks financial institution (Lin, 2011).

The Philippines is one of the early countries to introduce mobile financial services. With that, time the market begin to take off in various countries more growth and expansion noted in Bangladesh, Cote d' Ivoire, Kenya, Paraguay, Peru, Rwanda, Somaliland, Tanzania, Uganda and Zimbabwe (Atandi, 2013).

The mobile financial services become accessible through facilitative regulatory regimes. Strong force originated from regulatory framework to facilitate mobile financial services operation for money transfer and payment services (Anitha, 2011). Indeed, this situation necessitated to enter into banking regulation for the fulfillment of money transfer services (Macmillan and Attorneys, 2016).

Currently, at least 110 money mobile systems are mostly known; M-PESA originated in Kenya and then extended its services in Uganda and Tanzania (Masamila, 2014). The extension of mobile financial services covered 20 million users. This facilitated the financial services accessibility as a result managed to transfer up to \$ 20 million a month during 2011 (Mashenene and Rumanyika, 2014).Its benefits are clear, observers remain divided over whether mobile financial services systems are truly influencing financial services accessibility to subscribers of remote areas (McCloskey, 2006).

Specific attempt connected to the location of mobile financial services, its accurate and stability in urban areas than its rural counterparty (Mirzoyants, 2013).

The connection is well recognized with existing technology and subscribers' preparedness to use and adopt mobile phones. In fact, in rural areas appropriate investigation on success factors is quite evident to handle and control the mobile financial services (Mohammed, *et al*, 2013).

In rural areas special attempt need to be well regulated to direct success factors in improvement of mobile financial services among subscribers (URT, 2001). The rural subscribers are quite vulnerable due to the nature and type of technology used in mobile financial services (Clyde, 2014).

Dodoma region is quite implementing mobile financial services especially through mobile devices, short message services, and mobile application. Mobile money services operate efficiently in urban areas due to strong network and efficient agents to facilitate cash in and cash out (Montez and Goldstein, 2010). Also, the system of network infrastructure brings the question among financial institutions to handle financial service through mobile phones (Mtaa, 2010).

The mobile financial services are well connected with the economic activities to facilitate the use of financial transaction through mobile phones (Mtaho and Ishengoma, 2014).

The rural areas mostly are agriculture based economy, this brings much questions to the success factors towards mobile financial services improvement in Mpwapwa District. Therefore, it is important to recognize the needs of mobile financial services in its attributes of successful provision of mobile financial services (Mramba, *et, al*, 2012).

This study focused on the factors for successful provision of mobile financial services in Mpwapwa District.

## **1.2 Problem statement**

Mobile financial services could become a general platform that transforms entire economies across commerce, health care and agriculture sectors. The estimated number of mobile financial services users in Tanzania was 17,263,523 subscribers (TCRA, 2016). The mobile phones are central to all users in financial services under electronic mobile money platform in a fast moving technology of mobile network operators (Clyde, 2014). It operates in terms of cash in, cash out infrastructure directly to subscribers through network of cash merchants or agents. The agents are receiving a small commission for turning cash in electronic value. Mobile system operates in interaction of finance and telecommunication; for that reasons face various communication and technology challenges (Aker, *et al*, 2011). The financial services in mobile system are mainly depending on the ability and performance of agents in terms of cash in and cash out. The financial services infrastructure limit various cash transaction in rural areas. Sometimes, the network system encounter various risks in money transfer and payments services. The users' familiarity in rural areas is quite limited on the mobile financial services technology type and nature to manage transaction.

The regulatory environment for consumer protection is challenging in mobile financial services operation. Various efforts from stakeholders such as governments, nongovernmental organizations and international development were directed to justify financial services for productivity of various sectors in the economy. Little attempt has been achieved in the improvement of mobile financial services especially in rural areas where networks and money safety is low. Thus, there is a need to search for attributes



of successful provision of mobile financial services. This creates a need for conducting a study on the factors for successful provision of mobile financial services in in Mpwapwa District.

### **1.3 Objective of the Study**

#### **1.3.1 Overall Objective**

The overall objective of this study was to assess the factors for successful provision of mobile financial services in Mpwapwa District

#### **1.3.2 Specific Objectives**

1.3.2.1 To analyse the utilization of mobile financial services among mobile phone subscribers in Mpwapwa District

1.3.2.2 To determine knowledge on regulatory procedures in providing mobile financial services among subscribers and agents in Mpwapwa District

1.3.2.3 To examine the competitive advantage of mobile financial services utilization in Mpwapwa District

### **1.4 Research Questions**

1.4.1 What is the level of utilization of mobile financial services among mobile phone subscribers in Mpwapwa District?

1.4.2 What is the level of knowledge and compliance to regulatory procedure in providing mobile financial services among subscribers and agents in Mpwapwa District?

1.4.3 What are the competitive advantages of mobile financial services utilization in Mpwapwa District?

### **1.5 Purpose and Significance of the Study**

This study has significance to knowledge, managerial application and policy contribution for the case of knowledge contribution the research findings will be relevant for further related research.

Managerial application, the mobile financial services providers such as VODACOM, TIGO, AIRTEL, and HALOTEL will use these findings to come with attributes of successful provision of mobile financial services in rural areas. Also, the management will control the mobile financial services to increase users or subscribers money safety and network accessibility.

Policy contribution and legal improvement, government through policy makers will be alerted to the challenges subscribers face in mobile financial services and relevant attributes of successful provision of mobile financial services in rural areas and set appropriate policy to solve the problem. The legal restriction control and improvement in money transfer, receipts from agents and storage will be improved in line with the success factors presented by this study.

## **1.6 Summery**

The chapter has described the background, problem statement, objective of the study and research questions that showed the direction of the study. Also this chapter presents the purpose and significance of the study that hit the contribution of the study to decision makers, policy makers, knowledge contribution and management of the respective Mobile network operators, banks and financial institutions.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 Overview

This chapter presents the literature review that focuses on the theoretical and empirical review; also was presented the concept of mobile financial services, and relevant theories and concept. Also, various studies on mobile financial services from global to regional wise are discussed in this chapter.

#### 2.1 Theoretical literature Review

##### 2.1.1 The Technology Acceptance Model (TAM)

It was one of the most utilized models in information system acceptance (Davis, 1989).

According to Adesina and Ayo (2010) the TAM is defined as the information system theory that presents how users come to accept and use technology. According to Davis (1989) argued that an adaptation of the theory of Reasoned Action (TRA) focused on presenting users acceptance of a new information technology (Nicholaus and Venkatakrishnan, 2013). The development started in 1950s, mostly suggested that, individuals intention create actual behavior to influence norms and attitude under individual beliefs (Mwaikali, 2014).

Technology acceptance model has been used for the last two decades to explain the consumer behavior on the adoption and acceptance of new technology (Pulver, *et al*, 2009). The application of the technology acceptance theory contributed to the extension of mobile financial services and products (Demirguc, *et al*, 2012). In fact more

explanation of the product based on the demand of financial services under the mobile application and users' perception regarding to various factors (Hultman, 2007).

TAM consisted with two constructs such as on the perceived usefulness and perceived ease of mobile financial services. The more effort needs to direct on the individual's intention to use system under the influence of financial services demand and users perspective (Nyaga, 2014).

The decision to adopt a technology is directly associated with the perceptions of the individual consumer in regards to the ease of use of the technology, the usefulness of the technology to the consumer (Nyamtiga, *et al*, 2013).

A consumer is more likely to adopt the mobile money financial services originally on the ability to use and it's easy on the application of mobile financial services. The reality is controlled on the daily basis based on the demand of mobile financial services and basic attributes on the successful mobile connectivity (Okafor and Ezeani, 2012).

The perceived usefulness is attached to the subjective probability on using a specific application system and increase of job performance. The users expect also the target system to be free of efforts (Ondiege, 2010).

The perceived usefulness of the system is related to productivity and perceived ease to use. This influenced the behavior of users and drives the IT usage (Peterson, (2009).

The context of e-commerce is generally build in trust as a key construct of behavior, in fact e-commerce transactions are conducted through the internet without face to face meetings (Grazioli and Jarvenpaa, 2000).

The usage of technology in financial services accessibility is built in trust that individual have or expects. It is built in the satisfaction of past transaction and reputation (Pavlou, 2003). The familiarity and disposition considered to be important elements in the use of mobile financial services. The development of TAM model come up with suggestions on the improvement of subjective norms and cognitive instrument processes and its effects on the perceived usefulness and intentions (Grandon and Pearson, 2004). This model is relevant to this study, because it encourage the acceptance of mobile financial services as a technology and its used in the facilitating financial services. The successful utilization of mobile financial services largely depends on the acceptance and use of mobile financial services.

### **2.1.2 Transformative model**

Transformative model is highly connected with the benefit of mobile evolution to offer investment amenities to the economically underserved people. These simulations are typically not founded on a bank version or credit passes; these are the leading communications accepted out by the poor (Poon, 2007).

Mobile currency facilities offer the option of speaking two key obstacles to economic presence for the poor: affordability and physical accessibility. Branchless banking facilities allow mobile financial services accessibility in coordination with banks to offer micro payment communications on mobile phone like deposits, drawings and noble to noble transversals without the need of initial bank branches (Prerna and Preeti, 2011).

It has the conceivable to reduce the cost of supply and progress correctness for the consumers with a vast courtesy to new and earlier unbanked segments of the residents.

The mobile financial services provision in low cost expects to enhance accessibility of financial system (Rumanyika and Mashenene, 2012). The transformative model relates to this study, because mobile financial services are accessible and affordable through a branchless system. The poor people are limited to various factors in accessing financial services, but through mobile financial services as advocated in this model can enhance accessibility and affordability of financial services without physical contact with bank tellers.

### **2.1.3 Diffusion of Innovation Theory**

The diffusion of innovation Theory (DIT) was basically developed by Rogers in (1983) later on modified in (2003). This theory considers mobile financial services as the technological innovation and as one of the theory that attempts to explore the factors which affect an individual to adopt an innovation or new technology (Rogers, 2003).

The diffusion is highly considered as the adoption of an innovation over time by the given social system (Sharma and Vineet, 2012).

The existence of five perceived characteristics of innovation that can be used to form a favourable or unfavorable attitude toward an innovation, namely: relative advantage, compatibility, complexity, trialability, and observability (Tan and Teo, 2000). The five attributes and their relationship with mobile financial services innovation can be summarized as follows;

Relative advantage is the degree to which an innovation is perceived as being better than the idea it supersedes. For a person to choose to use a technology for a specified task, it should provide some form of benefit for the task concerned (Valentine, 2010).

This means that when the users perceive relative advantage or usefulness of a new technology over an old one, tend to be adopted. In mobile financial services adoption scenario, advantages like convenience, speed and affordability to customers is reported. Increased performance, cheaper costs and increased social standing brought about by mobile financial services show a sense of relative advantage (Vanitha, 2013).

Compatibility refers to the degree to which a service is perceived as consistent with users' existing values, beliefs, habits and present and previous experiences (Carmner, *et al*, 2011). Compatibility is the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters. Compatibility has further been found influential in the adoption of mobile payments and mobile financial services (Ndiwalana, Olga, Popv, 2010).

Furthermore, compatibility may be of a technical basis such as software or hardware with a computer and therefore, interruption to one's workflow should also be minimal and the technology should not cross one's value or belief system (United Nations, 2012).

In mobile financial services compatibility represents the ability of users to adopt a reliable system which matches with the existing values, past experiences, and needs of potential adopters (Abdalla and Semkwaji, 2011).

Complexity refers to the sense of difficulty that the user has in using and understanding an innovation. In mobile financial services adoption, complexity in use is a major factor (Kamotho, 2008). There are significant amount of empirical researches on the mobile technology which suggest that users' intention to adopt mobile financial services is hindered by the perceived complexity of the innovation (Kodjo and Raymond, 2013). This means that barriers of mobile financial services adoption are predominantly related to technical complexity of technical infrastructure and the design of technology (Laukkanen, 2007). Depending on the environment and ability to use mobile financial services, in Tanzania context users mobile financial services for users ability to use need not to be demanding mental efforts, time consuming, unstable and risky (Leishman, 2010).

Trialability refers to the capacity to experiment with new technology before adoption and it covers opportunities such as test drives, demonstration units and simulations (Lennarf and Bjorn, 2011). Physiologically, if potential adopters are allowed to experiment with an innovation, they will feel more comfortable with it and are more likely to adopt for financial services development (Porteous, 2006).

Also once customers are given a chance to try the innovation; tend to minimize certain unknown fear and lead to adoption of the model for financial services development. The perception of risk is even more important due to fear of loss of PIN codes, fear of hackers' access to bank accounts via stolen PIN codes and fear of loss or theft of mobile device with stored data or information (Foster, *et al*, 2012). Therefore, in Tanzanian environmental context perceived risk is more likely to negatively affect the



mobile financial services adoption since most of the adopters are afraid of the mentioned risks (Abdalla and Semkwaji, 2011).

Observability of an innovation describes the extent to which an innovation is visible to the members of a social system, and the benefits can be easily observed and communicated. Rogers (2003) found evidence for the power of observability considered on the number of adoptions over time.

The adopters categorized into five groups which are: Innovators who are (willing to experience new ideas and thus be prepared to cope with unprofitable and unsuccessful innovations, and a certain level of uncertainty) (Ignacio, 2012).

Early adopters who (are more limited with the boundaries of the social system and who are more likely to hold leadership roles in the social system), early majority directly associated with good interaction with other members of the social system. The leadership role direct based on the interpersonal networks is still important in the innovation-diffusion process (Mahmood, 2012). That importantly controls the operation of mobile financial services for the interest of users and community at large. The mobile financial services need to operate in such a way that protects the users' financial resources (Demombynes and Thegeya, 2012).

Roger (2003) posits that, innovation under the mobile financial services innovation is better in its practices. The mobile financial services operate under the realm of technological innovation. This brings financial services near to customers than the traditional bank system that could demand the users to directly contact the bank tellers (Shaibu, 2012). The innovation eliminated direct contact of bank tellers to minimize disturbance. The reality gained due to substitution of mobile financial services agents

that locally may be the shops accessibility of financial services in timely basis being essentially managed (Stephen, 2012).

In Diffusion of Innovations theory, individuals are seen as possessing different degrees of willingness to adopt innovations. The portion of the population adopting an innovation is approximately normally distributed over time (Sunil, 2012). This theory relate to this study because it insist the use of mobile financial as a technological innovation, through compatibility, complexity, trialability and observability.

## **2.3 Empirical Review**

The M-PESA has clearly revolutionized the method of mobile financial services on money transfer, withdrawal and wallet storage. The M-PESA applied with people of various statuses in both urban and rural areas to transfer money to other places with low cost and time (Abbey and Boateng, 2014).

The challenges on the traditional bank access in most of the rural areas in Africa associated with lack of reliable and accessible methods of exchanging money between people in different parts. This reinforced the reality acceptance of mobile financial services such as money transfer and withdrawal in many parts of the African countries and the rest of the world (Barnes and corbitt, 2003).

### **2.3.1 Outside Africa**

According to the research carried out by Department for Financial International Development's (DFID) in 2008 showed that, policy makers and regulators in much of the developing countries are encouraging the use of information and communication technology. Indeed, it is based on the non-bank retail channels to control the costs of

providing financial services to clients who had limited traditional banking access (Adesina and Ayo, 2010).

The system carried out in seven countries to target the unbanked poor in Russia and Brazil. The policy makers and regulators were specifically operating in the common feature to support the unbanked with bank account or live in the cash basis economy. For that reasons are limited with the ability to take loans, maintain savings or make payments to tackle the economic opportunities (Clyde, 2014).

