THE ECONOMIC IMPACT OF M-BANKING ON SMALLBUSINESS DEVELOPMENT IN TANZANIA: THE CASE STUDY OF KARIAKOO FOODSTUFF VENDORS

By

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A Dissertation submitted in Partial/Fulfillment of the Requirement for Award of the Degree of the Masters of Science in Accounting and Finance (MSc A&F) of Mzumbe University

2015

CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation/thesis entitled **"The Economic impact of m-banking on small business development in Tanzania" The Case Study of Kariakoo foodstuff Vendors,** in partial/fulfillment of the requirements for award of the degree of Master of Business Administration of Mzumbe University.

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I, **Patrick Lugisi,** declare that this dissertation report is my own original work and that it has not been presented and will not be presented to any other University or Higher Learning Institution for a similar or any other degree award.

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ACKNOWLEDGEMENT

It would have been impossible for me to achieve this dissertation without encouragement and assistance of professionals and individuals.

I wish to express my gratitude to my supervisor, Dr Benedicto K. Lukanima, for his constructive criticism and dedicated support and follow up, without his thorough supervision and guidance; I would never been able to complete this final research report.

In special way, my sincere appreciations go to Kariakoo foodstuff Vendors, who participated in filling questionnaires and discussion during data collection though their time was limited due to frequency turn up of their customers but their patience was infinite.

Further; I greatly appreciate the cooperation from the Tanzania Communication Regulatory Authority (TCRA) who offered permit to carry out my study of collecting appropriate data.

I wish to express my heartfelt thanks to my family and friends for tireless encouragement and support. May God, bless you all.

I also thank all the 2013/2014 MSc Accounting and Finance students of the Mzumbe University (Mwanza Center) for their support and the advice they offered me during my stay in the University.

In addition, all the people, who assisted me in my fieldwork, are also appreciated.

My sincere thanks go to my employer Controller and Auditor General for funding and granting permission to pursue postgraduate programme.

Above all, I thank the Almighty God, who earns me courage and strength that have enabled me to complete this task.

DEDICATION

I would like to dedicate this work to my late loving mother, Minza Mayanzani who put me in the world of academic. Her tireless efforts and endless advice is appreciated. Almighty God may keep her soul in peace.

It also dedicated to my lovely wife Ng'walu for her support, prayers and understanding, and finally to our sons Kija and Limbu and our daughter Milembe for love and joy towards completion of this work.

LIST OF ABBREVIATIONS AND ACRONYMS

AfDB	African Development Bank
ATM	Automatic Teller Machines
CBK	Kenya Central Bank
CGAP	Consultative Group to Assist the Poorest
DAWASCO	Dar es Salaam Water Supply Company
M – Banking	Mobile Banking
MFS	Mobile Financial Services
M – Pesa	Mobile Pesa
MNC	Multinational Corporations
MNO	Mobile Network Operators
PIN	Personal Identification Number
STK	Sim Toolkit Standard
TANESCO	Tanzania Electric Supply Company Ltd
TCRA	Tanzania Communication Regularity Authority
Tzs	Tanzania Shilling
USD	United States Dollar
USSD	Unstructured Supplementary Service Data
WAP	Wireless Access Protocol

ABSTRACT

This study has attempted to explore the economic impact of m-banking on business development in Tanzania, a case study of Kariakoo market Foodstuff Vendors. The author was interested to find out the extent to which the vendors who bought foodstuffs from farmers in the upcountry regions used m-banking services to make payments. The study also investigated how the Tanzania Regulatory Authority was working with the Network Operators to ensure a good platform for m-banking services. The study further inquired the knowledge of the vendors on the potential of benefits from m-banking and the actual benefits they were getting. The study used a sample size of 89 respondents, 88 collected from Kariakoo Market Foodstuff Vendors and One from TCRA.

