Research Paper

EPRA International Journal of Economic and Business Review-Peer Reviewed Journal
Volume - 10, Issue - 3, March 2022 | e-ISSN: 2347 - 9671| p- ISSN: 2349 – 0187

SJIF Impact Factor: 8.302 || ISI Value: 1.433 || Journal DOI URL: https://doi.org/10.36713/epra2012

THE POTENTIAL INNOVATIVE STRATEGIES OF USING MOBILE MONEY SYSTEMS FOR ENHANCING FINANCIAL INCLUSION IN TANZANIA

[1]Mawazo Baruti, [2]Stephen James, [3]Tafuteni Chusi

[1,2,3] Department of Development Finance and Management Studies, Institute of Rural Development Planning, P.O Box 138, Dodoma

ABSTRACT DOI No: 10.36713/epra9815 Article DOI: https://doi.org/10.36713/epra9815

In many developing countries in Africa, financial exclusion among the poor is a major constraint to poverty reduction ever since independence. Mobile money is a financial innovation that provides transfers, payments, and other financial services at a low or zero cost to individuals in developing countries where banking and capital markets are deficient and financial inclusion is low. In Tanzania, mobile money systems have been increasingly used as a means to overcome this constraint. However, there still existing mobile money service divide, highly skewed against the rural poor population. This paper was therefore seeking to explore the potential innovative strategies of using mobile money systems for enhancing financial inclusion in Tanzania. In this paper secondary data was used whereby, review and analysis of several documentary sources were done. The findings of the study revealed that although mobile phones have become common in Tanzania covering rural areas where there is acute poverty and lack of access to formal banking institutions is rampant, they are hardly used for financial transfers and payments due to a number of existing obstacles such as poor network coverage; lack of knowledge of m-banking users; high mobile money transaction fees; and lack of enough float, ATM breakdown and theft. As a result, the country has been losing opportunities to use mobile money systems to extend financial facilities to the poor who do not have access to formal finance. Innovative strategies are highly needed to fight the obstacles and promote financial inclusion to both rural and urban sectors. Some of the key determinants recommended that make the strategies work and therefore result into successful financial inclusion are such outreach, penetration, availability, accessibility, technology, financial literacy, trust, and income adequacy

KEY WORDS: : ***Financial services, financial inclusion, Poverty reduction, Mobile Phone Money, Mobile Phone Users, Mobile Phone Money Adoption.***

1.0. INTRODUCTION

Mobile money services were introduced by private telecommunication providers in a number of countries around the world especially in Africa, Asia, and Latin America (Must *et al.*, 2010). Mobile financial services in Africa have emerged as an important driver of financial inclusion and an innovative channel of financial services delivery especially to the unbanked population. It presents an enormous opportunity to overcome the dominance of banks in the provision of formal financial services because of its transformative power and ability to reach a large population (Cull, Demirgüç-Kunt and Lyman 2012).

The use of mobile phones has expanded rapidly in Tanzania during the last decade. There were 50.15million mobile connections in Tanzania in January 2021.The number of mobile connections in Tanzania increased by 2.6million (+5.5%) between January 2020 and January 2021.The number of mobile connections in Tanzania in January 2021 was equivalent to 82.7% of the total population (Datareportal, 2021).

Access to digital technologies, in particular mobile phones, internet connectivity and biometric authentication, allows for a wider range of financial services, such as online banking, mobile phone banking, and digital credit for the unbanked. Digital financial services can be more convenient and affordable than traditional banking services, enabling low-income and poor people in developing countries to save and borrow in the formal financial system, earn a financial return and smooth their consumption. This can contribute to improvements in livelihoods and other economic outcomes like poverty reduction; agricultural payments, savings, increase in cash flows and trade credit induced by mobile money and women empowerment for greater financial independence and more equitable decision-making in households (K4D, 2018)

Experiences of several developing countries have shown that the poor majority are in need of a wide range of financial services that could potentially be delivered via mobile phones or mobile phone operators. Safaricom's M-Pesa in Kenya, Sri Lanka, Globe Telecom's GCash in the Philippines, WIZZIT in South Africa and the Grameen Village Phone Programme in Bangladesh are some of the successful mobile banking initiatives adopted in developing countries for the benefit of the poor (Sirimevan 2010).