Suoranta (2003) carried out a study on the adoption of mobile banking in Finland, it aimed to assess the innovation of financial services industry through the use of mobile banking services. The study sought to determine and explain the factors affecting the adoption of mobile banking services and focuses mainly on consumer behavior patterns (Grazioli and Jarvenpaa, 2000). The study theoretically based on the traditional theories of innovation, diffusion, adoption, electronic banking and technology based services was used (Grandon and Pearson, 2004).

The findings presented the major theme of this study and reported that, certain attributes of mobile banking innovation were used to explain consumer behavior towards its relative advantages, compatibility, communication and trialability (Jack and Suri, 2010). The other sides on the complexity and risk of using mobile financial services provided without support and barriers in the adoption of mobile banking (Macmillan R and Attorneys, 2016). The technology perceptions and certain demographics variables of customers become vulnerable to the increasing challenge over the mobile financial services (Maradung, 2013).

The other study was conducted by Jammoul (2012). The factors affecting the mobile banking the customers' intention to use mobile financial service was basically connected with the demand of financial services the clear understanding of the system and non-system factors that could affect the trust in mobile banking and its usage. The system to basically affect the utilization of mobile financial services in this aspect needs a clear theoretical base (Donner, 2007).

The objective of the study was to understand the factors affect initial trust in Mobile Banking from the perspective of the consumers, and to identify the factors that can predict their usage intention (Pavlou, 2003).

Those factors are trust propensity, structural assurances, relative benefits, firm reputation, system quality, computer self-efficacy, social influence and age (Puhazhendi, 2010).

Theoretically, the study based on initial trust-building model (ITBM) developed by Kim *et al*, the theory of reasoned action (TRA) and theory of planned behavior (TPB) (Rugamba, 2013).

A study of Laforet and Li, (2015) basically investigated consumers attitudes towards online and mobile banking in China. The findings revealed that, fear of security risks for the majority of mobile financial services customers basically considered to be the main reason for the rejection of internet banking. Indeed, associated with low computer technological skills and in Chinese the tendency of carrying cash is one of the main culture that associated with the rejection for technology flexibility, not time consuming

and prone to insecurity and basically tend to create high degree of interaction (Stuart and Monique, 2011).

This study basically exposes the technological application for the requirement that related to the ability to measure advantages such as complexity, comparability, trialability and observability (Donovan, 2012). These are mostly considered to be the most silence factors for the uses of mobile financial services under the realm of mobile banking technological innovation (DFID, 2008).

Kazemi *et al* (2013) conducted the study on factors affecting isfahanian mobile banking adoption based on the decomposed theory of planned behavior. The main objective was to investigate the factors that influenced Isfahanian' intention to adopt mobile banking, the renowned framework of decomposed theory of planned behavior model (DTPB) through examining the effects of trust and perceived risk as components of attitudes on behavioral intention (Donovan, 2012).

Descriptive survey research approach was used and was conducted on the population whose people had mobile phones and with a bank account in Isfahan city. The self-administered questionnaire was developed and distributed in Isfahan city (Adam and Kamuzora, 2008).

The sample of about 310 respondents was used for analysis the software was used to analyze data was AMOS software. The result of the study analysis revealed that, the decisive or crucial factors influencing mobile banking adoption are attitude and perceived behavior control. However, social norms were the only factor found insignificant (Ndiwalana, *et al*, 2011).

Hossein *et al* (2015), conducted the study on effective factors of the adoption of mobile banking services by customers in Saderat Bank by using the technology acceptance theory. The Diffusion innovation theory was influenced the performance of National banking.

They divided the effective factors of the adoption of mobile banking services to the two parts which are mobile banking technology characteristic. The demographic characteristic where mobile banking technology includes perceptions of mobile banking, ease of use, usefulness, cost, risk, compatibility with their lifestyle, and their need for interaction with personnel (Oketch, 2013).

Also, demographic characteristic includes cover gender, age, marital status, the level of education, and the early income. A descriptive –field study methodology was used where by 666 people were taken as a sample where 350 people were mobile banking services users and 316 people not using the Saderat Bank services (Kothari, 2004).

In analysis, the study revealed that, among different mobile banking technology characteristics, the compatibility variables, the cost of using, trialability and profitability were ranked by customers as effective factors of using the mobile banking services (Ame, 2011).

Moreover, factors such as ease of use , risk, and need for interaction and marital status were not important for using mobile banking services from the customer's' perspective while gender factor was effective factor among demographic characteristic (Ignacio, 2012).

In India and Jordan studies of (Devadevan, 2013) Basically revealed the challenges almost associated with the rapid changes of technology for example changes like 2 generation (2G), 3 Generation (3G) and 4 Generation (4G), evolutions of smart phones, evolution of new operating systems including androids and new mobile Apps basically created an obstacles for mobile banking uses under the various financial services system (Khraim, *et al*, 2011).

The changes almost associated with the mobile technology are considered to be challenging. More than (53.8%) mobile financial services customers are basically attached on the application of conventional mobile phones while (46.2%) used smart phones and (75.4%) of customers had not even tested mobile financial services in the year of 2013 (Devadevan, 2013). Also, other challenges were basically presented as risk of mobile phones theft and lack of awareness on the kind of security mechanism to control mobile financial services uses, such as password and mobile PIN number (Sharma. and Vineet, 2012).

Puhazhendi (2010) who did a study in India on the microcredit programme of the nationalized commercial banks revealed that, intermediation of non-governmental organizations (NGOs) and self-help groups managed to reduce the transaction costs of both banks and borrowers.

Special attempt recognized in various jurisdictions that mobile financial services achieved critical mass and encourage outsiders to adopt the systems (Hosseini, 2015). The poor people in remote areas connected with mobile financial services are enjoying

the large scale operation of financial services. There is respective improvement of livelihood through flexible transaction and utilities payment (Ishengoma, 2011).

The mobile systems made available due to existence of wireless phone service, helping to solve the problem of distance and shortage of branch officers in rural areas. Mobile financial services helped to extend financial services to the poor (Siedek, 2008).

The mobile financial services promote development in terms of financial inclusion, poverty reduction and increased productivity. The subscribers and users of various categories managed to save time and widen money safety for various business and social transition (Aud and Agora, 2003).

The mobile financial services have managed to achieve significant scale in the extension of financial services (Chung and Kwon, 2009). There are clear benefits basing to scale in mobile financial services according to the nature and characteristics of transaction (Donner, 2007). The benefits arising from purposeful innovative applications and subscribers demand of financial services, the subscribers' ability to use the financial services create further innovative ability (Ghazizadeh, 2012).

Rugamba (2013), observed that, mobile financial services win a general plat form in India specifically to attain the entry and growth. The fast growing countries leaders appreciate and transform the economy in the application of mobile banking to handle and facilitate transaction. In India the technology brought about a remarkable change of people lifestyle. Particularly, poor people share the same challenges resorting to payments and money transfer ( Economidesy and Jeziorskiz, 2016).



The electronic device provides a delivery channels for financial services. This is important because most parts experienced income poverty that could limit the accessibility of traditional banking system (Karahanna and Straub, 2003).

The mobile financial services could link the facilitate mechanism even to poor household in money transfer and bill payments. As over 50% of the population in India lives below the international poverty line, little disposable personal income will be left after consumption (Palvia, 2009).

Since consumption requires payments and commerce, therefore poor people suffer common challenges that related to transaction based financial services. The mobile financial services brought about the remedial action in its implementation to handle and facilitate payments services to a large population (Porteous, 2007).

### **2.3.2 Studies conducted Africa**

In South Africa mobile financial services has advanced to capture a large number of low income segment with limited means of bank services. It is believed that mobile banking designed to poor category of people. Majority of them had no access to banks services, because of lack of bank account (Porteous 2007).

Okafor and Ezeani (2012) in Nigeria revealed that the major obstacles to the use of mobile financial services are generally associated to the poor network security, poor telecommunication infrastructures especially in rural areas, also low internet and computer network skills and knowledge. The mobile phones are considered as the luxury goods that need to be operated with basic function only, such as making and receiving calls and even sometimes text message extension. Also, well improved

mobile phone system considered the issue of cost compatible mobile phones (Aker, *et al*, 2011).

The cost in most cases of phones such as smart phones devices and its repairs and maintenance as well, limit the ability of users to use mobile phones with other function, importantly, users tend to ignore the uses and connection of others service apart from the core function including mobile financial services (Davis, 1989).

Furthermore, a study of Iddris, (2013) on Barriers to Adoption of Mobile banking in Ghana states four main reasons contributing to the rejection of mobile banking by the consumers to include: poor knowledge about mobile banking, low consumers' attitude to learn about mobile banking, poor telecommunication network and enormous consumers' preference for traditional means of banking instead of mobile enabled banking services.

Kodjo and Raymond (2013) conducted the study in Ghana established that the overall perception on mobile financial services is on the trust of the mobile financial technology. There is no straight association between mobile phone protection and mobile currency protector. The protector accredited the users trust the service benefactor has put in place acceptable events to defend the mobile money facility (Amidžić, *et al*, 2014).

As one of the main causes of customer ambitious deception is PIN allotment. There is increasingly exploration that this is not a very mutual repetition. However, the 9% that collective their PINs did so with their relatives and occasionally with client agents to help them in managing one facility or the other from their mobile currency (Okafor and Ezeani, 2012).

The responses is basically connected with ability of agents, once its location is not near to the customer brings problem on the services accessibility (Kadušić, *et al*, 2011). The customers of mobile financial services face difficult in financial services accessibility as a result mobile financial services usage and accessibility are limited (Luo, 2010). This almost contributed to lack of adequate capital in terms of float and/or cash money. In rural areas customers found it difficult to reach an agent who had enough money to enable withdrawals or deposit money especially when the amount was above 100,000Tshs (Orotin, 2013).

The mobile financial services usage tend to be limited with service failure or network, in many times the network connection problems causing customers to receive messages stating that service is not available please keep trying (Sunil, 2012). This is a more challenging aspect to customers and agents because of risk of losing cash, wasting time and other problems like loss of customer goodwill (Ondiege, 2010).

Cudjoe *et al* (2015) from Africa carried out a research on the determinants of mobile Banking adoption in the Ghanaian Banking Industry among bank customers with basically emphasize in Ghana. The main overriding concern of this study was to examine the determinants of mobile banking in access bank Ghana. The study basically argued that much of the research has focused on the developed countries and resulted into generation of models and theories that, associated with effect to the adoption of innovation (Nyamtiga, *et al*, 2013).The development of various theories

Such as Innovation diffusion theory, technology acceptance model (TAM) and Theory of reasoned action (TRA) was affected the other and also explain the cause and effect to variables under the demand of mobile financial services (Mramba, *et al*, 2012).

A cross-sectional approach was used to generally focus on the particular phenomena a specific point in time (Kothari, 2004).

With directly administered questionnaires for primary data collection purposely to collect information data analysis was done qualitatively (Ame, 2011).

The results revealed that, perceived credibility and financial cost were the major setback with regards to customers' adoption of mobile banking services (Demirguc and Leora, 2012). The result showed that Ghanaians have formed negative behavioral patterns towards mobile banking (Cudjoe *et al*, 2015).

The various perceived factors on the credibility of financial cost and mobile financial services had facilitated customers timely and created low transaction cost in the financial services accessibility. Moreover the desires confidence for mobile financial services customers is increasingly harmed with the technology status (Prerna and Preeti, 2011).

The customers are in access of financial services through mobile phone, once the mobile phone stolen access tend to be lost, it may be due to stolen of mobile phones, or lost mobile equipment for a significant range of time In case of mistakes in entering recipients' number, the risk of loss was directly borne by the customer. Fraud issues were a matter of concern for many agents, as different fraud modalities and cheating methods were used. Swapping of SIM cards, unfaithful workers, and transfer of money from one account to another unknowingly due to PIN leakage, fake money and fake

mobile money withdrawal text messages were commonly observed by both the agents and the customers.

The transactions need to be performed especially to facilitate the money transfers and cash-outs. Although airtime topping is commonly through mobile money service. The utilization of mobile financial services mostly connected to the ability of purchasing airtime through mobile money services. (Pavlou, 2003).

This is directly attached to the little information on the value added services. The customers need to especially aware on the regulatory frame work on using mobile money services. The existence of more improvement on the scope on mobile money, the demand for supportive of disbursement of salaries, payment of school fees, provision of micro insurances to cover accidents, crops and livestock failures and other dangers (Puhazhendi, 2010).

This certainly aimed to support various services such as small loans with a little or affordable interest to unbanked population. Better quality for those service varieties is needed to be introduced in the market and customers are already on the demand for services (Rugamba, 2013).

The training to agents and customers regularly should be practiced as part of marketing efforts by companies' representatives (Carmner, *et al*, 2011). The responsive agents and end user customers are directly associated with the choices available in mobile money based services and utilize any new product in mobile money services. Though value added services were being advertised in the media, customers didn't even test them due to fear factors as there was doubt about those service varieties (Valentine, 2010).

Many delays generally affected the experienced and uncompleted transactions needed to be conducted in the scope of mobile financial services. For example, uncompleted and reversed transaction to or from bank were charged and this charged amount was not refunded (Stuart and Monique, 2011). So, all those challenges need to be solved to make the mobile money service easily adoptable. Not only that but also increases the room for its uses and facilitate money traction in various context rural and urban (Donovan, 2012).

As mobile phones required charged batteries to be on air, respondents suggested that, availability of reliable electric power in both rural and urban areas is a step needed to stable usage of mobile money services (Leishman, 2010). This is because many transactions required prior voice communication before real transaction is made. Subsequently, confirmation or acknowledgement messages were to be sent. All these transactions required an electrically charged phone (Porteous, 2006).

Hence electric power was required to sustain the mobile money services. Some respondents suggested that power rationing has to be minimized; new electric projects were required in rural areas where people spent a lot of time travelling to charge their mobile phones at high cost of time and money (Kamotho, 2008).

All these expected developments would reduce the cost incurred and time spent in kiosks to charge the phones. The degree of efforts required to enhance electric power availability (Ndiwalana, *et al*, 2010). Considerable numbers of respondents were insisting that electricity to be supplied to rural locations with more support to the Rural Electric Agency for wind electric turbine project initiated in Singida (Nicholaus and Venkatakrisnan, 2013).

Mobile devices have become increasingly with various facets related to ubiquitous and indispensable for customers and its business aspects (Tan and Teo, 2000).

The mobile phone as the device is relatively small and inexpensive but become evident due to the function performed (Foster, *et al*, 2012).

The mobile devices have specialized in the basis of hardware such as cameras, accelerometer, Global Positioning System (GPS) receivers and removable media readers (Sharma and Vineet , 2012).

Furthermore, mobile phones are generally integrated with multiple wireless communication technologies such as wireless fidelity (Wi-Fi), Bluetooth, Near Field Communications (NFC) and cellular interfaces. The mobile financial services configured to choose between various networks system and its respective connectivity across the global (Demombynes and Thegeya, 2012).

These devices can be used for sending and receiving email, browsing the web, online banking and commerce, social networking, storing and modifying documents, remotely accessing data, recording audio and video, and as navigation aids (Mahmood, 2012).

The mobile phone device has a greater number of functionality that, become more vulnerable to threats that plague our laptops and desktops computers (Shaibu, 2012).

Current model of mobile devices are designed to make it easy to find, acquire, install, and use third-party applications (Stephen, 2012). This poses obvious security risks, especially for mobile device platforms in security restrictions or other limitations on third-party applications. This increases the vulnerability towards its uses, basic function application as far as mobile financial services are concern (Sunil, 2012).

It is important to be safe, for that reason much effort need to be directly related to the third part application. The control of risk is especially connected with mobile financial services usage (Aud and Agora, 2003). Indeed, it increases the platform of mobile financial services management on the uses pattern and security aspects. Form these risk the mobile phone is vulnerable with various and multiple communication networks, mobile viruses and other form of malware that can harm the mobile financial services provision (Chung and Kwon, 2009).