Using a Chi-Square statistical Model and analysis of data using STATA, it was found that use of m-banking for economic activities was still very low. The vendors were found to understand the benefits of m-banking and mentioned things like easy access to withdrawals, easy service payments, low cost account servicing and low risk of funds. But even with this knowledge, few were already using m-banking for economic activities. .

Challenges faced m-banking were inadequate network availability to some areas, inadequate recovery of money. The Tanzania Communications Regulatory Authority (TCRA) had no specific law to govern financial Transactions. While use of mobile phones during the past ten years (2004 – 2014) was found to increase from 3 million to 29 million (country wide), however, as far as Foodstuff vendors of Kariakoo were concerned, usage of mobile phones on economic activities was not found to go in line with the increase of mobile phone lines. It was thus recommended that the government enacts laws to protect users of MFS for the potential of money lose through thefts and manipulations from the intended receivers. Further, more education should be provided to highlight the essence of MFS uses for economic activities. Lastly it is recommended that a study be carried out to establish, the extent to which product time is spend on surfing on unnecessary materials on phones in Tanzania.

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CHAPTER ONE
BACKGROUND INFORMATION

1.1 Introduction

This chapter contains the construct of the study, presenting background of the study, statement of the problem, research objectives and the research questions. The chapter further presents the scope, significance and limitations of the study.

1.2 Background of the Study

Mobile banking (m-banking) is an innovation that has progressively rendered itself in pervasive ways cutting across several financial institutions and other sectors of the economy. During the 21st century mobile banking advanced from providing mere text messaging services to that of pseudo internet banking where customers could not only view their balances and set up multiple types of alerts but also transact activities such as fund transfers, redeem loyalty coupons, deposit cheques via the mobile phone and instruct payroll based transactions (Vaidya, 2011).

Mobile financial services especially the mobile banking can contribute to availability of more financial services to the poor and the unbanked ones, minimizing or eliminating the need to visit the nearest retail bank branches. The Mobile banking provides a secure means of accessing and transferring funds, provides a channel for access to savings products and services, and gives access to credit for low-income housing or financing agricultural development and insurance products and services (GSMA, 2009).

The use of mobile phones for accessing banking services has provided unprecedented transformations today than any other time before. The introduction of mobile phone banking technology has enabled economic activities such as trading, to spread beyond villages, regions and even countries. Goods and services can now be exchanged and payments made without the need to use banking services. Anyasi and Otubu (2009) argue that over the years banking industry has transcended from brick-

and mortar model of customers queuing for services in the banks to modern day banking where banking services can be reached for the services from any point.

As at the close of 2014, there were about 30 million mobile phone lines in Tanzania (TCRA, 2015) which, apart from usual communications, are used for money transfers. At the same time, small businesses in Tanzania have become the backbone. For example during the baseline survey of establishments in selected large urban centers it was found that there were 69,142 establishments whereby Dar es Salaam region had the largest number (11,385) followed by Mbeya (5,573), Mwanza (4,476) and Manyara (4,013) (URT, 2012). .

Kariakoo Foodstuff Vending Business

Kariakoo was one of the biggest foodstuff markets in Dar es Salaam. Others were Tandale, Mabibo and Tandika. The city of Dar es Salaam was a home to approximate 5 million residents (URT, 2013), and all these depended on foodstuffs from upcountry regions which were sold in the markets. Food stuffs sold included; rice, maize, sorghum, beans, potatoes and groundnuts. The businesses were operated by vendors who received the loads from farmers, often freely and pay the farmers after they have completely sold the loads. As a way of minimizing costs, either the farmer escorted the load and upon just off-loading went back to wait the money or doesn't travel with the load at all but communicated with the vendor about the prices (market price) and the condition of the load as it was received.

The potential of paying through m-banking was very great under the environment of food stuff business since it was costly to come or go in physical to take the payment. But this was not the only available option of making payment in the business, there were also conventional banking payment, the farmer coming in physical to take the money, a friend is sent to receive the money on behalf and through post methods. But in every respect, m-banking means was the fastest, reliable and cost-effective.