This paper shows a dramatic decrease in financial exclusion in Tanzania from 55% in 2009 to 28% in 2017. The level of financial exclusion in 2017 is almost half of that in 2009. The level of sole dependency on informal financial services narrowed from 29% to 7%, while the percentage of the adult population using formal financial services has quadrupled in the same period. These achievements are a result of the rapid adoption and usage of mobile money services; a flexible regulatory environment and massive investments by the private sector in mobile money services. Despite these achievements, the level of financial exclusion is still high, at 28%, with the majority (79%) of those excluded being people living in rural areas, smallholder farmers, youth and women. It has also been observed that there is a big gap in the demand and supply of financial services in the market, whereby the majority of the products offered by financial services providers do not meet users' needs (FinScope Tanzania, 2017).

The poverty rate in Tanzania declined to 25.7 percent in 2020, according to estimates considering the national poverty line. Previously, in 2018, the rate was measured at 26.4 percent. According to the source, individuals are defined as poor when they are not able to meet their basic consumption needs. In 2018, the national basic needs poverty line was 49,320 Tanzanian shillings (21.2 U.S. dollars) per adult per month. High inequality of income distribution is also prevalent in the country reflecting a disparity in access to basic consumption needs and resources such as financial facilities (Figure 1).

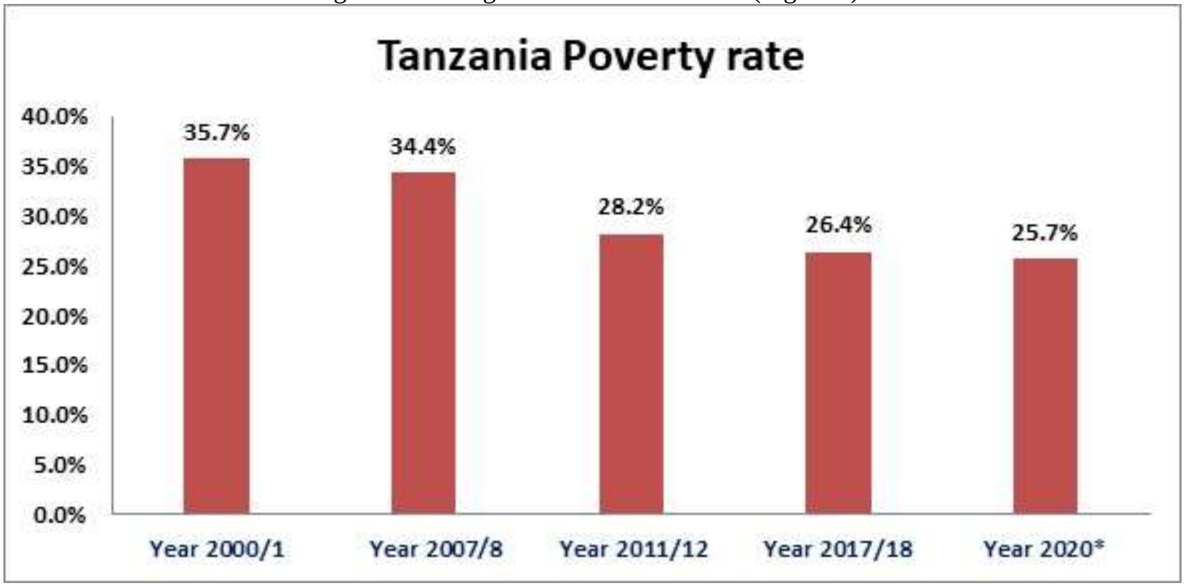

Figure 1: Poverty rate in Tanzania in from 2000 to 2020
Source: https://www.statista.com/statistics/1200556/poverty-rate-in-tanzania/