**Internet Downloads:** A user with WAP or Wi-Fi enabled mobile phone may download an infected file via an Internet connection. The file could be disguised to trick the user. This appear as a game, security patch, utility, or it may be posted as a free or shareware download (Orotin, 2013).

**Messaging Services:** Malware attachments can be appended to electronic mail and MMS messages delivered to a device. Instant Messaging (IM) services supported on many phones are another means of malware delivery. In this attack, the user is forced to open the attachment, which subsequently the malware that will eventually infect the mobile phone (Luo, 2010).

**Bluetooth Communications:** Bluetooth technology provides a means to link devices in close proximity for information exchange. Bluetooth device can be configured in discoverable or invisible mode (Kadušić, *et al*, 2011).

In discoverable mode, the device can be seen by other Bluetooth enabled devices from which communication can be established. Mobile phone malware can be delivered through this channel especially when the mobile phone is left in discoverable mode. (Khraim, *et al*, 2011).



The consequences of mobile phone malware are wide, even to affect basic function of mobile financial services operation. It is evident operated to affect users' activities, steal sensitive information, destroy stored information, de active or activate application or disable a device (Koenig, *et al*,2010).

This is increasingly recognized as a threat towards mobile financial services application. The eruptions of mobile financial services initiate local or close proximity communications and propagate into other mobile devices or send through mobile network. The responsive effort facilitate the spread the services or message where the original users have not basically intended to do so (Lin, 2011).

Larger network that have emerged as the result of consolidation are prone to security implications. Applications for mobile payment solutions are complex in nature with mismatching set of possibilities that are caused by the involvement of multiple players (Atandi, 2013). The lines differentiating these players have become blurred with the crossover of mobile Phone. The benefit of consolidation and sharing infrastructure are apparent, but the costs of poor security are often distributed (McCloskey, 2006).

Proliferation of mobile banking technologies has led to lack of cohesive technology standards that can provide a universal mode of mobile banking. This lack of common standard creates local and fragmented version of mobile banking offered by different stakeholders, which leads to lack of end-to-end security (Mashenene and Rumanyika, 2014).

In developing markets, mobile banking service providers depend on agents for customer acquisition and for managing liquidity. The customers' ability to access

sensitive information such as the user name, mobile number and other credentials are used for identification and authentication purpose (Mohammed, *et al*, 2013).

These agents are not well equipped to preserve customer sensitive information and can easily lead to information leakage. Any loss of control over protected or sensitive information by service providers is a serious threat to business operations as well as, potentially, customer security (Mtaa, 2010).

Maradung (2013) in Botswana did a study on the factors affecting the adoption of mobile money services in the Banks. It adopted a study on mobile money services in the banking and its adoption factors. This study focuses on the technology acceptance model and demographic variables such as age, income, education and bank account. The liker like closed ended questionnaire was administered to a total of 190 respondents from the respective target of subscribers 200 users and non-users of mobile financial services (Creswell, 2012). The stratified random sampling used to capture diversity and group of mobile financial services providers (Harrell and Bradley, 2009).

The results showed that growth income and ownership of bank account among subscribers appeared to be insignificant in determining the use of mobile money services in Botswana. The study also pointed out that the age of subscribers appeared to be insignificant in the uses of mobile financial services. Also, the young people preferred to use mobile financial services than the older people (Ondiege, 2010).

The mobile financial services lack connection on the education of subscribers on its respective access of banking and financial services. Gender appeared to be significant

in the use of mobile financial services that more males than females using mobile money services (Honahan, 2007).

The employment status was also factors in the improvement of mobile financial services that appeared to be significant, with more employed individuals prefer to use mobile money services to access banking and financial services (Rojas, 2010). Therefore, the mobile financial services increasingly adopted in Botswana, more factors consider more significant in its adoption such as gender and employment status for improvement Banking services (Maradung, 2013).

Stuart and Cohen (2011) conducted a study in Kenya; findings revealed that the mobile financial services are predominantly useful in sending money and saving purpose. The advancement in access and use brought currently sophisticated mobile financial services. The subscribers access and use various services including savings, credit and insurance that proved far more beneficial to the majority of poor people. The development of these services resulted from the commitment of stakeholders to innovate higher development of mobile financial services (Nyaga, 2014).

Kamotho (2008) on Mobile handset lending practice participations in Kenya intended out that mobile phone banking is typically used for currency project due to the negligible costs of roll-out and the economies of supervision low-value communications unstated by leveraging schemes of outstanding third-party agents.

Geoffrey (2012) in Nairobi, researched about factors influencing mobile banking in Kenya with a case study of Kenya commercial bank. The main purpose of the study was to establish factors influencing mobile banking in Kenya. The study focused, mainly on

the influence of education, age of the respondents, cost of service and security concerns on mobile banking KCB, and those were the objectives of the study. Methodologically, descriptive survey was adopted to carry on the study (Ame, 2011).

It aimed at collecting information from the respondent in relation to their access to Mobile Banking services in KCB, the research was conducted using purely quantitative method and also questionnaires were used to gather data using cluster sampling technique (Kothari, 2004).

SPSS was used in analysis part where by data were presented using frequency tables, through analysis the study revealed that: Education and Age both together did not influence mobile banking this is because every person in the selected sample owned a phone, operated a bank account and had subscribed to mobile banking, however, skills seemed to have an influence on operating a mobile banking platform effectively (Mtaa, 2010).

Cost of mobile banking was not too high but some feel the cost was high. Security concerns. It was turned out that security was a serious issue as respondents said there were losses due to fraudulent access of customer's account due to hack, therefore banks should deploy disciplined, qualified and well remunerated ICT at the concern of Mobile banking (Mirzoyants, 2013).

The customers reported to have lost their money in many instances by fraudulent practices faced in the process (Leishman, 2010). The customers suggested that, improvements is needed in terms of security starting from agents or their workers who

were likely to be share information of the confidential PIN codes of some customers (Laukkanen, 2007).

This could be misused by some unfaithful agents or workers. A few customers mentioned that they shared their PIN with agents or close family members in case of emergencies (Kodjo and Raymond, 2013).

This is posed a threat of security issues. It was also mentioned by few respondents that some company staff were misusing agents' and customers' trust on them to borrow money from the cash balance available in their mobile money accounts (Vanitha, 2013). Subsequently some of these staff went completely disappearing without paying back the cash. Awareness to the end users and agents is increasingly needed to create a system to reduce frauds and risks in the mobile financial services provision (Abdalla and Semkwaji, 2011).

Orotin *et al* (2013) did a study on effects allowing admittance to mobile telephone cash in Uganda. He uncovered that a wide connection of executives was the extreme significant part for admission to mobile phone exchange services. The maximum used mobile hands exchange facility was broadcast of currency to families and systems.

Oketch (2013) augments that construction a supervisory outline for mobile currency and financial enclosure among MNOs in Uganda would expand economic firmness and integrity.

Donne (2007) suggested that customers were suggesting that branding and widespread publicity should go hand in hand with product availability. The ratings made by customers, it is important to note moderate efforts were required in both rural and urban areas. Customers provided suggestions that more publicity was required for value

added services' varieties, rather than concentrate only on cash withdrawals and transfers, since cash as a resource was scarce and no one can afford sending limitlessly. Customers in this regard highlighted that mobile money service users were not aware of many other mobile money based services. Even if customers have heard of such services, they were afraid of losing their money in an attempt of utilizing those services.

This would further protect customers, particularly those for whom this is the only network to access prescribed monetary services. The guidelines would also protect the economic system in contradiction of the hazards of a relaxed cash-based frugality (Masamila, 2014). Though mobile headphones were once observed as amenity item, their current growth and international diffusion has been amazing. Banks can take full benefit of this new stand for accurate mobile submissions which have been made obtainable (Eckhardt, *et al* 2009).

The mobile banking in low-income individuals' no lengthier necessity to use unusual time and economic possessions to portable to distant bank branches, since mobile banking dealings cost far less to procedure than communications at an automatic teller machine (ATM) or branch, banks can brand a profit treatment even minor money assignments and incidentals (Atandi, 2013).

Agents' presence is a requirement along with network availability and reliability in order for mobile money services to penetrate the market and grow (Nyaga, 2014). Customer views focused on the demand of mobile financial services on rural unreached areas where limited network connectivity is the problem. Therefore limited numbers of agents basically is the problem in rural areas (Nicholaus and Venkatakrisnan, 2013).

On the other hand, working capital for agents is a matter of concern in both urban and rural locations. Agents, customers and companies' territory managers expressed views that reflect on problems related to working capital (Montez and Goldstein, 2010).

Most of agents had limited financial capital in terms of float or cash or both. All groups of these respondents suggested improvement was required in this area to support the mobile money services market penetration and expansion (Mirzoyants, 2013).

Most of agents had limited financial capital in terms of float or cash or both. All groups of respondents suggested on improvement directly on the support the mobile money services market penetration and expansion (Masamila, 2014).

Most of the agents were undertaking the mobile money services' agency as a secondary or tertiary business. The agents required to diversify capital regardless with limited business portfolios but due to investment opportunities available in the mobile financial services avenue (Masamila, 2014).

The agents demand on the improvement of mobile financial services through provision of loans from parent mobile service providing companies. This could directly related with attractive commissions to encourage agents in continue directing the working capital, hence improvement of transaction volume per day (Anitha, 2011).

Nicholaus and Venkatakrishnan (2013) observed that publicity demand where above 70% of customers mentioned that the efforts should be increased in both urban and rural areas of Tanzania the Brand recognition and trust are very important in any industry. Branding is an initial stage. This is what made any outlet to be known as an agent (Masamila, 2014). Therefore, customers and agents suggested that availability of

branding materials is necessary. Branding is also required in terms information, such as pricing tags which keeps changing from time to time, thus causing complaints from customers and also in case of introduction of new service (Anitha, 2011).

The customers suggested that, the efforts requirement ranged between moderate and highest efforts amounting to 69.8% and 85.5% for urban and rural areas respectively (Hosseini, 2015).

The current dominant use of mobile money services was for mostly money transfer and withdrawals of cash sent. Customers suggested that, more efforts were required to increase the usage beyond these remittances and airtime topping ups (Ishengoma, 2011). More service varieties were possible through inviting banks, micro finance institutions and third parties to make the service less reliant on transfer of e-money and convert to hard cash money on the recipient side (Donner, 2007).

An example of low cost service variety is Faraja Bima provided by Vodacom M-Pesa which is mobile micro insurance. People who make a minimum of 10 transactions per month automatically get insured. Many customers were not aware of what it was and how it works. So this poses a challenge for awareness creation about most of the mobile money based service varieties (Lennarf and Bjorn, 2011).

### **2.3.3 Studies conducted in Tanzania**

In Tanzania mobile financial services facilitate the transfer of money from urban areas to the rural counterparty. The rural people may simply visit to local agent to change the digit value into cash, in this way money can cross enormous distances at the speed of text message. In fact, the small payments are easily transferred in rural areas for use in regular basis easily through mobile phones (Donovan, 2012).



In Tanzania, the mobile financial services that are facilitated by mobile banking was greatly introduced by E-fulusi Africa Limited in partnership, with FMBE bank in the ground of mobipawa platform, it was one of the independent platform that generally focused to facilitate subscribers transaction in various ways, including transfer, receive, save and withdrawal of money, as well as purchase of various services and commodity (Lin, 2011).

Customer of mobile financial services builds more effort to increase or demand more services varieties, which termed to be through increase usage of mobile money services (Prerna and Preeti, 2011).

The customers observed to be with little money to send or withdrawals (Poon, 2007). The cash is directly used for personal issues and respective increase of financial services to promote reliable bill payments. Also, the financial services provision through mobile financial services expected to facilitate purchase of goods and services including paying for tickets for travel or buy of goods. This facilitated to make timely response from the financial services to promote mobile financial services utilization (Ondiege, 2010).

In this regard, the timely response from the service will be the key to success and unlike the current situation where there is a likelihood to wait for a longer time to receive these services. For example, getting the LUKU coupon purchased through mobile money services might take longer time (Mwaikali, 2014).

It was generally facilitated through the use of mobile phone that is empowered with Vodacom and namely M-PESA lunched with the use of Vodafone. M-PESA essentially introduced to perform banking financial transaction in various ways and dimension

under the operation of mobile network operator (MNO). With the use of M-PESA customers who connected may manage to receive and send money to any other mobile customer and generally the transaction is organized and facilitated in simple text based transaction (Luo, 2010).

Recipients of such transfers are able to convert the e-money back into cash at any authorised M-Pesa agent across the country. M-Pesa uses aggregator model to manage agent network (Hosseini, 2015). The use of aggregators has reduced the complexity of agent management as M-Pesa does not deal directly with thousands of outlets spread out across the country. Also, this model has improved cash management, typically balancing of cash float issues between different outlets caused by regional imbalances between deposits and withdrawals (Donner, 2007).

The efforts are needed to increase outreach through improvement of network in the area not accessed with network coverage (Mtaa, 2010). The network basically hindered by several factors and tend to be unreliable in the really poor connection, the customers in most cases discourage on the services adoption and usage. The lack of network forced subscribers to drive longer distance to access network (Mwaikali, 2014).

The mobile financial services operated in low network contributed to delay transaction response. The opinion on the network improvement for both rural and urban areas observed that more improvements were required in rural areas where substantial population was unbanked (Nyaga, 2014). The urban areas need respective improvement due to several occasions on the unavailability and frequent hanging transactions without prior information or notification to users (Atandi, 2013). The customers demand more efforts to cover rural unreached areas. This is due to lack of

reliable network connection, customers unable to make calls and to make any significant transactions (Porteous, 2006).

Absence of network was forcing people to travel longer distances to avail the service. Mobile financial services customers were even made to wait for some time to get transaction response (Anitha, 2011).

The network improvement needs almost much effort on the technological advancement and innovation activities especially in rural areas where substantial population was unbanked. For urban areas also improvement was required due to several occasions of service unavailability and frequent hanging transactions without prior information or notification to users (Clyde, 2014).

Currently, Vodacom Tanzania and Commercial Bank of Africa (CBA) have generally launched a banking service called M-Pawa. This allowed providing option Tanzanians with Mpesa customer to save and borrow money through mobile phone. In fact, Vodacom M-PESA is generally organized 21 commercial banks in Tanzania. It is preferred payment solution over 200 businesses in Tanzania (Anitha, 2011).

Another provider of mobile financial services is Zantel launched Z-Pesa in that time was known as Ezy-Pesa in 2008. It was firstly introduced in Tanzania island Zanzibar and managed to operate the market (Masamila, 2014).

It extended services to include mainland initially, intended to support money transfer in formally recognized function namely sending and receiving money. But this service has expanded to include payment such as bill and merchants payments. Ezy-Pesa uses E-Fulusi Mobile Transaction Switch (EFMTS) developed by E-fulusi. In 2009, Airtel

(previous knows as Zain) introduced AirtelMoney, a mobile banking platform developed by Hamisco Oberthur technologies (Mashenene and Rumanyika, 2014).

Airtel Money was launched basically simultaneously in Tanzania and Kenya to link micro-payments in financial services operation (Atandi, 2013). The merchants required to overcome the financial services to facilitate money transfer and manage provision of cash at timely basis (Hosseini, 2015). With Airtel money basically organized to have customers that may manage to make direct purchase and basically can use the channel to move cash from one location to another. It managed to collaborate with the channel that allowed legally to move large amount of money from one place to another and in fact has inter link with several banks that allow customers to basically conduct large transaction (Ishengoma, 2011).