1.3 Statement of the Problem

Mobile phones have increasingly enabled business transactions to become more widespread across thousands of miles within or outside a country. This has created an opportunity for the small and medium business to reach remote markets but also has enabled payments to be done easily across miles of distances apart. If this opportunity is fully utilized, it has the potential of developing business in many developing countries. But Maurer (2008) as cited in Donner, Jonathan and Tellez, Camilo (2008), argues; scholarly research on the adoption and socio-economic impacts of m-banking/m-payments systems in the developing world is scarce. There were however evidences that in Tanzania m-banking payments were increasing at an alarming rate. For example, the past ten years have seen a massively and aggressively growth in use of m-banking services where in May 2013, Vodacom Tanzania alone with its M-Pesa had five million subscribers with monthly transactions reaching USD 823.3 million (TZS 1.3 trillion) (Telegeography, 2013).

Okiro and Ndungu (2013) argue that ATM banking which was one of the earliest and widely adopted retail e-banking services in Kenya had been surpassed by mobile banking in the last few years to 2008. Further Njenga (2008) argues that an appropriate banking environment is considered a key pillar as well as an enabler of economic growth which is being offered by the mobile banking.

What does this huge level of transactions means? It simply means more money is transferred across hands every day. But as Maurer (2008) has said, nothing is known whether these transactions have any socio-economic impacts in the society, and even if they have, how have they impacted economic activities growth in the country? This has driven the researcher to conduct a study on the economic impact of m-banking on small business development in Tanzania, particularly in the development of foodstuff business at the Kariakoo Market in Dar es Salaam.

1.4 Objectives of the Study

1.4.1 General Objective

The general objective of this study was to examine the economic impact of m-banking on the development of foodstuff business at Kariakoo Market in Dar es Salaam city.

1.4.2 Specific Objectives

Specifically, the study had the following objectives:

i) To determine the extent to which m-banking services were used by Kariakoo foodstuff vendors for economic activities

ii) To examine awareness of food vendors on the available economic benefits of m-banking

iii) To identify the challenges hindering the use of m-banking services on economic activities by Kariakoo foodstuff vendors

iv) To identify the intervention measures required to revamp the use of m-banking services.

1.5 Research Questions

The increase of m-banking use has been accepted as a milestone towards revamping business development worldwide, especially among the previously unbanked whose access to banking systems is limited. For that small businesses like food vendors could enormously benefit from m-banking as transactions are much made easier. Kariakoo food stuff vendors are one of those who could potentially benefit from m-banking given that they deal with farmers from different and mostly remote places of Tanzania. The research questions in this study therefore are;

i) To what extent Kariakoo food stuff vendors are using m-banking in their business transactions.

ii) What benefits can be attributed to such uses, and what are the main factors within m-banking contributing to these benefits?.

iii) If they are not using this innovation, then what are the hindering barriers and how can they be eliminated to make the vendors use it and benefit from it?.

1.6 Significance of the Study

Previous studies have shown why m-banking should be adopted to bank the previously unbanked (Bangens and Soderbeg, 2008). It has made people transcend from the brick-and motor kind of banking to modern day banking (Anyasi and Otubu, 2009). Yet Kariakoo food vendors still don't want to fully exploit these advantages. Therefore, this study is expected to have the following theoretical and practical significances; firstly the findings will assist assess the extent to which m-banking financial services are used on economic activities. Such knowledge can be used by policy decisions makers to push for a streamlined access to the services; whether through Mobile Network Operators making adjustments to the access, network problems, coverage and traceability of transactions or for the government enacting laws protecting m-banking financial service users on mobile phones and other associated risks or educating the society on the potential of m-banking financial services on their socio-economic development. On the other hand, the findings can be useful for future researches and academic works. The researcher is an accounting and finance student, who eyes m-banking as important innovation in accounting and finance. Understanding the position of usage of m-banking is a milestone towards forging improved strategies of kits application and eventually improves its economic impact in the society.