Table 1 indicates that poverty is a rural phenomenon in Tanzania where about 70% of the people live. Most of these people do not have access to conventional banking facilities. They have to travel long distances to reach the closest bank branches. Amenities such as drinking water, public transport, electricity, banking facilities and conventional phone services are not widely available in remote villages. As mentioned earlier, banks are not inclined to entertain them for reasons such as high risks and costs involved or socioeconomic and cultural factors. Weak infrastructure and under-developed banking sectors in many developing countries makes it time consuming for poor people to physically visit banks, in terms of travel costs and waiting in line (Islam *et al.,* 2017). Other reasons for the poor people to have no access to formal financial institutions are such as low incomes, lack of collateral and geographical isolation (Sirimevan 2010). Therefore, the potential of mobile phones to extend financial facilities to such financially excluded people needs to be investigated in the backdrop of the rapid penetration of mobile phones throughout the country.

Table 1: Poverty Head count Index

Year	**2007**	**2012**	**2018**
Urban	20%	15.4%	15.8%
Rural	39.1%	33.4%	31.3%
Total	**34.4%**	**28.2%**	**26.4%**

Source: HBS 2007, 2011/12, 2017/18

It is increasingly recognized worldwide that e-banking solutions will help the poor to overcome such constraints, and enable them to become more involved in mainstream economic activities.

Digital financial services can eliminate such transaction costs and provide affordable, convenient and secure banking services to poor individuals in developing countries (Ozili, 2018; Demirgüç-Kunt *et al.,* 2017; Islam *et al.,* 2017). Mobile phones can enable the financially excluded and people in rural areas to access accounts where banking services are lacking (Demirgüç-Kunt *et al.,* 2017; Ouma et al., 2017; Wyman, 2017).

Therefore, the primary objective of this study is to find out the potential innovative strategies of using mobile money systems for enhancing financial inclusion in Tanzania. It is likely that this paper will provide new insights into access to digital technologies that allow for a wider range of financial services such as online banking, mobile phone banking, and digital credit for the unbanked and help the stakeholders in the financial industry to take the necessary steps forward. This paper will provide empirical evidence from Tanzania regarding the availability of e-banking and the poor's accessibility to such facilities.

2.0 MATERIAL AND METHODS

As a basis for the paper, reviews and analysis of several documentary sources were conducted. The researcher performed data review and analysis of the published available secondary data. Some of the research documents the researcher went through include Mobile Banking for Financial Inclusion in Tanzania; Mobile banking services in the East African community; Mobile Money Transfers and usage among micro-and small businesses in Tanzania; Modeling the Adoption of Mobile Payment System for Primary and Secondary School Student Examination fees in Developing Countries; Mobile Money in Tanzania: Use, Barriers and Opportunities; and Challenges Facing the Use and Adoption of Mobile Phone Money Services in Tanzania.

3.0 FINDINGS AND DISCUSSIONS

3.1 National Financial Inclusion Framework:

The Framework was prepared with the assistance of FSDT and was officially launched in December 2013. It is a commitment voice from financial inclusion stakeholders in Tanzania from the private and public sector. They have documented the barriers and key core enablers to be implemented with the objective of spurring financial inclusion in Tanzania. An Action Plan that articulates key priority areas that are being implemented by each stakeholder are such as: -

- **Proximity** i.e., enhancing and implementing access channels, such as agent banking, mobile telephony financial services, point of sales, stand alone ATMs, POS and a regulatory framework that creates conducive environment for growth of financial inclusion;
- **Robust Electronic Platforms**: improving, developing ICT payment platforms that facilitate cost effective and secure access to financial services;
- **Robust information and easy client on-boarding**: implementing, monitoring and enhancing use of credit bureaus, proportionate Know Your Customer requirements and improved ID system that is linked to financial systems; and

- **Informed customers and consumer protection**: implementing financial consumer protection mechanism and national financial education framework