In Tanzania also, mobile phone companies have been providing various services including mobile-phone money transfer (MMT) since 2008. It was found out by many scholars that, prior to introduction of M-PESA and other MMT services in Tanzania, sending money through the friends/family members and use of courier/transport companies for this purpose were very popular for transfer of money (Donner, 2007). Through various channels of the commercial banks money transfer become evident through mobile financial services channel. It basically organized with the service provider to manage to offer financial services. Indeed, it has organized in the last few years (Sunil, 2012).

The increase of mobile financial services generally becomes well facilitated with agents, which authorized to facilitate cash in and cash out simultaneously. In fact, it may offer mobile financial; services as an agents to receive and give cash to customers directly in

physical contact. The increase of mobile operators that provide financial services to customers, recently of that time managed to cover Tigo, Airtel and Zantel. It was considered to be important to facilitate mobile financial services through agents or commonly known as wakala, to basically provide services directly to registered customers with respective companies only (Stephen, 2012).

The customers assessment based on the security aspects were very weak and for that reason to increase more room for money wastage, for that reason become increasingly difficult to come up with knowledge and information to improve the services used through mobile phone. The customers expectation become increasingly difficult to be fulfilled particularly on the use of mobile financial services (William and Tavneet, 2011).

The mobile financial services in Tanzania has increasingly use in recent time regardless to scant of challenge related to money transfer, withdrawal, save and purchasing services and products (Shaibu, 2012). The customers of indifferent age and sex become in wider use to capture various interest and needs. The need to extends financial services through mobile phones are the strong desire to customers and mostly increasingly related to the ability to switch from one mobile financial service providers to another (Lennarf and Bjorn, 2011).

It has become a particular phenomenon towards the competition aspect on the services provision and its respective improvement. The knowledge on the dynamic of customers and its ability to retain was basically affected to the ability of agents and network coverage aspect (Krishna, *et al*, 2012).

Economidesy and Jeziorskiz (2016) conducted a study on mobile Money, it recognizes mobile money as the advanced financial services in most places of developing

countries, and Tanzania is in particular. It operates and managed to replace the retail networks of traditional banks. This study provided an attempt of providing evidence on the impact of mobile money on alleviating financial exclusion in Tanzania.

It specifically, focuses on the three types of transaction such as money transfer, money transportation and money storage. It used a demand estimates identified increase in transaction, the subscribers operate in willingness to pay to basically avoid walking with money for short distance and storing money at home for extra days (Leishman, 2010).

These mobile financial services significantly contributed in reduction of crime and its risk. In fact, mobile financial services operate under the price discrimination for subscribers based on the type of service, consumer location and distance between the transaction origin and destination. This transaction under the mobile financial services operated in the nature discrimination but tend to deliver a Pareto improvement (Carmner, *et al*, 2011).

Inter Media (2013), study done in Tanzania presented that mobile money feasts 45 out of a hundred of the Tanzanian adult population with modifications in demographics. There is sign in the distribution that using unfair facilities on a mobile convenient can be fairly gloomy, mainly when surfing Internet-like boundaries on mobile strategies (Teo and Pok 2003).

Lennarf and Soderberg (2011) exposed that MSEs were located in town areas and generally in DSM. The MSE were micro but by and great official initiatives with a secure zone having maximum compulsory licenses and credentials required by institutions and the MMT operators were mostly productive MSEs that do not indicate the usual Tanzanians in MMT training.

Reviews from GSMA said that, on a comparative source, the defenselessness of current payment gadgets to currency laundering and funding of extremism, such as cash, are superior in all compliments except for the speed of dealings. However, for the nation like Tanzania, the specialists agree that the possible is huge, the fact that not more than 20 per cent of the persons have bank books while the mobile marketplace is predictable to break the 50 per cent diffusion barrier mostly due to influx of the grit cables in 2012 to 2015 (The Citizen, 2011).

Viswanadham (2016) This study assumes to identify various factors inducing the use of operative use of Mobile-phone based Financial Facilities (mobile money) Dodoma Urban is used as a study. The study used both qualitative and quantitative methods done review and semi intended interviews. A modest arbitrary trial plan was used to select defend ants since the customers and purposive sample was used to choice defend ants from workers. The study enclosed 60 respondents of which, their retorts were examined using a computer package of SPSS (Kothari, 2004).

The study discovers that the maximum extensively used service is M-pesa. It was exposed that subscribers use these mobile hand set commercial services not only for sending currency to domestic or networks but also for casher serves. Also mobile telephone based economic facilities providers should inferior the deal costs to move more customers to join (Vanitha, 2013).

Though Mobile-phone based financial amenities appear to cut across all clusters, usage is more noticeable among stealer age collections. Income estimation is separated as belongs to the thresholds that generate access into Mobile-phone based monetary services (Sharma and Vineet, 2012). Some operators with no detailed income bases

were recognized as steady users suggesting a huge possibility that they rely on revenue of others. This indicates that, Mobile-phone based financial services have created a difficult path for income rearrangement. Mobile banking is the evolutionary step for banking services in Tanzania (Tan and Teo, 2000).

It is a supplementary facility built upon current financial clarifications which have all complete financial services easy and at focused cost both to clients and fiscal service providers. It has also condensed the faith on bank branch substructures and even admission to the internet done the processors (Orotin, 2013).

Most clients view phone banking as actuality very endangered and are satisfied with its custom. It is predictable that, with the right structures and acceptable financial laws propagated to protection customers phone banking will in the adjacent upcoming be the most favored and suitable expedient for leading banking dealings in Tanzania and most developing countries of the world (Ignacio, 2012).

Nicholaus and Venkatakrishnan (2013) This study examined the challenges facing mobile money transfer services and their expansion in Singida, Tanzania. It was adopted cross-sectional survey to collect quantitative data from users of mobile money services. It also included agents and service providers' representatives from Aitel Money, Tigo-Pesa and Vodacom M-Pesa in Singida district, Tanzania (Anitha, 2011).

The result observed existence of significant challenges affecting market penetration and expansion and regular use of mobile money. Lack of financial capital problems for agents, unavailability of network coverage and regulatory barriers to mobile money payment systems were leading to low penetration level in Singida and Tanzania (Masamila, 2014). Reduction of transaction charges, ensuring widespread availability of



agents in rural areas, stability of network, regular supply of electricity, training and information to users are necessary measures to increase usage, penetration and expansion of mobile phone money services (Atandi, 2013).

Thus, from results and findings, it is evident that, agents and customers faced challenges when operating mobile phone money transfer services. These challenges included network failure in terms of network outage and frequent hanging transactions, technical questions from customers which were beyond agents' ability to explain, low financial capital and little or lack of technical support from mobile phone operating companies' representatives and aggregators (Atandi, 2013).

Presence of many agents in the same locality is a problem that needs to be handled in order to avoid the scramble for a few customers among the agents. Further, a substantial number of customers are reluctant to use services other than transfer and receive of money services (Lin, 2011). The study revealed that, poor knowledge on benefits of mobile money transfer, limited knowledge on the various applications of mobile money transfer, technical barriers, and problem of cellular networks was among challenges faced by end user customers. A sizeable number of customers indicated that there was a possibility of facing risk of fraud in using mobile phone money transfer (Hosseini, 2015).

Further the study recognizes that, there are challenges due to high transactional charges, limited varieties and limited information on their applications. It is found from this study that efforts were required in different business areas for future growth and expansion. These range from product renovation, distribution channels that included

agents, widespread publicity and pricing design to help mass market adoption (Nicholaus and Venkatakrishnan2013).

## **2.4 Research Gaps**

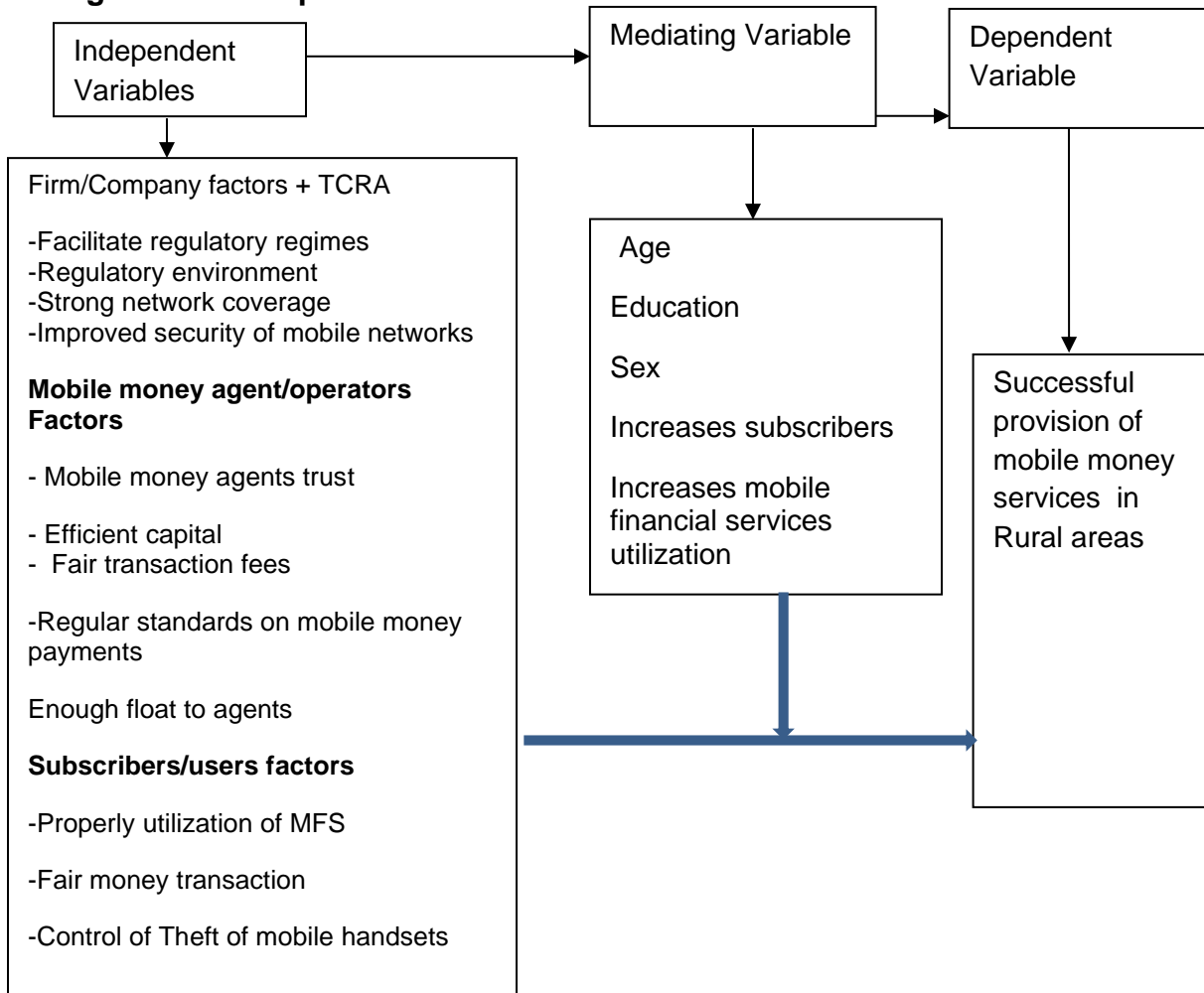
Mobile financial services are expected to improvement income and living condition of majority of the mobile subscribers. This is respectively in promoting mobile financial services accessibility to the poor and unbanked people. Mobile system is in interaction of finance and telecommunication for that respect is vulnerable to the technology challenges (Aker, *et al*, 2011). The mobile financial services operate in various challenges such as cash in and cash out, financial services infrastructure limit various cash transaction, network system with risks in money transfer and payments services. users' familiarity, the regulatory environment (Lennarf and Bjorn, 2011). From this experience previous studies attempted less on the factors for successful mobile financial services provision (Masamila, 2014); Mirzoyants, 2013 and Mwaikali, 2014). Little attempt has been achieved in the mobile financial services . Thus, this study attempted to fill the gap.

## **2.5 Conceptual Framework**

The conceptual framework is generally recognized as the coherent ideas or concepts that organized and presented in a manner that, facilitate easy communication (Schwartz, 2006). From the literature ground the attributes of successful provision of mobile financial services in rural areas in Tanzania, such as Firm/Company factors including facilitate regulatory regimes, regulatory environment, strong network coverage, improved security of mobile networks. The Mobile money agent/operators Factors such as mobile money agents trust including efficient capital, fair transaction

fees, regular standards on mobile money payments, enough float to agents, and subscribers/users factors including properly utilization of MFS, fair money transaction and control of Theft of mobile handsets. The intermediating variables such as age, education, sex, increases subscribers, increases mobile financial services expected to promote success in utilizing mobile money services at Mpwapwa (Figure 1).

**Figure 1: Conceptual Framework**



**Source:** Researchers Own Conceptualization, 2017

## **2.6 Definitions of key terms**

### **2.6.1 Mobile financial services (MFS)**

Mobile financial services (MFS) are the products and services that a financial institution provides to its customers through mobile devices. The mobile channel widens up accessibility of financial services to all customers of various categories. Also, the financial institutions increase categories of customers to access financial services with little costs and time. The risks originated to the traditional delivery channels continue to apply to MFS, special attempt on the success factors that need to strengthen mobile financial services. In fact, the mobile financial services face challenges associated with technology. It is important to control, identify, measure, mitigate and monitor risks involved with mobile financial services among subscribers and be familiar with the technology that facilitate MFS.

### **2.6.2 M-Banking**

A mobile financial service (M-Banking) is a term used to explain financial services provided by the way of mobile networks through mobile phones. In fact, various services being implemented and are currently in use such as depositing, withdrawal, sending, saving, transferring money and making payments (Clyde, 2014).

Tanzania recognized a wide range in material growth of mobile financial services over the recent years as a forefront of financial services. The new legislation is quite pending that draws attention on handling mobile financial services in future. The ability is relevant drawn from the current status in both legal and regulatory framework to govern mobile financial services (Carmner, Pulver and Sojoblom, 2011).

The current and future regulatory framework for mobile financial services operation is one of the best solutions to the population with limited access of customary retail banking services. In fact, it becomes evident due to facilitative geographical setting. It is important to note that the mobile financial services in Tanzania developed through mobile phones with various providers in a regulatory environment without National Payment System Act and guideline for electronic payment. This become not sufficient to act and facilitates the operation of mobile financial services (Atandi, 2013).

Policy and regulatory framework are generally considered to direct special control in mobile financial services provision. In fact, the financial policies and regulations are critical in the telecommunications industries under its prevailing competition (Clyde, 2014).

There have a recent development in mobile financial services in Tanzania, more particularly in mobile payment regulation (MPR) and recently signing of agreement with mobile network operators (MNOs). This in fact, drafts the remarkable development in the mobile financial services, it brings a new pace and direction of the majority subscribers with limited access of the traditional banking system (Atandi, 2013).

### **2.6.3 Bank of Tanzania Regulations**

The BOT Act was generally amended in 2006 to give the Bank of Tanzania (BOT) authority and powers to control and regulate non-banking entities in providing payment services. This termed in section 6 of the BOT Act that states that the BOT is empowered to regulate, monitor and supervise the payment, clearing and settlement system with other products and services that related to the payment, clearing and

settlement systems in any bank, financial institution or infrastructure service provider or companies within Tanzania (Anitha, 2011).

In 2007 the BOT generally allowed the MNOs to offer payment services through mobile transfer, there of various financial services providers emerged such as M-PESA and later on TIGO PESA, with more development towards the mobile financial services various development need to be achieved by banks and other financial institution also more development achieved recently to cover competition due to increase of services providers, AIRTEL MONEY and HALOPESA (Anitha, 2011).