1.7 Scope of the study

The study intended to investigate the extent to which m-banking services were used by foodstuff vendors at Kariakoo Market for economic activities such as paying for goods received or ordered and commissioning marketing activities in the source areas of foodstuffs. Further the study looked into the barriers hindering the use m-banking services for such purposes. These may include; riskiness, legal framework for use of m-banking, Mobile Network Operator factors; like coverage, service availability, and traceability of transactions**.**

1.8 Limitation of the Study

Both empirical and operational limitations were might have effected the study

Empirical limitations: a lack of enough and current studies about m-banking in Tanzania might have created a limitation into the formulation of the study. Further, low level of research understanding and appreciation for new information creation on the part of respondents decreased the number of returned questionnaires thus making its reliability low.

Operational limitation: the study concentrated solely at Kariakoo market, somewhere else the situation might be different. Further, the researcher used a sample size of 88 respondents. A bigger sample size could provide better results.

Keywords:
M-banking, mobile phones, small business developments, transfers, sim-banking

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter provides the literature on m-banking on business development selected studies, and the gap that warrants another similar research. The literature starts of theoretical review of the m banking, and then reviews some important and recent studies in the m banking. From the literature a theoretical model of the study will be drawn to create a picture of the meaning of m-baking and its relative impacts on economics business developments.

2.2 Theoretical literature review

2.2.1 Conceptual Definitions

Mobile Phones

Srivastava (2005) highlighted that the mobile phone has shifted from being a 'technological object' to a key 'social object' as communication with others is the main purpose for mobile phone purchasing. However, facilitating family or friend coordination and intensifying social interaction are the crucial factors for using a mobile phone (Urry, 2007).

According to Castells et al. (2007), maintaining a mobile phone is a milestone that indicates success both economically and socially in term of the integration within society. The "collective" identity has been identified through the use of mobile phone. Marquardt (1999) has claimed that mobile phones affect social relationships in communities. Rauch (2005) points out that mobile phone usage has led to greater mobile financial transferring between friends and family as a result the expense of face to face interaction has been reduced. Consequently, mobile phones are regarded as changing people's beliefs, cultural norms and values.

Mobile Commerce

Mobile Commerce is a business transaction conducted through mobile communication networks or the Internet (Siau and Shen, 2003). Mobile commerce also can offer value to consumers through convenience and flexibility by enabling time and place independence (Kim et al., 2009).

Mobile Banking

Donner, J. and Tellez, C. (2008) provide that the terms m-banking, m-payments, m-transfers, and m-finance refer collectively to a set of applications that enable people to use their mobile telephones to manipulate their bank accounts, store value in an account linked to their handsets, transfer funds, or even access credit or insurance products. These products are now available to all mobile phone users. The Consultative Group to Assist the Poorest (CGAP) describe that mobile phones have become a tool for everyday use, and they create an opportunity for the evolution of banking services to reach the previously unbanked population through mobile banking (CGAP, 2006).

Mobile banking is an application of mobile commerce which enables customers to use their bank accounts through mobile devices, to access and conduct and complete bank related transactions without taking much longer time and go to different places including checking balances, account statuses, transferring money and sometimes selling stocks (Kim et al., 2009). Luo, etal (2010), define mobile banking as an innovative method for accessing banking services via channel where by the customer interacts with a bank using a mobile device.

According to Consumers and Mobile Financial Services (2013), defines mobile banking is a process of using a mobile phone to access credit cards, bank account and other financial account. Mobile banking can be done by either accessing your balance via text messaging, bank's web page through your mobile phone or by using downloaded application to your mobile phone.