3.2 The Use of Mobile money systems in Tanzania by 2021

It is a common characteristic in both developed and developing countries that a segment of the population is excluded from financial services. In Tanzania, the excluded segments are mainly poor people living in rural and harsh geographical areas. These people are compelled to rely on moneylenders and shopkeepers in the informal sector for finance, which is usually provided at very expensive interest rates and other charges. These conditions lead to a vicious circle of poverty. First, high cost of finance means that a poor person has to earn much more than a rich person who has access to finance at lower cost. Secondly, a major portion of the earnings of the poor is paid to moneylenders and, as a result, the person can never come out of poverty. Third, financial exclusion hinders consumption smoothing in the bottom of the pyramid.

The government of the United Republic of Tanzania (URT) since the 1990s has been implementing policies and strategies targeting to improve the legal, regulatory and supervisory framework of the formal financial sector in order to enhance its contribution to economic growth and development. Led by this hypothesis the government implemented a three-year (June 1986 - June 1989) IMF (International Monetary Fund) and World Bank supported Economic Recovery programme (ERP) that, among others, included liberalization of the financial sector to provide for development of vibrant financial markets that would serve mobilization of savings for the finance of private sector investment designated as an engine of economic growth (Kimei, 1987).

The latest telecoms statistics published by the Tanzania Communications Regulatory Authority (TCRA), show that mobile money transactions reached TZS 11.55 trillion (USD 4.98bn) in December 2021 from 8.32 trillion in 2019 (Table 2).

Table 2: Mobile money transaction Value in the recent years

Year	Mobile Money transactions
2021	11.55 trillion
2020	10.66 trillion
2019	8.32 trillion

Source: https://www.tanzaniainvest.com/telecoms/mobile-money-transactions-q3-2019, TCRA 2019

A rich argument for the importance of financial services to the poor has emerged recently. In Tanzania, mobile Money Subscriptions has increased from 23.69 million in 2019 to 51.20 million in 2021 with M-Pesa taking big part (Table 3). Studies show that access to appropriate financial services can enable low-income households to manage their own scarce resources more efficiently - in a way that provides an important, sometimes critical, support to livelihoods. The theory and evidence continue to point to the importance of broader financial inclusion which ensures that all scales of enterprise and households have access to appropriate finance.

Table 3: Mobile Money Subscriptions (Mobile Money Accounts) reached by Market share (in Millions)

Year	mobile Money Subscriptions	M-Pesa	TigoPesa	Airtel Money	Halopesa	TTCL	EzyPesa
2021	51.20	15.97	13.53	13.82	7.40	1.09	1.05
2020	30.59	12.51	8.68	6.15	2.26	0.54	0.44
2019	23.69	9.71	6.87	4.5	1.66	0.47	0.47

Source: https://www.tanzaniainvest.com/telecoms/mobile-money-transactions-q3-2019, TCRA 2019

Following the financial liberalization in the ’90s to sustain the country’s economic growth, many new lenders including merchant banks, commercial banks, bureaus de change, credit bureaus, and other financial institutions have entered the Tanzanian market. Consequently, Tanzania has recorded significant growth in the level of financial inclusion in the last decade. According to the Financial Sector Deeping Trust (FSDT), a program aimed at increasing financial inclusion in Tanzania, the percentage of adult Tanzanians who access formal financial services increased from 16% in 2009 to 58% in 2013 and 65% in 2017. And accessibility measured by the proportion of the population living within five kilometers from where financial services are provided, has grown from 45% to 86% nationally and is at 78% for those living in rural areas. In the same year, however, only 16.7% of adults have or use bank services (9% in 2009) (Tanzania FSDT, 2019).