#### **2.6.4 TCRA, TCRAA, and EPCR**

Mobile phone companies in Tanzania are regulated by the TCRA, in fact was established under the TCRAA and EPCR. The major function of these two bodies in Tanzania in relation to mobile banking or mobile financial services was generally to ensure that, the mobile companies perform to the required standard on the financial transaction carried out through their services. The TCRA and the EPCA are generally related to the performance of mobile companies. The financial nature of the mobile companies in operation is out of their scope and left to the BOT to handle and control the M-Banking based on the required performance of the respective MNOs (Anitha, 2011).

#### **2.6.5 Mobile Payment Regulations (MPR)**

In fact, over the past few years without specific regulation regarding to M-Banking, the BOT recognized its importance on its test and learn approach to allow MNOs to provide

mobile money services (Anitha, 2011). The BOT also provide specific permission to allow MNOs and relevant partners' banks to provide these new services. This regulatory frame work designed to the mobile industry with regulatory support towards the performances based on the required standards and legal framework in the provision of M-banking services. It called a recent improvement in the respective money safety in various dimension. The users are the most vulnerable to time and delay in payments and cash accessibility under the uncertain network (Clyde, 2014).

## **2.7 Chapter summery**

This chapter mainly covered the theoretical literature that presented relevant theoretical insight to mobile financial services, then after empirical literature that presented studies from different countries such as Asia, Latin America and Africa and Tanzania. Then after this chapter presented the conceptual framework that presented the relationship between variables and lastly definition of theoretical terms used in this study.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Overview**

This chapter deals with research design, area of study, population and sampling. It was also present data collection methods and techniques. Also, it presented the way in which research data were analyzed. Furthermore, it was presented the validity and reliability of the study to check for tools and instruments that were used in data collection.

#### **3.1 Study Area**

The study was conducted in rural area of Mpwapwa district, it is the central of Tanzania, the study area was selected because of the nature of the study that was focused in rural areas and Mpwapwa District is among of the rural areas of Tanzania. The convenient to collect data by a researcher, because currently is his work station, the area where problem on mobile financial services exist because of existing weak network infrastructure. Mpwapwa District was chosen as the study area not only having a substantial numbers of mobile financial services users but also it has the largest number of mobile phone money agents and users. The existence of diverse socio-economic characteristics and distributions of mobile phone money operators, agents and users in



the district, making it a best choice for this study in Dodoma region, all the four mobile phone money operators have their offices in Mpwapwa District.

### **3.1.1 Map of Mpwapwa District**

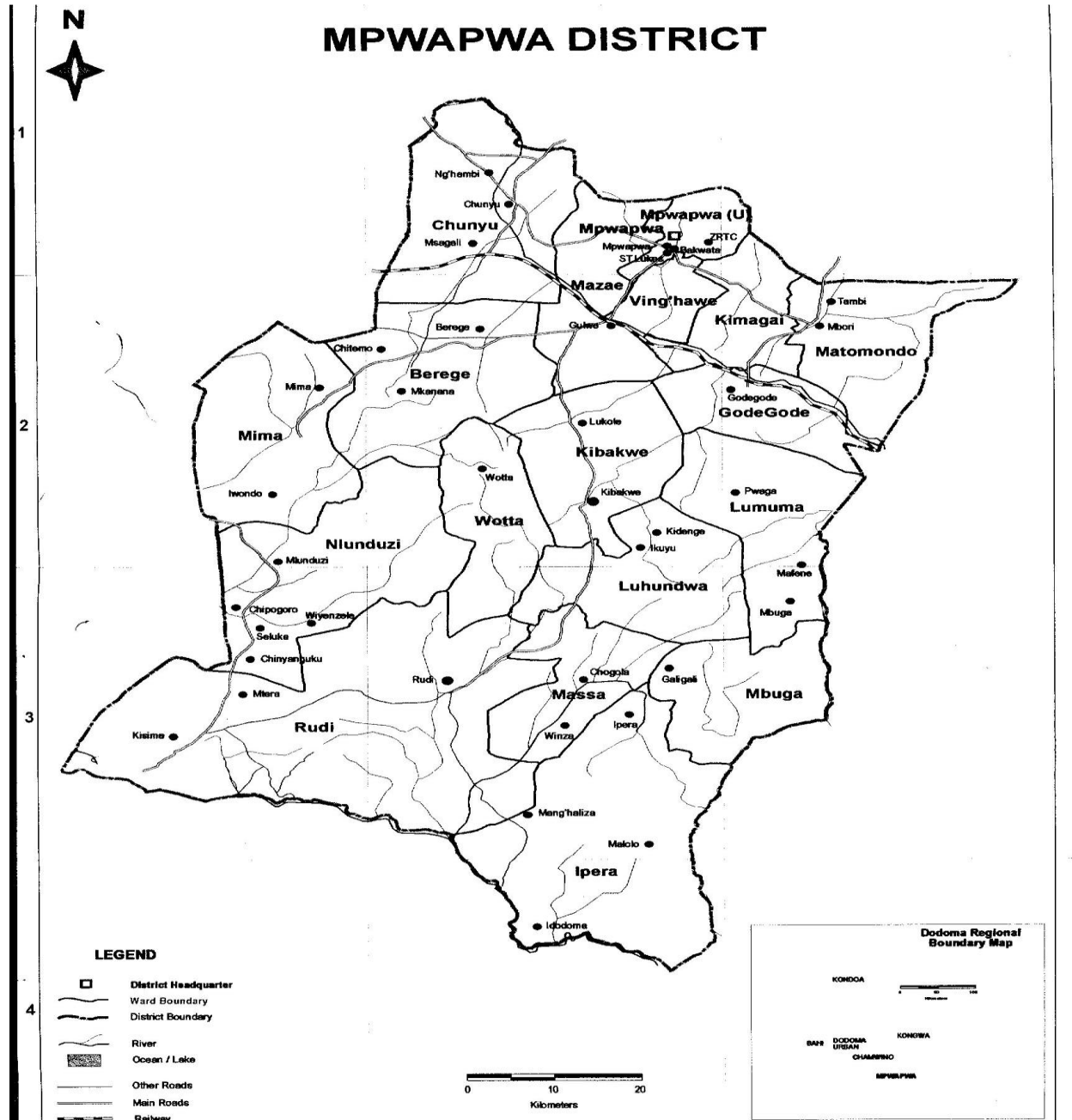


Figure 2: Mpwapwa District Administrative Map. (Source: MDC, 2016)

### **3.1.2 Rainfall, Vegetation and Temperature**

Mpwapwa District is located at semi-arid area the only vegetation that can persist are shrubs trees, acacia trees and other trees as the ward experience semi-arid climate and the drought resistant vegetation can sustain the drought condition. The rainfall for facilitating agriculture activities, in that respect the ward experiences annual rainfall ranging from 500mm to 600mm per year. Rainfall starts in late November up to early April and dry season start from May up to October, the situation indicates that Mpwapwa District experience one rainfall period per year. The temperature rises from 28°C up to 30°C per annual. The temperature tends to vary from year to year. However, the range remains on the ascribed degrees.

### **3.1.3 Ethnic Groups**

The major ethnic groups are Gogo, Kaguru, Tiriko and Hehe. There are few pastoral ethnic groups like Wamang'ati and Wamasai who are migrating into the District especially on the southern plains around Mtera dam and Ruaha Rivers.

### **3.1.4 Socio - economic situations**

It is estimated that, residents in Mpwapwa District especially women use about 80% of their time to get essential services such as water; firewood, health services, education, milling machine, markets, shopping and other services at a distance of 2 to 10 kilometers. Women do most of the works, especially in rural areas.

People in Mpwapwa District depend on agriculture and livestock as their main economic activities. About 90% of the people in the District are engaging in these economic activities as their major source of income. The District Gross Domestic Product in

2007/2008 was estimated to be Tshs. 64495,075,000.00. Per capita income is estimated to be Tshs. 217,180.00. The Agriculture and livestock keeping activities basically employed about 90% of the entire population in the district. The small and medium scale businesses employed about 7%, Small scale industries employed only 1% and office works 2% of the total population. The study conducted in Mpwapwa district on the factors for mobile financial services provision.

### **3.2 Research design**

The research design provide direction on the ways of conducting the research, various aspects are included such as methods, tools, design, data collection and analysis. The research design is a blue print that offers facilitative guides in research study according to the nature of objective (Labaree, 2009). This study was used a cross sectional design, that was intended to collect data on the attributes of successful provision of mobile financial services in rural areas in Tanzania at one point in time. The collected data were analyzed from perspective of mobile financial services subscribers in a defined time (Mugenda and Mugenda, 1999). Furthermore, the use of cross sectional design basically implied that data were collected in a particular point in time in the study area with expectation that variables were not likely to change.

### **3.3 Study Population**

Study population is generally considered as all individuals of interest to the study, it is associated to the full set of cases from which the sample was taken. The population of interest is defined by the purpose of the research and research questions that a study intending to address (Marczyk, DeMatteo and Festinger, 2005). Study population is generally further defined as all people that possess the characteristics of interest to the

research (Labaree, 2009). In order to meet the objectives of this study, it was focused on the mobile financial services users and respective operator financial managers. The mobile financial services users were from four network operators namely MPESA (356), AIRTEL MONEY (223), TIGOPESA (293) and HALOPESA (186). These mobile financial services users were selected in Mpwapwa District to compose a population of 1058. This was used as a study population to obtain required number of respondents.

### **3.4 Units of Analysis**

Unit of analysis is the major entity that is essentially used for analysis in the study (Atandi, 2013). It is what or whom that is being studied. A unit of analysis is considered as the things that are examined to basically capture the summary, description and explain differences (Ame, 2011). In this study, the units of analysis were customers, grouped in terms of service providers which are four groups MPESA, TIGOPESA, AIRTEL MONEY and HALOPESA in Mpwapwa districts.

### **3.5 Sample Size and Sampling Techniques**

This section was presented the sample size and relevant procedures for selecting the sample from the population (Adam and Kamuzora, 2008). The sample size was calculated under the systematic formula. This formula was applied by various researchers and proved to provide accurate sample size results (Kothari, 2008). Moreover, the sampling techniques were proposed under the required procedure and composed of probability and non-probability selection (Hosseini, 2015).

#### **3.5.1 Sample Size**

Sample size is basically defined as the population included in this study (Adam and Kamuzora, 2008). The study was covered only Mpwapwa District center for this research as the agents and users of mobile financial services available. The interior of the Districts access mobile financial services at Mpwapwa town center for large transaction (Ame, 2011). For ensuring validity and reliability also representativeness of the sample respondents were chosen among the mobile financial services users from different ages, educational levels both female and males ( Anitha, 2011). The sample size was drawn from the population to present un-sampled members for generalization purpose. The sampling was conducted purposely to reduce expense in terms of time, money and efforts (Creswell, 2012). The sample was obtained by the use of Yamane (1967) formula as shown below; The sample size was 91 respondents.

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

Where by:

n = Sample size

N = Total number of population in the study area = 1058

e = Precision error which equals to 10%

Therefore; 
$$n = \frac{1058}{1 + 1058(0.1)^2}$$

n = 91

### 3.5.2 Sampling Procedures

The sampling techniques was included both Multi random sampling and purposeful sampling techniques. Indeed, reduced the chances of biasness and improvement of data quality. Also, the sampling procedure was recognized as techniques or procedures used to select the sample. The study basically used both probability and non-probability sampling procedures. These procedures were explained in the following sub-section clearly (Harrell and Bradley, 2009).

Table 1: Number of Respondents by Mobile Money Providers

<b>Categories</b>	<b>Number of Respondents</b>
M-PESA	34
TIGO PESA	23
AIRTEL MONEY	21
HALLO-PESA	13
<b>Total</b>	<b>91</b>

### **3.5.2.1 Probability sampling**

Probability sampling is basically associated with the concept of random selection (Kothari, 2004). In addition to probability sampling, each unit within the population has some chance of being selected in the sample. This used to select the mobile financial services users from the entire spectrum of mobile financial services customers.

### **-Stratified random sampling**

In this study, stratified random sampling procedure was employed; the population was divided into sub-groups that the individuals within the groups were more homogenous than the total population (Ishengoma, 2011). This study has M-PESA customers, TIGOPESA customers, AIRTEL MONEY customers and HALOPESA customers. Thus, every individual in the strata had equal chance of being selected to constitute the sample. The more chance of every respondents to be selected is highly increased due to availability of various strata of mobile financial services users.

### **Non-probability sampling**

Non-probability sampling is a sampling technique where the samples are gathered in a process that does not give all the individuals in the population equal chances of being selected (Crossman, 2011). The non-probability sampling procedure in this study was allowed the use of purposive sampling. Purposive sample is one that is selected based on the knowledge of a population and the purpose of the study (Crossman, 2011). In this study, representatives and agents of the companies providing mobile financial services from VODACOM, TIGO, AIRTELL and HALLOTEL were intentionally selected to give an in-depth knowledge of the study issues.

### **3.6 Study Procedures**

The study procedure was employed to achieve the objectives in sound level more specific attempt was designed to use both primary and secondary data (Kamotho, 2008). The primary data were collected from mobile financial services users directly from the field area. The secondary data were obtained from written documents such as M-PESA, TIGO PESA, AIRTEL MONEY and HALOPESA reports and records.



### **3.7 Data Collection Methods and Tools**

The study was applied various methods and tools for primary data collection. The tool of gathering information was questionnaire and documentary review and interview was used as methods (Harrell and Bradley, 2009). Questionnaire was used as a tool for data collection from the 91 users of mobile financial services. The interview guide was used for agents (*wakala*) and representatives of Tigo, Vodacom, Hallotel and Airtel, companies operating mobile financial services in Mpwapwa district. These combinations of sources of data were adopted due to suitability for ensuring accuracy of the results.

#### **3.7.1 Questionnaires**

Questionnaires are written papers with research questions distributed to respondents to be filled or used for data collection (Creswell, 2012). The questionnaire was used as a tool to collect data, Questionnaire is a tool related to the survey method in the research that collects data over a large sample (Kombo, 2006). This gives the ability to the researcher to collect data from large sample and saves time and other expenses (Ishengoma, 2011).

Based on this, the questionnaire was developed and both closed ended and open ended questions were included. However, by using more closed ended questions, the respondents were limited to answer the questions based on the provided choices. A reason behind choosing this method was that it takes a short time to collect a lot of information and makes simple in data analysis (Ignacio, 2012).

The questionnaire was used for data collection consisted of two sections. The first section aimed at gathering demographic information about respondents, including sex,

age, education and type of mobile operator companies used to access mobile financial services (Kothari, 2008).

The questionnaires were used to collect data from mobile financial services users and Agents directly from the field area. The structured questions were used to collect quantitative data and non-structured questions were used to convey mobile financial services users' perceptions. The questionnaire was used in data collection for the reasons of being capable of reaching a great sample within a short time (Adam and Kamuzora, 2008).

### **3.7.2 Interview**

Interview is a method of collecting data which involves presentation of oral or verbal stimuli and reply in terms of oral or verbal responses. Kothari (2004) revealed that Interviews are, one-to-one discussions, meaning the conversation between the interviewer and the person who is interviewed (Harrell and Bradley, 2009).

Interview is the method where a researcher uses a prepared interview guide to explore more information pertaining to the specific study. This study applied interview in collecting in depth information from company officials and agents. An interview guide is an articulation of major questions to be posed to interviewee(s) (Ame, 2011). This study was employed interview guide as a tool to explore more information from customers by interviewing mobile financial services agents. A semi structured interview guide was prepared in advance was used to collect information pertaining to the study.

### **3.7.3 Secondary**

Secondary data are data sets that are already in existence, such as census data, past research reports and books (Harrell and Bradley, 2009). In this research, secondary data were gathered from the articles, census data, past research reports and books, internet and TCRA website. It was collected through documentary reviews in various reports of the mobile financial services agents and network service providers.

### **3.8 Validity and Reliability**

The validity and reliability of instruments was discussed in order to promote accurate data collection.