Mobile Payments

According to Consumer and Mobile Financial Services (2013) mobile payments is the process of paying purchases, bill, donations, payments to another person, or any other payments made through a mobile phone. Most mobile payments can be conducted by using your mobile device, by sending a text message (SMS), or by using a downloadable application on your mobile device. The amount of the payment is shown to your phone bill for-instance. All payments are charged to your credit or withdraw directly from your bank account.

Mobile Money Transfers

In today's society, mobile telephony is taking over and has allowed people to do different things from social networking, art; through photography, information retrieval, shopping and carrying out financial tasks as well. The Economist (2012) also reports that mobile wallets being one of these favorable features, allows individuals to bank using their mobile phones in remote villages of the developing world. Not only are people able to carry out their financially related activities through mobile money transfers, but also the feature has played an important role in helping to develop digital finance and banking as a whole.

Indeed, it has proven to be one of the most effective forms of banking. This is mostly in the developing countries, where there is little or no access to internet connections and existence of poor infrastructure that have crippled developments in reaching the unbanked populations (Nzioka and Palakurthi 2010). The Economist (2012) highlighted another upside of mobile money transfer is that in contrast to the formal banking system, this form of banking in general requires little operational knowledge and has less rules. For instance, formal banking has to know your customer rule which does not necessarily apply to mobile money transfer at all. Little information about a user is required from the subscribers who only agree to the terms of use as per the contract of the subscription.

M-Banking and M-Payments Systems in the Developing World

The terms m-banking, m-payments, m-transfers, m-payments, and m-finance refer

collectively to a set of applications that enable people to use their mobile telephones to manipulate their bank accounts, store value in an account linked to their handsets, transfer funds, m-banking or even access credit or insurance products. This paper uses the compound term m-banking/m-payments systems to refer to the most common features.

The first targets for these applications were consumers in the developed world. By complementing services offered by the banking system, such as checkbooks, ATMs, voicemail/landline interfaces, smart cards, point-of-sale networks, and internet resources, the mobile platform offers a convenient additional method for managing money without handling cash (Karjaluoto, 2002). For users in the developing world, on the other hand, the appeal of these m-banking/m-payments systems may be less about convenience and more about accessibility and affordability (Cracknell, 2004; infoDEV, 2006). An exploration is underway—between banks, mobile operators, hardware and software providers, regulatory agencies, donors, and users—to determine the shape of m-banking/m-payments services in the developing world (infoDEV, 2006).

Mobile phone operators have identified m-banking/m-payments systems as a potential service to offer customers, increasing loyalty while generating fees and messaging charges (infoDEV, 2006). Financial institutions, which have had difficulty providing profitable services through traditional channels to poor clients, see m-banking/m-payments as a form of "branchless banking" (Ivatury and Mas, 2008), which lowers the costs of serving low-income customers. Government regulators see a similar appeal but are working out the legal implications of the technologies, particularly concerning security and taxation.

There is no universal form of m-banking; rather, purposes and structures vary from country to country. The systems offer a variety of financial functions, including micropayments to merchants, bill-payments to utilities, P2P transfers between individuals, and long-distance remittances. Currently, different institutional and business models deliver these systems. Some are offered entirely by banks, others

entirely by telecommunications providers, and still others involve a partnership between a bank and a telecommunications provider (Porteous, 2006). Regulatory factors, which can vary dramatically from country to country, play a strong role in determining which services can be delivered via which institutional arrangements (Mortimer-Schutts, 2007).

Most m-banking/m-payments systems in the developing world enable users to do three things: (a) Store value (currency) in an account accessible via the handset. If the user already has m-banking a bank account, this is generally a question of linking to a bank account. If the user does not have an account, then the process creates a bank account for her or creates a pseudo bank account, held by a third party or the user‟s mobile operator. (b) Convert cash in and out of the stored value account. If the account is linked to a bank account, then users can visit banks to cash-in and cash-out. In many cases, users can also visit the GSM providers‟ retail stores. In the most flexible services, a user can visit a corner kiosk or grocery store—perhaps the same one where he or she purchases airtime—and transact with an independent retailer working as an agent for the transaction system. (c) Transfer stored value between accounts. Users can generally transfer funds between accounts linked to two mobile phones, by using a set of SMS messages (or menu commands) and PIN numbers.
The new services offer a way to move money from place to place and present an alternative to the payment systems offered by banks, remittance firms, pawn shops, etc..