In Tanzania, rural dwellers make up about 70% of the country population. Despite the rise in mobile money agents across the country, they still remain excluded from the full range of financial solutions. 79% of those who are financially excluded live in rural areas (FSDT, 2019). Financial Sector Deeping Trust's (FSDT) second National Financial Inclusion Framework (NFIF) 2018-2022 aims at increasing the percent of adult Tanzanians using formal financial services to 75% by 2022. Unlike the previous framework which put more emphasis on accessibility, the current Framework focuses on achieving the financial inclusion vision through the usage of financial products and services, without losing sight of access. Likely by 2022 about 25% of population will still be excluded from financial services in Tanzania (Tanzania Invest, 2022).

The benefits of financial inclusion will be realized when people regularly use a wide range of financial products and services with confidence. Unlike the previous framework that put more emphasis on the access dimension, this Framework focuses on achieving the financial inclusion vision through the usage of financial products and services without losing sight of access. Furthermore, it is widely recognized that mobile applications are likely to improve the socio-economic conditions of the people at the base of the pyramid in developing countries. As in the case in many other developing countries, availability of cheaper mobile phones and low-cost prepaid phone cards has led to an exponential growth of mobile telephony in Tanzania. While the people at the bottom of the pyramid have been increasingly using mobile phones, a vast majority of them remain unbanked or under-banked in Tanzania. If they use m-banking, they would be able to overcome the opportunity costs related to geographic access to bank branches (Tanzania Invest, 2022).

3.3 Barriers facing use and adoption of mobile money systems in extending the financial services to the poor

Although, mobile financial services in Tanzania have emerged as an important driver of financial inclusion and an innovative channel of financial services delivery especially to the rural population; it continues to be dynamic with significant challenges. Evidence from several Tanzania studies have highlighted changing dynamics in the economy, politics and society, which have become shared priorities in achieving the goal of a more inclusive financial sector. Key groups, namely women, youth, farmers, rural dwellers and small businesses, are facing persistent challenges in realizing their full potential in terms of participation in the financial sector. So far, the following are the barriers noted from a number of research documents that hinder use and adoption of mobile money systems in extending the financial services to the poor (Table 4)

Table 4: Barriers facing use and adoption of mobile money systems in extending the financial services to the poor

Researcher	Major Findings
FSDT, 2019	• Inadequate, fragmented and expensive payments system infrastructure, supporting dependency on cash; stringent Know-Your-Customer identification document requirements for client on boarding, limiting consumer acquisition • Disproportionate exclusion of women, rural dwellers and youth in financial systems, which slows progress in achieving financial inclusion goals • Information asymmetry in the market preventing financial service providers and policy-makers from using insights to inform solutions and policies; lack of appropriate, affordable and innovative solutions for women, youth, farmers, rural dwellers and small enterprises, pushing more Tanzanians to informal financial services and coping mechanisms • Lack of capacity by financial service providers to design and roll out appropriate solutions for the market, due to poor understanding of customer needs • Insufficient financial capability amongst individuals and enterprises, limiting their ability to use financial services efficiently and to derive benefits; and • Lack of consumer confidence in financial services which limits their participation in financial systems
Nyaga, J. K. (2014).	• High transaction fee • Unclear policies of mobile payment platform • Lack of technical experts • Low customers' knowledge on m-banking usage.