#### **3.8.1 Validity**

Validity focus on assessing the degree and ability of instruments to measure what was supposed to measure (Kothari, 2008). The validity was basically recognized as Content validity, Constant validity and Criteria Validity. This basically are based on the instruments used to measure concept and instruments in data collection. In this study the validity was achieved by collecting data from relevant respondents. The validity also was checked through clear questions formulation to obtain the aspects that need to be measured (Atandi, 2013).

#### **3.8.2 Reliability**

Reliability is termed as the consequence of the validity in the study (Creswell, (2012). The reliability was achieved in the use of specific and relevant instruments in data collection. The reliability was employed triangulation techniques to allow balance in data

collection. The triangulation increase confidence in research data and provide illustration on the research problem (Labaree, 2009).

### 3.9 Data Analysis Methods

Data analysis is further defined as a process that implies editing, coding, classification and tabulation of collected data (Kothari 2004). Analysis of data was using both qualitative and quantitative techniques. The qualitative data can be seen as data described as a record of thoughts, opinions, feelings or words. Data analysis is relevant in social science research because it purifies raw data into well interpreted manner. It provides a clear picture for results comparison and inferences from the data to the theory. Qualitative data were analyzed in the respective contents and quotation according to the study themes. Quantitative data were presented and analysed by the use of Statistical Package for Social Science (SPSS) in the form of numbers, frequencies, percentages or descriptive statistics. Also linear regression analysis was employed to analyses data. Prior to entering data into computer program for analysis, questionnaires were organized by coding so that they can be taken for further analysis.

$$\text{Factors for MFSU} = X_0 + B_1X_1 + B_2X_2 + B_3X_3 \dots\dots\dots +u$$

**X<sub>0</sub> = Constant**

B<sub>1</sub> , B<sub>2</sub> , B<sub>3</sub> = Coefficient

X<sub>1</sub> = Awareness on regulatory control on money security

X<sub>2</sub> = Regulatory awareness on money transfer charges

X<sub>3</sub> = Properly utilization of MFS

### **3.10 Ethical Considerations**

The study aimed to communicate each respondent that were selected through informed consent for voluntary response in verbal or written consent in this study (Mwaikali, 2014). The introduction and elaboration of the objectives were covered every respondent before engaging in the field work. In fact, all research tools were first introduced to respondents that identities were kept anonymous to avoid any respondents harm (Nyaga, 2014). Also, it was abided to ethics of social science research from professional ethics to researcher respondents' relationship. Furthermore, all who was assisted the researcher in one way or another was given due respect, and acknowledgement of other scholars works was maintained throughout the research process.

### **3.11 Limitation of the Study**

Shortage of funds was the limiting factor during this study, funds for field data collection that were needed to motivate respondents in data collection exercise. However, the researcher was overcome through borrowing from fellow friends and in his office.

The limitation of time; time allocation for data collection and report writing was not sufficient for the study and research report preparation. To overcome such a limitation the researcher was focused only in field work instead of doing other activities. Little time available was used in data collection and report writing.

### **3.12 Chapter Summary**

The chapter has discussed various components of the research methodology such as research design, study area, sample design, data collection methods and tools, data analysis, reliability and validity, and ethical consideration that checked the procedures in data collection in relation to respondents' confidentiality. The research was managed to express the way data were collected, analyzed and presented for users' end users.

## CHAPTER FOUR

### RESULTS AND DISCUSSION

#### **4.1 Overview**

This chapter presents the findings and discussion of this study; this begins by providing characteristics of study sample followed by the utilization of mobile financial services among mobile phone subscribers, knowledge of compliance to regulatory procedures in providing mobile financial services and competitive advantage in utilization of mobile financial services in the study area.

#### **4.2 Profile of respondents**

This section presents the profile of respondents in terms of sex, age; education level and type of firm that provides mobile financial services and mobile financial services provided to subscribers.

##### **4.2.1 Respondents distribution by sex**

The findings indicated in Table 4.1 that there were (69.2%) male and female were (30.8%) among of the mobile financial services users. The implication of these findings is that, information collected were not sex bias from the mobile financial services users. Mtaa (2010) argued that mobile financial services are used by both male and female, however, male appeared with a large proportion than female counterparty, because female had more responsibility in home than male, in most cases ownership of resources and decision controlled by male in many society in Tanzania.

**Table 4. 1: Respondents distribution by sex**

Category	Frequency	Percent
Male	63	69.2
Female	28	30.8
Total	91	100.0

#### 4.2.2 Respondents distribution by Age

However, in term of age group a large proportional (36.3%) were at the age of 36-45 years, followed by those with the age of 26-35 years (29.7%). Minority (12.1%) reported to be in the age group of below 25 years, and (13.2%) reported to be in the age group of above 55 years. A small proportional (8.8%) reported on the age group of between 46-55 years respectively. The majority of respondents were appeared to be youth because in today's world every lies on the globalization as far as mobile financial services is concern, and its respective success factors. Mwaikali (2014) pointed out that, majority of the mobile financial services users are in active and productive age group, it is important to accommodate working groups in mobile financial services, this could partly influence its utilization and further mobile financial services provision and improvement.

**Table 4. 2: Respondents distribution by Age**

Age group	Frequency	Percentage (%)
Below 25	11	12.1
26-35	27	29.7
36-45	33	36.3
46-55	8	8.8
Above 55	12	13.2
Total	91	100.0



The active and youth group were easily adopt mobile financial services. Ignacia (2012) found that, the mobile financial services technology towards its acceptance was connected with demographic factors including age, income, education and bank account.

#### **4.2.3 Education level of respondents**

Looking to the education level of respondents, the findings showed that (48.4%) had primary education, followed by (24.2%) who had secondary education, about (9.9%) had no formal education, also (9.9%) had Certificate education while (4.4%) had diploma and (3.3%) were degree and above holder. The implication of these findings is that, mobile financial services users are with various education background, but majority appeared to be primary education because; in Tanzania primary education had attained by the majority of Tanzanian being the fact that, it is compulsory and basic education level. In line with the findings of Maradung (2013) found that education level is basic and compulsory to facilitate the use of mobile financial services towards management and handling of money transaction.

**Table 4. 3: Education level of respondents**

Education level	Frequency	Percentage (%)
No formal education	9	9.9
Primary school leaver	44	48.4
Secondary education	22	24.2
Certificate holder	9	9.9
Diploma holder	4	4.4
Degree holders and above	3	3.3
Total	91	100.0

#### 4.2.4 Type of firm providing mobile financial services

The findings on Table 4.4 showed the type of mobile phone operators connected with financial service. Majority (96.7%) had connected with VODACOM, followed by (84.6%) who had connected with TIGO, about (64.8%) reported to be connected with AIRTEL and a small proportional (40.6%) had connected with HALLOTEL. These findings were implied that, VODACOM mobile operators extended network to outreach the rural areas than other network operator type.

**Table 4. 4:** Type of firm provide mobile financial services

Type of firms	Frequency (n= 91)	Percentage (%)
VODACOM	88	96.7
TIGO	77	84.6
AIRTEL	59	64.8
HALLOTEL	37	40.6

#### 4.2.5 Type of mobile financial services Provided to subscribers

The findings on Table 4.5 was presented the types of mobile financial services commonly used indicated as follows. Using cross tabulation 29 (31.9%) use M-PESA, 31(34.1%) Tigo pesa, 22(24.2%) AIRTEL MONEY and 9(9.9%) HALLOPESA. These findings suggested that, M-MPESA and Tigo pesa are commonly used type of mobile financial services in Mpwapwa District. This contributed to network accessibility and agent efficient in financial services provision. Also, M-PESA is the first network operators to introduce mobile financial services in Tanzania. It managed to gain

business reputation at large part of Tanzania. Also, it was managed to establish and strengthen financial services and network establishment in rural areas.

**Table 4. 5: Sex \* Type of mobile financial services utilized**

		Type of mobile financial services utilized				
		M-PESA	TIGOPESA	AIRTEL MONEY	HALLOPES A	Total
Sex	Male	22 (24.2%)	27(29.7%)	13(14.3%)	1(1.1%)	63 (69.2%)
	Female	7(7.7%)	4(4.4%)	9(9.9%)	8(8.8%)	28(30.8)
Total		29 (31.9%)	31(34.1%)	22(24.2%)	9(9.9%)	91(100)

These findings are in line with the study conducted by Department for Financial International Development's (DFID) in 2008 showed that, in the context of policy framework and regulation procedures in most of the developing countries. The uses of mobile financial services are more interested with network accessibility from various service providers such as M-PESA, TIGOPESA and AIRTEL MONEY providers. It was considered that, information and communication technology facilitates banking services. The population was limited with access of traditional banks. Importantly, the mobile financial services were regarded as the technological advancement means to control and enhance various money function in rural and urban counterparty. The policy makers draw attention on the control and provision of mobile financial services basically to handle the success factors towards its improvement and control mechanism.

#### **4.3 The utilization of mobile financial services among mobile phone subscribers**

This section was presented objective one that focused on the subscribers and providers utilization of mobile financial services in Mpwapwa District. It was presented the average transaction, challenges, weaknesses in legal framework, and low economic

activities in utilization of MFS. Also, it was presented money transfer charges and poor network infrastructure lead to challenge in utilization of MFS.

#### **4.3.1 The average transaction in utilization of mobile financial services**

The findings on Table 4.6 using multiple responses analysis were presented the average transaction made in a month through mobile financial services. Majority, (98.9%) was reported to use mobile financial services for withdrawals purpose, followed by (91.2%) uses mobile financial services as a wallet, transfer money (57.1%), also a small proportional (17.6%) suggested on purchase of airtime and (18.7%) purchase goods/services through mobile financial services.

These findings showed that majority of the customers at Mpwapwa District uses mobile financial services for withdrawal and as a wallet. This partly implied that, mobile financial services used for receiving money from the relative in urban counterparty. In rural areas are receiving hands from the relative in urban areas where the economic activities are strong. Another reason, mobile money financial services are used to store money for directly purchase agriculture products and withdrawal for payment accomplishment.

**Table 4. 6: The average transaction in utilization of mobile financial services**

Types of transaction	Frequency	Percentage (%)
Withdrawals	90	98.9
Transfer	52	57.1
As Wallet	83	91.2
Purchase airtime	16	17.6
Purchase goods/ services	17	18.7

As the study conducted by Stuart and Cohen (2011) also observed the existing predominantly useful of mobile financial services to facilitate the sending money and its saving purpose. This possibly provides the real advantage over the mobile financial services technology currently than previous time. Similarly Kamotho (2008) was observed the reality of mobile financial services to facilitate withdrawal function rather than its traditional banking system can do. This reality is manifested as a technology advantages that drawing attention over the popularity. Concurrently Orotin *et al* (2013) pointed out that, mobile financial services being considered for currency exchange and carriage purpose rather than risking on the physical cash carriage.

#### **4.3.2 The challenges in utilization of MFS in Mpwapwa district**

The findings on Table 4.7 showed the challenges in utilization of mobile financial services in Mpwapwa District. Using multiple responses analysis a large proportional (98.9%) of respondents suggested on the poor network coverage, followed by (97.8%) lack of knowledge of mobile financial services users, lack of enough float (90.1%), lack of trust of mobile money agents (58.2%), poor security of mobile networks (57.1%), High mobile money transaction fees (53.8%) and irregular standards on mobile money payments (47.2%) respectively. These findings showed that, network for mobile financial services regarded as the barriers towards mobile financial services utilization, as a result of poor network coverage mobile financial services limited in terms of outreach and coverage.

**Table 4. 7: The challenges in utilization of mobile financial services**

Challenges in provision of financial services	Frequency	Percentage (%)
Poor network coverage	90	98.9

Lack of knowledge of mobile financial services users	89	97.8
High mobile money transaction fees	49	53.8
Irregular standards on mobile money payments	43	47.2
Lack of enough float	82	90.1
Lack of trust of mobile money agents	53	58.2
Poor security of mobile networks	52	57.1

(n=91)

In line with these findings poor mobile security observed to be a challenges in utilization of mobile financial services, from this observation Mutong'wa *et al*, (2014) noted that, the problem of security over the internet mostly considered to be a factor that hinder money transfer and mobile financial services utilization. It also pointed out that the internet attackers almost slow down the mobile financial services utilization. Include the hackers who basically manipulate technologies to gain unauthorized access to computer networks or diverge data to unauthorized access. This may lead to money loss and the customers may even loose transaction. This lead to the establishment of various effort to monitor network traffic using some kind of network monitoring software that allowed to check for the SMS and even amend once are not authorized. The various pass word system also used to know the account ID or password of a particular user, this also reduces the security over the mobile financial services. The system may even get access to the network, gather information and be able to modify or delete data. Also, the mobile financial services are basically affected by the insecurity elements such as back doors, Trojan horses, virus and worms.

Furthermore, these study findings also match with the findings obtained by the United Nations Conference on Trade and Development (UNCTAD) reported on the year 2012

that focused on the mobile money for the business development in East Africa in most case data sent through SMS or USSD is increasingly vulnerable to various risk especially once not protected. The risk recognized as the biggest factor that hinders mobile financial services operation and its effective performance under the realm of money transfer.

Similarly, Laforet and Li, (2015) existence of poor security in mobile phone money transfer created the fear of using mobile financial services with majority of people. The mobile phone risk considered as the rejection factor for mobile financial service operation and uses. This is evident in Chinese community as a result tend to carry cash, for that reasons rejected the advantages created by mobile phone money services including flexibility, not time consuming and prone to insecurity and basically tend to create high degree of interaction. There is increasingly need to measure technological application and wider range risk based on the security on the basis of complexity, comparability, trialability and observability.

Also, Devadevan (2013) pointed out that due to change mobile phones generation users of financial services through mobile phone device are also reported to cope with such a change. For that reasons mobile technology also considered to be more challenging as a result users of mobile phones financial services due to risks of security. About (75.4%) of customers had not even tested mobile financial services in the year of 2013. These were associated with various reasons including mobile phones theft and lack of awareness on the kind of security mechanism to control mobile financial services uses, such as password and mobile PIN number. Concurrently, Puhazhendi (2010) observed on the uses of mobile financial services managed on the reduction of

transaction cost especially associated with traditional bank system. The traditional bank system reported to be time consuming and lack flexibility over the usage financial service transaction. From such observation security risk over the mobile financial services reported to be the major obstacle regardless with its overriding advantages over the traditional bank system. Oketch (2013) pointed out on the low skills and knowledge on the uses of mobile financial services; tend to affect its wider uses context to handle various money transactions.

#### **4.3.3 The weaknesses in legal framework affect utilization of MFS**

The findings showed the responses using likert scale on the weakness in legal framework delay provision of mobile financial services. More than half (52.7%) agreed and (40.7%) were strongly agreed with the statement that the weakness in legal framework delay provision of mobile financial services. On the other hand a small proportional (1.1%) disagreed and (2.2%) strongly disagreed with that statement. On the other hand (3.3%) reported to be indifference with the statement that weakness in legal framework delay provision of mobile financial services. These findings imply that, legal system including policy in banking and money transfer are the obstacle on the provision of mobile financial services (Table 4.8).

**Table 4. 8: The weakness in legal framework affects utilization of MFS**

Category	Frequency	Percent
Strongly agree	37	40.7
Agree	48	52.7
Indifference	3	3.3
Disagree	1	1.1
Strongly disagree	2	2.2
Total	91	100.0



#### 4.3.4 Low economic activities affect utilization of MFS

The findings on Table 4.9 showed that, low economic activities limit utilization of mobile financial services in Mpwapwa district. Majority (45.1%) agreed and 35.2 strongly agreed with the statement that low economic activities limit utilization of mobile financial services in Mpwapwa district. On the other hand (9.9%) disagreed and (5.5%) reported to be strongly disagreed with that statement. While a very small proportional (4.4%) reported to be indifference with the statement that low economic activities limit utilization of mobile financial services in Mpwapwa District. These findings implied that, low economic activities affect money circulation in such a way that mobile financial services through agents become very affected. In fact, the agents depend on the ability of customers and its severity of mobile financial services uses.