The uptake of m-banking/m-payments systems has been particularly strong in the Philippines, where three million customers use systems offered by mobile operators Smart and Globe (infoDEV, 2006); in South Africa, where 450,000 people use Wizzit (“the bank in your pocket”) (Ivatury Pickens, 2006) or one of two other national systems (Porteous, 2007); and in Kenya, where nearly two million users registered with Safaricom M-Pesa system within a year of its nationwide rollout (Ivatury and Mas, 2008; Vaughan, 2007).

The practitioner community may frame the discussion as being about "Transformational" M-payments (Gamos, 2008); the popular press describes a "leap from the world of cash to cellular banking" (The Economist, 2006); and researchers speak about the potential of mcommerce to "close the digital divide" (Dholakia and Kshetri, 2004). There are a variety of perspectives from which to view the technology, and as Maurer (2008), illustrates the assumptions associated with an embrace of an "empowerment" or "market share story" (pp. 8-9), for example, will impact the claims and research programs of those interested in the technology. The current research literature can be classified into three types of studies: (a) those that explain or predict the adoption of m-banking/m-payments systems; (b) those that assess the systems‟ impact on people and on economies; and (c) a relative few that try to understand the use m-banking of such systems in social, economic, and cultural contexts. Variants of this trichotomy, which distinguishes adoption studies from impact studies and from "use" studies, have been documented before (Sein and Harindranath, 2004) and are a reflection of the disciplines that take an interest in communication technologies. Donner (2008) applied the trichotomy in a review of the research literature on mobile telephony in the developing world.

M-banking/m-payments systems have all the markers of an "innovation" waiting to be "diffused" to or adopted by a subset of mobile users in the developing world. Brown, Cajee, Davies, and Stroebel (2003) used a statistical model combining elements of the theories of diffusion of innovation and of planned behavior to predict mobile banking take-up in South Africa, finding high levels of perceived risk to be a major barrier to further adoption. To date, it is one of the few evaluations of an m-banking/ m-payments system in the developing world explicitly applying a theoretical lens. Two studies from the economic development/practitioner literature (Ivatury and Pickens, 2006; Porteous, 2007) suggested that mobile banking users in South Africa are wealthier and better educated than the average South African with a bank account, let alone the average unbanked South African. Porteous suggests that the profile of the typical m-banking user in South Africa still resembles that of the "early adopter". Drawing on representative survey data, Porteous cites mistrust and

unawareness among the primary reasons South Africans might choose not to adopt m-banking.

Studies of the impact of m-banking/m-payments systems in the developing world are also scarce because the systems are so new. The best impact assessment to date is (Porteous, 2007), in which impact is operationalized using an "access frontier," which divides those who have the wherewithal—a monthly income from a formal source—to open the most basic of conventional bank accounts. Those below the frontier who use m-banking/m-payments systems do so as an alternative or addition to other choices. Those from above the frontier have done so by necessity. Porteous concludes that the "transformational" impact of m-banking/m-payments services in South Africa has been small (so far) because virtually all of the users are from below the frontier.

Additional adoption and impact studies are sure to follow, but the research community should also pursue studies of the context and use of m-banking/m-payments systems in the developing world. This section presents three important examples of non-technical (social and economic) contextual factors: comfort with electronic money, the availability of alternatives, and the social context of transactions. Each influences the dynamics of m-banking/m-payments‟ adoption and impact, currently unfolding around the world.