Nyaga, J. K. (2014).	• High transaction fee • Unclear policies of mobile payment platform • Lack of technical experts • Low customers' knowledge on m-banking usage.
Masamila, B. (2014).	• Mobile network is prone to security • Lack of common standard among mobile banking service providers • Mobile money agent misconduct • Increase of mobile malware e.g., viruses.
Tanzania Mobile Money Tracker Study (2013).	• Lack of customers' understanding of mobile money • Increased security risks tied to PIN sharing • Problems with registration • Poor network service • Difficulties in charging phones due to unstable electricity • Mistrust with mobile money agents.
Nicholaus, S.C. and Venkatakrishnan, V. (2013).	• Unavailability of network coverage • Poor mobile money payment systems arrangement • Increased mobile transaction charges • Fraud issues and insecurity • Increased unfaithful workers • Lack of e-float/cash of mobile agents.
Mirzoyants, A. (2013).	• Insufficient knowledge of customers on m-banking • Unfaithful mobile money agents • Poor network • Technical problems on registering for m-money.
Mramba, N. *et al.*, (2012).	• Language problem e.g., used mobile language should be Swahili (native language) instead of English • Lack of awareness on the benefits received as regarding the usage of mobile money transfer • Poor network infrastructure • Mobile phone software and hardware incompatibility.
UNCTAD (2012).	• Mobile agents running out of cash, ATMs breakdown and theft • Increased wrong transfer • Network downtime • Unclear mobile money regulations and jurisdiction • Increased cyber crime • Delays on refunding the money in case of wrong transfer.
Tossy, T. *et al.*, (2012).	• Lack of enough cash from mobile agents, ATMs breakdown and theft • Lack of trust of m-baking systems • Fear of unfaithful workers • Inadequate float or cash of mobile agents to serve the customers.
Anitha, R.I. (2011).	• Poor security of mobile handsets • Technological changes e.g., mobile handset • Poor m-banking infrastructure to handle exponential growth of the customer base • Bank system failure e.g., ATM machines.
Montez, D., & Goldstein, P. (2010).	• Unwillingness to use m-banking tools • High cost imposed on mobile transactions • Lack of trust of mobile network • Lack of knowledge on how to use mobile phones • No access to network agents • Lack of mobile handsets.
Bångens, L., & Söderberg B.	• Poor / lack of network coverage • Large amount charged for e-transactions

(2008).	• Lack of security arrangement • Low knowledge and capacity to use mobile transaction supporting devices and • Low or no enough cash from mobile agents.

Going through various research documents, the researchers have come up with the following most notable obstacles facing use and adoption of mobile money systems in extending the financial services to the poor

- Inadequate, fragmented and expensive payments system infrastructure, supporting dependency on cash
- Disproportionate exclusion of women, rural dwellers and youth in financial systems, which slows progress in achieving financial inclusion goals
- Lack of capacity by financial service providers to design and roll out appropriate solutions for the market, due to poor understanding of customer needs
- Insufficient financial capability amongst individuals and enterprises, limiting their ability to use financial services efficiently and to derive benefits
- Poor / lack of network coverage
- Poor security of mobile network
- High mobile money transaction fees;
- High cost imposed on mobile transactions
- Lack of e-float/cash of mobile agents, ATMs breakdown and theft.
- Difficulties in charging phones due to unstable electricity
- Insufficient knowledge of customers on m-banking
- Lack of awareness on the benefits received as regarding the usage of mobile money transfer

3.4 Innovative strategies for enhancing mobile phone money system in Tanzania

This paper highlights the following innovative strategies for enhancing mobile phone money system to all people in Tanzania.

The challenge that is noted among the rural communities is the existence of few mobile phone money agents. In addition to the few agents available in the rural parts, the agents always have limited cash and e-float to trade with. The inadequate or lack of agents, cash as well as e-floats lead to ineffective service delivery to the users of mobile phone money. The study further established other challenges like ATMs breakdown and theft. To address the problem of lack of enough floats, ATMs breakdown and theft, responsible companies/institutions should have mobile agents distributed widely in different areas and provide sufficient float/cash to mobile money agents. Availability of agents as well as both cash and e-floats were some of the facilitating conditions that enhanced mobile phone money adoption and use. This will reduced the extent of distance to travel by customers looking for agents with enough float or running to physical transactions.

For the case of ATMs and theft through the machines, customers should be educated that the only security of their ATMs card is the PIN number, so they should not expose it to any and also be advised to change the PIN number periodically plus not to using PIN number like ones' birthdates, driving license, or passport. Banks in Tanzania should strive to install ATMs with complex security layers, developing technologies for higher levels of security, such as voice, iris/retina biometrics, which accurately authenticates users based on their voice and face

Responsible companies should deal with poor security of mobile network by deploying security technologies such as firewalls and proxy servers which are both the best remedy to save guard outside attacks on mobile money transfer transaction. Mechanisms such as confidentiality of data which is enhanced through the use of message encryption to ensure end-to-end security and ensuring that data is only be accessed by authorized parties should be implemented. Message integrity should be ensured by the use of message digests that are obtained by hashing message contents prior to being transmitted across the network. Finally, improvements on some policies which are guiding m-banking adoption such as, education, infrastructure and security management are recommended.