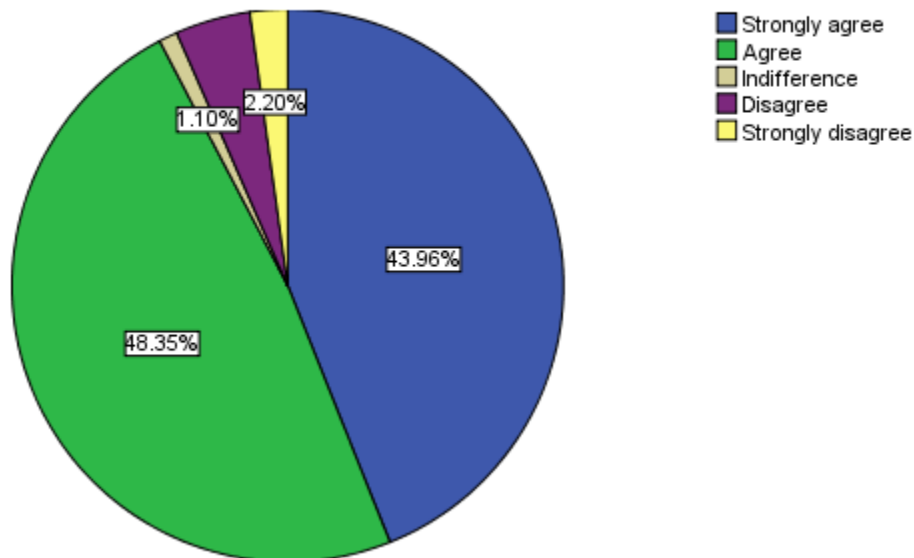
Table 4. 9: Low economic activities limit utilization of MFS

Category of responses	Frequency	Percentage (%)
Strongly agree	32	35.2
Agree	41	45.1
Indifference	4	4.4
Disagree	9	9.9
Strongly disagree	5	5.5
Total	91	100.0

#### 4.3.5 Money transfer charges brings challenge in utilization of MFS

The findings on Figure 2 presented the statement that, money transfer charges brings challenge on the utilization of mobile financial services. A large proportional (48.4%) agreed and (44%) strongly agreed while (4.4%) reported to disagreed and (2.2%) strongly disagreed with that statement. While a small proportional (1.1%) reported to be

indifference. These findings imply that, majority of mobile money customers are adversely affected with money transfer charges.



**Figure 2:** Money transfer charges brings challenge in utilization of MFS

#### **4.3.6 Poor network infrastructure brings challenge in utilization of MFS**

The findings on Table 4.10 using likert scale analysis showed that poor network infrastructure brings challenge in utilization of mobile financial services. The result showed that, (50.5%) agreed and (38.5%) strongly agreed with the statement that poor network infrastructure brings challenge in utilization of mobile financial services. On the other hand (2.2%) disagreed and (3.3%) strongly disagreed and (5.5%) reported to be indifference with the statement that poor network infrastructure brings challenge in utilization of mobile financial services. These findings showed that, network infrastructure especially for TIGO, AIRTEL and HALLOTEL contributed to low down the

mobile financial services operation. The implication of these findings is that, there is existence of low mobile financial services usage and coverage in rural areas of Tanzania.

Table 4.10: Poor network infrastructure brings challenge in utilization of MFS

Category of responses	Frequency	Percentage (%)
Strongly agree	35	38.5
Agree	46	50.5
Indifference	5	5.5
Disagree	2	2.2
Strongly disagree	3	3.3
Total	91	100.0

In line with this study findings Rumanyika (2015) obtained similar findings that, poor network coverage in Tanzania almost hinder mobile phone network system, this slow down the network particularly in money transfer and other related services. The findings noted that, poor network coverage is the result of poor mobile network infrastructure. It is evident in both urban and rural areas transactions. Most of the transaction were carried out through mobile phone device require customers to initiates the request that basically operated through mobile network operator (MNO). The server may terminates the application administered by the technology vendor or by financial institution.

This study suggested that, (45%) of Tanzania rural areas have limited access of cellular phone network. While the urban areas has at least reasonable network coverage compared to fellow rural counterparty. This poor network may also contributed to increase of customers who uses mobile financial services that basically served by a single base transceiver station (BTS). The same study findings identified that, (44.6%)

of mobile financial services users at the University of Dodoma claimed to face network problem and call dropout for access of mobile financial services. Also the study conducted by Okafor and Ezeani (2012) revealed that , the major obstacles to the use of mobile financial services are generally associated to the poor network security, poor telecommunication infrastructures and low internet and computer network skills and knowledge. From such ground the risk of transaction and network availability mostly affected the mobile financial services. Finally, Iddris (2013) come up with various barriers towards the adoption and uses of mobile financial services such as poor knowledge about mobile banking, low consumers' attitude to learn about mobile banking, poor telecommunication network and enormous consumers' preference for traditional means of banking instead of mobile banking services.

#### **4.4 The knowledge of compliance to regulatory procedures in utilization of MFS**

This section presented the second objective of this study that sought to assess the utilization of mobile financial services among mobile phone subscribers in Mpwapwa District. Sub-section includes knowledge of compliance to regulatory procedures in utilization of MFS and regulatory framework improvement leads to the effective MFS.

#### 4.4.1 The knowledge of compliance to regulatory procedures in utilization of MFS

Table 4.11 presented the regression estimate of the knowledge of compliance to regulatory in utilization of MFS,

**Table 4. 11: The knowledge of compliance to regulatory in utilization of MFS**

Model		Unstandardized Coefficients		Standardized	T	Sig.
		B	Std. Error	Coefficients		
1	(Constant)	1.092	.553		1.975	.051
	Awareness on regulatory control on money security	.161	.324	.051	.496	.621
	Regulatory awareness on money transfer charges	.632	.204	.323	3.096	.003
	Regulatory awareness on payment services	-.070	.181	-.040	-.386	.701
	Regulatory awareness on money storage	.048	.181	.028	.265	.792

##### 4.4.1.1 Awareness on regulatory control on money security

The coefficient of awareness on regulatory control on money security is 0.161 and the significant level of 0.621, this was appeared to be greater than 0.05, it is not significant, it means that subscribers at Mpwapwa District had no knowledge on the regulatory control on money security.

##### 4.4.1.2 Regulatory awareness on money transfer charges

The coefficient of regulatory awareness on money transfer charges appeared 0.632 and the significant level 0.003 which is below 0.05, this indicates that, subscribers in Mpwapwa District are highly awareness on the regulatory environment on money transfer charges, simply because are displayed on the agents book shop.

#### **4.4.1.3 Regulatory awareness on payment services**

The coefficient of regulatory awareness on payment services appeared -0.070 and the significant level 0.701, this is greater than the normal acceptable level of 0.05, this indicates that there is no relationship. It means that subscribers in Mpwapwa District are not aware on the payments services available in the mobile financial services.

#### **4.4.1.4 Regulatory awareness on money storage**

The coefficient of regulatory awareness on the money storage was 0.048 and the significant level was 0.792, this is greater than the normal acceptable level, this showed that subscribers in Mpwapwa District are not aware on the regulatory environment on money storage, simply because mobile financial services are not applied for money storage purpose in Mpwapwa District.

#### **4.4.2 The regulatory framework improvement leads to the effective MFS**

The mobile financial services improved through regulatory framework, using the likert scale analysis majority (67.%) agreed on the improvement of mobile financial services through regulatory framework, and (20.9%) had strongly agreed with that statement while (6.6%) disagreed and a small proportional (2.2%) strongly disagreed. Also about (3.3%) were indifference. From these observation the successful and performance of mobile financial services was attached to the improved regulatory framework.

**Table 4. 12: The regulatory framework improvement leads to effective MFS**

Category of responses	Frequency	Percentage (%)
Strongly agree	19	20.9
Agree	61	67.0
Indifference	3	3.3
Disagree	6	6.6
Strongly disagree	2	2.2
Total	91	100.0

This study finding is directly related to that of Lennarf and Soderberg (2011) who basically observed that, improvement of regulatory frame work on the control and management of mobile financial services was related to the risk reduction and more popularity of financial services usage. This was related to the operationalization of monetary policy especially over the financial services provision under the electronic perspective. Similarly Viswanadham (2016) pointed out that the mobile financial services extension to manage its inclusive to minority population are connected to the improved regulatory framework, that could favour and encourage mobile financial services users. Concurrently Nicholaus and Venkatakrishnan (2013) argued that failure of mobile financial services in expansion and wider coverage reported to be contributed to regulatory barriers. Especially in most of the developing countries including Tanzania, that provided minimum restriction in terms of financial products and coverage purpose. The extension of mobile financial services demands the elimination of regulatory barriers.

Interview with AIRTEL MONEY managers at the head office, that were held on the regulatory frame work in Tanzania, more particularly on the financial services provision to successful provision of mobile financial services. He responded that *“once the regulatory frame work changed in favour of mobile financial services provision it means the services that currently we are providing tend to note remarkable improvement”* sometimes the limitation of the amount to withdrawal among customers are considered under the regulatory, but sometimes our client may failure to obtain financial service, but once this restriction is eliminated means that mobile financial services noted remarkable improvement”.

#### **4.5 The competitive advantages of MFS Utilization in Mpwapwa District**

The third specific objective that sought to determine the competitive advantages of MFS utilization, it was respectively focused on the various competitive advantages, the success factors for utilization of MFS, innovation of MFS, technology familiarity, promoting mobile financial services accessibility and Improved Network system in utilization of mobile financial services.

##### **4.5.1 The competitive advantage in utilization of Mobile financial services**

The findings on Table 4.13 showed the advantages of mobile financial service usage in comparison with other financial institution. Using multiple responses analysis a large proportional (98.9%) suggested to eliminating manual paper work over the uses of mobile financial services, followed by (95.6%) suggested to lower transaction cost and (72.5%) reported to reduce waiting time in queue, furthermore (73.6%) reported to save time over the uses of mobile financial services.



**Table 4. 13:** The competitive advantages in utilization of MFS

Competitive advantages	Frequency	Percentage (%)
Lowering transaction costs	87	95.6
Eliminating manual paper work	90	98.9
Reduce waiting time in queue	66	72.5
Saves time	67	73.6

(n=91)

In line with these findings Rugamba (2013) observed that mobile financial services win a general platform contributed to growth and generally transformation of economy through mobile banking to handle and facilitate transaction. From that point observed to reduce transaction cost relatively to other means of financial services. This technology was contributed to the change of people life style on matters of financial transaction and its relative advantages. In fact, majority of the community experience income poverty was limited under the traditional banks accessibility. But with mobile financial services even the poor may access various financial services through mobile phones, irrespective of existing challenges of transaction risk and network coverage especially in the rural settings. Kamotho (2008) suggested that, mobile financial services eliminating manual paper work and save time in handling financial transaction. This study clearly handled financial services to manage resources and time for the users.

#### 4.5.2 The success factors for utilization of mobile financial services

The finding on Table 4.14 showed that, clearly the success factors for provision of mobile financial services. Majority (96.6%) reported on the strong network coverage, followed by (91.2%) enough float to agents, about (73.6%) on enhancement trust of mobile money agents, others success factors for improvement of mobile financial services were Fair mobile money transaction fees (48.3%), Regular standards on mobile money payments (46.1%), Improved security of mobile networks (58.2%) and control of theft of mobile handsets (32.9%) respectively. From this observation it is important to judge that network infrastructure and system in most of the rural areas is an obstacle to mobile financial services. In the respective network coverage improvement in rural areas regarded as the most success factors towards the mobile financial services operation. In line with these findings Economidesy and Jeziorskiz (2016) pointed out on the improvement of network coverage and outreach. This expected to facilitate various mobile money transactions. The users may even manage operate more safely on matter of financial services accessibility through mobile financial system.

**Table 4. 14: The success factors for improvement of mobile financial services  
Multiple response results**

Success factors	Frequency	Percentage (%)
Strong network coverage	88	96.7
Control of Theft of mobile handsets	30	32.9
Fair mobile money transaction fees	44	48.3
Regular standards on mobile money payments	42	46.1
Enough float to agents	83	91.2
Enhancement trust of mobile money agents	67	73.6
Improved security of mobile networks	53	58.2

(n=91)

During interview with one of the manager of VODACOM regarding to the mobile financial services and its success factors, *“almost he mentioned the ability of agents and capital to facilitate direct cash to customers, once it well managed and established to handle various cash transaction. In most cases various agents are operating with low capital that directly may resulted to low money floats especially more numbers of customers conducted cash withdrawal, it is important to accumulate more cash and increases its respective once customers need financial services such as withdrawal or money transfer may access the services, (interview with VODACOM M-Mpesa Manager)”*

#### **4.5.3 The improved innovation in utilization of mobile financial services**

The findings on Table 4.15 indicated the innovation as the success factor for mobile financial services. Majority (59.3%) had strongly agreed and (34.1%) agreed with that statement. On the other hand a small proportional (2.2%) strongly disagreed and (1.1%) were disagreed with that statement. While (3.3%) reported to be indifference with that statement, from these observations it has been deduced that, improved innovation on the mobile network and system facilitated the operation of network and its performance on the mobile financial services.

**Table 4. 15: The improved innovation in utilization of MFS**

Category of responses	Frequency	Percentage (%)
Strongly agree	54	59.3
Agree	31	34.1
Indifference	3	3.3
Disagree	1	1.1
Strongly disagree	2	2.2

Category of responses	Frequency	Percentage (%)
Strongly agree	54	59.3
Agree	31	34.1
Indifference	3	3.3
Disagree	1	1.1
Strongly disagree	2	2.2
Total	91	100.0

During interview with one of the mobile financial managers of AIRTEL MONEY, on the currently financial services innovation on the improvement of mobile financial services provision, *“As one of the mobile financial services providers we are driven on the realm of global technology that is headed with innovation facet, we are appreciated several services and security of our clients are innovated to make services smooth and beneficial to the users’.*

#### **4.5.4 The technology familiarity in utilization of MFS**

The findings on Table 4.16 using likert scale analysis showed the technology familiarity is the success factor for mobile financial services. A large proportional (57.1%) agreed and (24.1%) were strongly agreed with the statement that technology familiarity basically connected with the success factor for mobile financial services familiarity, on the other hand a small proportional (7.7%) disagreed and (4.4%) strongly disagreed with that statement. While (6.6%) reported to be indifference with that statement, this means that, neither technology familiarity contribute to success of mobile financial services not it does not contribute. From this observation, users of mobile financial services are interested with the type of technology and its familiarity in the context of uses or ability to interact.

**Table 4. 16: The technology familiarity utilization of MFS**

Category of responses	Frequency	Percentage (%)
Strongly agree	22	24.2
Agree	52	57.1
Indifference	6	6.6
Disagree	7	7.7
Strongly disagree	4	4.4
Total	91	100.0

One of the HALLOPESA mobile financial managers, provided her view on the important of technology familiarity and usage of mobile financial services were recorded as *“when we introduce a certain mobile financial services application in our network AIRTEL money we normally consider the users familiarity before putting into application, factors such as the pin and application numbers should be seriously considered.”*

#### **4.5.5 Promoting mobile financial services accessibility**

The findings on Table 4.17 showed the services accessibility is the success factor to mobile financial services. A large proportional (62.6%) strongly agreed and (29.7%) were agreed with the statement that promoting services accessibility is the success factor for M-financial services. On the other hand (2.2%) disagreed and (1.1%) reported to be strongly disagreed while (4.4%) suggested on the indifference side. From these observation customers of mobile financial services suggested using mobile financial services once services are accessible. The implication of these findings is that, services accessibility in terms of network outreach increases the uses of mobile financial services.