To minimize issues and achieve access, the researcher has learnt that the core enablers which the country has to abide too are conducive infrastructures and enabling legal and regulatory frameworks. The infrastructures identified include information, payments and physical infrastructures. Conducive infrastructure is critical to enabling access to financial services through closing the information asymmetry gap by using unique and verifiable identification, credit reference system and collateral registry. In addition, there is a need for an effective and efficient payments ecosystem by improving digital payment platforms and enabling full interoperability among service providers. Furthermore, it is important to acknowledge the need for physical infrastructure including telecommunications networks, electricity and roads.

On the other hand, enabling legal and regulatory frameworks promote the increase of financial access points and widen outreach of financial services to the excluded population. This framework should emphasize the need for an enabling regulatory environment to ease business licensing requirements, promote innovations in the financial sector, and develop proportional prudential requirements while maintaining an appropriate balance between financial inclusion objectives and other policies, such as financial stability and consumer protection. A more balanced regulatory framework is a requisite for building a deeper and sustainable financial system that supports the economic and social agenda of the country

Furthermore, the paper examined the obstacles towards the adoption of m-banking in Tanzania. It has been observed poor network coverage (78.6 %), lack of knowledge of mobile banking users (57.1%), and poor security of mobile network (57.1%), are also critical obstacles towards the adoption of mobile banking in Tanzania. Therefore, for the successful and quick adoption of m-banking in the country the government and responsible institutions should invest on innovations backed by financial literacy and take serious measure to improve network coverage, that is telecomm operators in the country should be ready to expand from urban centers to the rural areas by connecting the whole country to the national fiber optic cable.

This will push towards increased use of the mobile phones services and integrated e-payment systems, which will also simplify financial transactions such as pay water bills, electricity, communications and other bills. The opening for international high speed Internet connectivity and the expansion of mobile communication networks to 4G technologies will open new rooms of business transactions using payments systems. Financial institutions should equally work hard to minimize the rate of network failures since ATMs related fraud can equally be attributed to it.

To overcome a problem of lack of knowledge of m-banking users, the responsible stakeholder should educate customers by giving more details on the benefits and risks of m-banking. The government and responsible institutions should train their customers on how to use of mobile devices without regarding their level of literacy. This could be done through posters, seminars and promotion and will educate customers on understanding the procedures to follow on mobile transactions activities and even how to secure the transactions. Mobile banking education should not be left to mobile money agents or friends because it can lead to exposing of sensitive information of customer a situation which bears risk and fear of customers m-banking adoption

4.0 CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

In conclusion the study established that mobile money use and adoption had numerous challenges that had hindered it in Tanzania. Most affected by the challenges were the mobile phone money users and potential users from the rural poor communities. Some of the challenges included few mobile phone money agents; and inadequate cash and e-floats by the agents. The paper has established innovative strategies that can promote sustainable use of mobile money systems and hence enhance financial inclusion in Tanzania. Financial inclusion is quite significant, but what are equally important are the determinants that would lead to successful financial inclusion. Many such determinants have been identified in past studies, but these studies were always restricted to certain geographic or demographic boundaries. This paper has come up with the key determinants of successful financial inclusion in Tanzania which are namely as outreach, penetration, availability, accessibility, technology, financial literacy, trust, and income adequacy.

4.2 Recommendations

To get the innovative strategies strengthened /working and achieve financial inclusion, the government of Tanzania needs to consider out-of-the box ideas to make a difference. The following are some:

i. An effective financial inclusion that provides equal opportunities to all individuals and families can be a powerful driver for economic growth. Talking about inclusion, major focus should be on deprived section of society like the low-income rural households. Providing financial services has not been much of an issue in urban areas as it has been in rural areas. With modernization, there is a need to provide proper banking and financial services to people from backward or rural areas. A nation needs its weaker sections to be financially independent, for economic and social growth

ii. **Outreach and penetration;** Outreach is a very essential aspect in financial inclusion as it explains the steps and efforts taken by financial institutions in adding consumers to their client base. More the efforts, higher would be the level of inclusion. Similar is the case with penetration, where the depth to which an institution is providing services is realized. Increasing the penetration would help capture newer markets and uplift inclusion levels. Availability and accessibility are significant determinants of a financially well included society. The most basic requirement for availing any kind of financial service is the availability and easy accessibility of such services as and when required. These supply side steps are to be kept in mind when working on product and market development for inclusion.

iii. **Availability and Financial Inclusion;** The availability or the lack of proper setup for providing financial products and services to every individual is a major contributor to financial inclusion or exclusion. Shankar (2013) in her study addressed the access barriers of financial inclusion and lack of financial product that result into exclusion of certain sections. Thus, it is hypothesized that availability is an important aspect of financial inclusion, as the lack of availability leads to exclusion. Sarma and Pais (2011), Dixit and Ghosh (2013), and Anand and Chhikara (2013) all developed an index of financial inclusion with availability as a dimension of financial inclusion. Accordingly, it is hypothesized that availability has a significant impact on financial inclusion.

iv. **Accessibility and Financial Inclusion**; The physical aspects like the distance to bank branches, ATMs, necessary documentations, among many others, are termed as accessibility. In a developing country, access to affordable banking services and innovation can lead to total financial inclusion. Access to financial services endorses inclusion and access to financial services empowers individuals economically. From the financial inclusion point of view, accessibility is more about the convenience and ease of using the available banking services. In general, there are always products and services that are available to consumers but not every service is accessible, the reason for which vary from consumer to consumer. In the study, accessibility is taking into consideration the suitability of the available financial services and products for the respondents rather than just focusing on their availability. From inclusion point of view, it is significant to ensure smooth availability as well as accessibility of products and services, both of which are different aspects of financial inclusion. Thus it is hypothesized that accessibility has a significant impact on financial inclusion.

v. **Technology and Financial Inclusion;** The technology aspect of financial inclusion covers new technologies in banking sector like internet banking and mobile banking, the reliance of which has been increased for improving financial inclusion. Even social media has a huge impact on access and use of financial services. Several studies have suggested use of technology for its potential to deliver financial services even in remote or rural areas.

vi. **Financial literacy**; has been considered as a major demand side factor for financial inclusion because a well-educated consumer would make better financial decisions. Several studies have established financial literacy as one of the basic necessities for a high level of financial inclusion. And with the recent trends in digitization of services, technology has become a major factor when availing financial services. The world is moving towards an era where different financial services would be available on click of a few buttons and financial inclusion would definitely be elevated by the same. Lacks of trust and income have been known to be a contemporary issue in financial inclusion. But in modern times, financial institutions take a special note of these factors and ensure that consumers develop trust on institution and avail the necessary services with no hindrances. With the gain in trust, customer acquisition is easier to achieve and serve.

vii. The world today knows the importance of a financially well included society, but what is equally essential to financial inclusion are the key factors that lead to a successful financial inclusion. Some of the determinants of financial inclusion identified in the past are physical barriers, financial literacy, infrastructure, and technology and technical advancement. Trust, depth of penetration, income level, perceived usefulness and accessibility are few more determinants of inclusion that were discussed in past literatures. One thing to note here is that there are two sides of financial inclusion, one is the demand side and the other is the supply side. The past researchers have categorized technology, trust, income, benefits of bank account and usage as some of the demand-side factors of financial inclusion. While determinants like accessibility, availability, outreach and penetration were categorized as the supply-side factors. These literatures imply that both demand and supply side factors of financial inclusion are quite important as they coexist together

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