**Table 4. 17: Promoting mobile financial services accessibility**

Category of responses	Frequency	Percentage (%)
Strongly agree	57	62.6
Agree	27	29.7
Indifference	4	4.4
Disagree	2	2.2
Strongly disagree	1	1.1
Total	91	100.0

#### **4.5.6 Improved Network system in utilization of mobile financial services**

The findings on Table 4.18 showed the improved network system is the success factor for mobile financial services. Majority (71.4%) was strongly agreed and (17.6%) agreed, while (3.3%) disagreed and (2.2%) strongly disagree with that statement. On the other hand (5.5%) reported to be indifference with that statement. The findings imply that, for effective mobile financial services operation highly contributed to improved network system and its infrastructure.

**Table 4. 18: Improved Network system in utilization of MFS**

Category of responses	Frequency	Percentage (%)
Strongly agree	65	71.4
Agree	16	17.6
Indifference	5	5.5
Disagree	3	3.3
Strongly disagree	2	2.2
Total	91	100.0

#### **4.6 Chapter Summary of Findings**

This chapter presented the findings and discussion of the findings that mainly covered the Characteristics of the study sample that presented the sex of the respondents, age, and education level. All these aspects presented in the first section. Secondly,

presented The utilization of mobile financial services among mobile phone subscribers, The challenges in utilization of mobile financial services in Mpwapwa District, The weakness in legal framework delay provision of mobile financial services, The low economic activities limit utilization of mobile financial services in Mpwapwa district.

The knowledge of compliance to regulatory procedures in utilization of MFS, The awareness on regulatory control on money security was not significant, regulatory awareness on money transfer charges was significant, that subscribers in Mpwapwa District are highly awareness on the regulatory on money transfer charges and lastly this chapter presented the competitive advantages of MFS Utilization in Mpwapwa District, such as eliminating manual paper work over the uses of mobile financial services, strong network coverage, enough float to agents, enhancement trust of mobile money agents.

## CHAPTER FIVE

### CONCLUSIONS AND RECOMMENDATIONS

#### 5.0 Overview

This chapter discusses conclusion drawn from the study findings and recommendations made. The conclusion and recommendation mainly relied on the major themes of the study. The recommendations concern mainly on the mobile financial services providers, subscribers and commercial banks towards the improvement of mobile financial services provision in rural areas.

#### 5.1 Summary of Main Findings

Characteristics of the study sample showed that (69.2%) male and female were (30.8%) reported to be the mobile financial services users. Majority (36.3%) were at the age of 36-45 years, and (29.7%) in the age of 26-35 years. The majority of respondents were appeared to be youth because in today's world every lies on the globalization as far as mobile financial services is concern, and its respective success factors. A large proportion (48.4%) reported in the findings had primary education and (24.2%) had secondary education, mobile financial services users are with various education background. A large proportion (96.7%) had connected with VODACOM that means are using M-PESA (84.6%) had connected with TIGO, VODACOM mobile operators extended network to outreach the rural areas than other network operator type.

The types of mobile financial services commonly used indicated that 29 (31.9%) use M-PESA, 31(34.1%) Tigo pesa, and a small proportion commonly used other type of mobile financial services in Mpwapwa District.



The utilization of mobile financial services among mobile phone subscribers showed that, average transaction made in a month through mobile financial services was mainly shown by (98.9%) of the users in the withdrawals purpose and small proportion (17.6%) used in purchase of airtime mobile financial services customers in Mpwapwa District uses mobile financial services for withdrawal and as a wallet.

The challenges in utilization of mobile financial services in Mpwapwa District, a large proportion (98.9%) suggested in poor network coverage, (97.8%) lack of knowledge of mobile financial services users and irregular standards on mobile money payments (47.2%)

The weakness in legal framework delay provision of mobile financial services a large proportion (52.7%) agreed and (40.7%) were strongly agreed with the statement that the weakness in legal framework delay provision of mobile financial services. from these findings a small proportion were disagreed with that statement.

The low economic activities limit utilization of mobile financial services in Mpwapwa district. Majority (45.1%) agreed and 35.2 strongly agreed with the statement that low economic activities limit utilization of mobile financial services in Mpwapwa district and a small proportion observed to disagree with that statement.

Money transfer charges bring challenge on the utilization of mobile financial services. A large proportional (48.4%) agreed and (44%) strongly agreed while (4.4%) reported to disagreed and (2.2%) strongly disagreed with that statement.

Poor network infrastructure brings challenge in utilization of mobile financial services. The result showed that, (50.5%) and (3.3%) strongly disagreed that the network

infrastructure especially for TIGO, AIRTEL and HALLOTEL contributed to low down the mobile financial services operation.

The knowledge of compliance to regulatory procedures in utilization of MFS, The awareness on regulatory control on money security was not significant, regulatory awareness on money transfer charges was significant, that subscribers in Mpwapwa District are highly awareness on the regulatory on money transfer charges,

The money storage showed that subscribers in Mpwapwa District are not aware on the regulatory environment on money storage,

The mobile financial services improved through regulatory framework, a large proportion (67.%) agreed on the improvement of mobile financial services through regulatory framework and small proportion appeared to disagree

The competitive advantages of MFS Utilization in Mpwapwa District, From the findings it can be observed that a large proportional (98.9%) suggested to eliminating manual paper work over the uses of mobile financial services, the success factors for provision of mobile financial services were strong network coverage, enough float to agents, enhancement trust of mobile money agents, also the mobile financial services operation is highly connected with technology familiarity to users, all these could be said to improve mobile financial services operation.

## **5.2 Conclusion**

The main objective of this study was to assess the attribute of successful provision of mobile financial services among mobile phone subscribers in Mpwapwa District, specifically on the utilization of mobile financial services among mobile phone

subscribers in Mpwapwa District. The findings noted that the subscribers utilization of mobile financial services such as on withdrawals, wallet, transfer money, on purchase of airtime and (purchase goods/services through mobile financial services. There are several challenges noted on the utilization of mobile financial services. That included; poor network coverage, lack of knowledge of mobile financial services users, lack of enough float, lack of trust of mobile money agents, poor security of mobile networks, High mobile money transaction fees and irregular standards on mobile money payments. In fact much emphasize put on the network for mobile financial services that brings barriers towards mobile financial services utilization and tend to limit its coverage in terms of outreach in rural context Mpwapwa is inclusive.

It was noted that the legal system including policy in banking and money transfer is the obstacle on the improvement of mobile financial services. The areas also dominated with low economic activities that observed to affect money circulation in such a way that mobile financial services through agents become very affected. In fact, the agents depend on the ability of customers and its severity of mobile financial services uses. Also, the findings noted on the existence of money transfer charges that especially considered to the challenge on the mobile financial service application towards its success. The network infrastructure were seen to be weak especially for TIGO, AIRTEL and HALLOTEL contributed to low down the mobile financial services utilization.

The knowledge of compliance to regulatory procedures in utilization of mobile financial services, the findings observed that subscribers were aware only on the on money transfer charges regulatory framework that displayed the significant results, others regulatory procedures including control on money security, payment services and

money storage displayed non-significant results. It is observed that successful and performance of mobile financial services is directly connected with regulatory framework improved and its compliance knowledge among the subscribers.

The competitive advantages of MFS Utilization in Mpwapwa District, basically observed on the ability to eliminate manual paper work over the uses of mobile financial services, lower transaction cost and reduce waiting time in queue. In line with these views also the findings noted on the ability of mobile financial services to facilitate the sending money and it's saving purpose. This possibly provides the real advantage over the mobile financial services technology currently than previous time and the reduction of risk of physical cash carriage. The competitive advantages basically on the mobile financial services firm ability to develop strong network coverage, enough float to agents, enhancement trust of mobile money agents, Fair mobile money transaction fees, Regular standards on mobile money payments, Improved security of mobile networks and control of theft of mobile handsets. It is further expected that from these existing competitive advantages directly associated with network improvement under the mobile financial services transaction and operation for the easy services accessibility to subscribers in rural residents in Dodoma region.

The innovation towards the mobile network and system should not be left behind on the attributes that could facilitate the operation of network and its performance on the mobile financial services. Also the subscribers are interested with the type of technology and its familiarity in the context of uses or ability to interact. The mobile financial services accessibility needs direct connection that could enhance network outreach towards improvement of mobile financial services.

## **5.2 Recommendations**

From the findings it can be requested that leaders and decision makers should basically improve the network under the favourable decision to TCRA to directly support and advice the Mobile financial services providers, that are VODACOM, TIGO, AIRTEL and HALLOTEL to directly extend the coverage especially in the rural context where services are currently denial by traditional banking system. The mobile financial services towards its successfulness have a number of implications for banks. Therefore mobile phone users should access banks services through agents or *Wakala* and commercial banks should basically improve the local agents' floats and capital to facilitate financial services transaction.

It is important to recommends for mobile financial services providers, to improve the agents' floats and control money risk that could increase the success of mobile financial services provision to subscribers. This will increase the customers accessibility of services in a more safe environment and manage to retain more customers and attractive the prospective ones.

Commercial Banks should also improve financial services in the use of mobile financial services towards the ability of reaching the customers and create positive impact to the overall performance of mobile financial services.

## **5.3 Contribution to Existing Knowledge**

This study will contribute to existing knowledge in terms of factors for successful provision of mobile financial services in Tanzania, more particularly rural areas such as

Mpwapwa district. The various factors could be added into the literature and the study of mobile financial services in particular;

### **5.3 Further research**

The research recommends that another study should be conducted on the facilitative socio-economic environment for mobile financial services expansion in rural areas, with large sample from the population that cut across the entire country of Tanzania. Another study should be conducted on the challenges faced by mobile providers in providing mobile financial services.

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## **Appendix: Questionnaires**

I am .....From St John University of Tanzania undertaking a research titled “ The attribute of successful provision of mobile financial services among mobile phone subscribers in Mpwapwa District. This research is done under supervision of St John University of Tanzania. Specifically seek information on the ; utilization of mobile financial services among mobile phone subscribers in Mpwapwa District, the knowledge of compliance to regulatory procedures in providing mobile financial services among subscribers and agents in Mpwapwa District and the competitive advantage of mobile financial services utilization in Mpwapwa District. With these purpose in mind I, therefore request you to participate effectively by answering questions posed in this questionnaire. I guarantee that the information obtained will be used for academic purpose only. High degree of confidentiality will be ensured. I thank you in advance for your support.

### **SECTION 1: GENERAL INFORMATION OF THE RESPONDENTS**

**Please put a tick on the appropriate space**

1. **Sex: Male ( ) Female ( )**
  
2. Age: (a) Below 25 ( ), (b) 26-35 ( ), (c) 36-45 ( ), (d) 46-55 ( ), ( e) Above 55 ( )
  
3. Level of education: (a) No formal education ( ) (b) Primary school leaver, ( ) (c) Secondary education ( ) (d) Certificate holder ( ) ( e ) Diploma holder ( ) Degree holders and above ( )
  
4. Type of mobile operators are you connected with (Multiple answers are possible )

( a ) VODACOM ( ) ( b ) TIGO ( ) ( c ) AIRTEL ( ) ( d ) HALOTEL ( )

5. Are you using mobile financial services through mobile phone

( a ) Yes ( ) ( b ) No ( )

6. If Yes, which type of mobile financial services are you using

( a ) M-PESA ( ) ( b ) TIGOPESA ( ) ( c ) AIRTEL MONEY ( ) ( d ) HALOPESA ( )

**SECTION II:** The utilization of mobile financial services among mobile phone subscribers in Mpwapwa District

7. What are the average transaction you make in a month in mobile financial services

- 1. Withdrawals ( )
- 2. Transfer ( )
- 3. As Wallet ( )
- 4. Purchase airtime ( )
- 5. Purchase goods/ services ( )

8. What are the challenges for improving mobile financial services in Mpwapwa District

- (a) .....
- (b).....
- (c).....

9. Is weakness in legal framework delay improvement of mobile financial services?

- 1. Strongly agree ( )
- 2. Agree ( )
- 3. Indifference ( )
- 4. Disagree ( )
- 5. Strongly disagree ( )

10. Low economic activities limit improvement of mobile financial services in Mpwapwa District



- 1. Strongly agree ( )
- 2. Agree ( )
- 3. Indifference ( )
- 4. Disagree ( )
- 5. Strongly disagree ( )

11. Money transfer charges brings challenge on the uses of mobile financial services

- 1. Strongly agree ( )
- 2. Agree ( )
- 3. Indifference ( )
- 4. Disagree ( )
- 5. Strongly disagree ( )

12. Poor network infrastructure brings challenge on the uses of mobile financial services

- 1. Strongly agree ( )
- 2. Agree ( )
- 3. Indifference ( )
- 4. Disagree ( )
- 5. Strongly disagree ( )

**SECTION III:** The knowledge of compliance to regulatory procedures in providing mobile financial services among subscribers and agents in Mpwapwa District

13. Are you awareness on regulatory control on money security?

- (a) Yes ( ) (b) No ( )

14. Are you aware on the regulatory awareness on money transfer charges?

- (a) Yes ( ) (b) No ( )

15. Are you aware on the regulatory awareness on payment services?

- (a) Yes ( ) (b) No ( )

16. Are you aware on the regulatory awareness on money storage?

- (a) Yes ( ) (b) No ( )

16. Is the regulatory framework facilitate the provision of mobile financial services?

- 1. Strongly agree ( )
- 2. Agree ( )
- 3. Indifference ( )

- 4. Disagree ( )
- 5. Strongly disagree ( )

**SECTION IV: The competitive advantages of MFS Utilization in Mpwapwa District**

17. What are the advantages of mobile financial service usage in comparison with other financial institution?

- 1. Lowering transaction costs ( )
- 2. Eliminating manual paper work ( )
- 3. Reduce waiting time in queue ( )
- 4. Saves time ( )
- 5. Others ( )

18. What could be the success factors towards the provision of mobile financial services in Mpwapwa District

- (a).....
- (b).....
- (c).....
- (d).....

19. Does improved innovation is the success factor for mobile financial services

- 1. Strongly agree ( )
- 2. Agree ( )
- 3. Indifference ( )
- 4. Disagree ( )
- 5. Strongly disagree ( )

20. Does enhancement of technology familiarity is the success factor for mobile financial services

- 1. Strongly agree ( )
- 2. Agree ( )
- 3. Indifference ( )
- 4. Disagree ( )

5. Strongly disagree ( )

21. Does promoting services accessibility is the success factor for Mobile financial services

- 1. Strongly agree ( )
- 2. Agree ( )
- 3. Indifference ( )
- 4. Disagree ( )
- 5. Strongly disagree ( )

22. Does improved network system is the success factor for mobile financial services

- 1. Strongly agree ( )
- 2. Agree ( )
- 3. Indifference ( )
- 4. Disagree ( )
- 5. Strongly disagree ( )

23. Comments on the competitive advantages of mobile financial services in Mpwapwa

District

(a).....

(b).....

(c).....

(d).....

**APPENDEX II: GUIDE FOR INTERVIEW**

1. What are the utilization of mobile financial services among mobile phone subscribers in Mpwapwa District?

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2. What are the challenges for improving mobile financial services in Mpwapwa District?

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3. What are the knowledge of compliance to regulatory procedures in providing mobile financial services among subscribers and agents in Mpwapwa District?

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4. What are the competitive advantages of MFS Utilization in Mpwapwa District

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5. What are the advantages of mobile financial service usage in comparison with other financial institution?

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6. What could be the success factors towards the provision of mobile financial services in Mpwapwa District

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7. Comments on the competitive advantages of mobile financial services in Mpwapwa District

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