Even the simplest handsets have features buried deep in menu structures. If navigating an m-banking/m-payments interface is difficult for experienced mobile users with bank accounts, even greater is the difficulty for first-time users in the developing world, many of whom will have only been using a mobile for a year or two (Cracknell, 2004). However, the challenges may run deeper than interface design. People coming to banking for the first time via the mobile handset require a command of abstract concepts about invisible/virtual money. Consider the lack of ways to wrap or "gift" a digital money transfer (Singh, 2007). Beliefs, misunderstandings, habits, and concerns must be addressed if people who are used to

storing money in cash are asked to store it “in” a handset; the analogy remains strained—the mobile is not yet a wallet (Aarras and Yamamoto, 2005).

The role of existing mediated transfers and other financial services also deserves scrutiny. A large proportion of the volume of m-transactions may reflect existing transactional relationships, shifted over to the new channels. This is not to say that a shift is not itself valuable—there are significant benefits of cost, reliability, safety, flexibility, and immediacy associated with m-banking/m-payments systems. However, it is important for industry, researchers, and policymakers to understand the transactional networks and behaviors that already exist. An antecedent to this argument comes from the microfinance sector. Arguing that “it is no longer acceptable for prospective providers not to inform themselves of what their future clients are already doing and what services they appear to need,” Ruthven (2002, p. 269) identified a broad array of “money mosaics” operating in a Delhi slum. These “financial relations are frequently embedded in other social relations which reflect the diversity of social, security, and economic needs which people have. It highlights the relatively small role of commercial transactions in people's financial lives, and the importance, extent and diversity of personal networks” (2002, p. 267).

In the case of m-banking/m-payments channels, pawn shops, bus companies, the post office, hand carrying by friends and family, underground money transfer mechanisms—such as China‟s fei ch’ien („flying money,‟ a network of affiliates allowing users to put money into the network in one city and have it available in another without the actual banknotes making the trip) (Maurer, 2008)—and formal transfer services like Western Union all have their adherents, and the list is longer when one includes alternative savings and credit mechanisms like chit funds and moneylenders. There are communication issues, as well: transfers are exchanges at a distance, and as Ruthven points out, there is an implicit or explicit network of communication and information exchange embedded into almost every transaction. Remittances in particular, are a context in which it is difficult to separate financial transactions from symbolic meaning and social bonding (Singh, 2007).

There is a litany of social/contextual influences on m-banking/m-payments use. Both macro-level cultural factors and micro-level, locally-negotiated norms in families and among peers—particularly about money—are at play. For example, respondents in focus groups we conducted in Manila (Donner, 2007b) explained that, while they would certainly transfer money to a family member (a gift), they would not do so to an acquaintance (a loan). Technically, the actions are the same. Socially, they are miles apart. Practitioners and policymakers are already concerned about validating m-transactions under conditions of sharing behavior (infoDEV, 2006), in which two people use the same handset. On the other hand, others suggest that m-banking/m-payments systems may alter patterns of money sharing within families by giving women greater autonomy and control over household savings (von Reijswoud, 2007).

The use questions described above (skills and mental models, alternatives, and social norms) each represent fruitful paths for future research. When such studies of m-banking/m-transactions use in the developing world appear, it is likely that they will touch, implicitly or explicitly, on crosscutting themes shared by studies of other mediated communication technologies. There is little need for a new "theory of m-banking." Rather, our existing toolkit of theories of technology use—and particularly technology use in the service of economic and social development (ICTD)—is sufficiently robust to handle the introduction of this new technology (Sandvig and Sawhney, 2006). Rather, the task at hand for communication researchers is to find ways to have the existing theory inform and strengthen the assessments of impact and diffusion, of design and policy, which are occurring at this time as diverse stakeholders are establishing the mobile payments landscape. While some periods of alternating exuberance and introspection are to be expected in the realm of new technology development and policy, the opportunity exists at this time for theory to temper some of the more dramatic swings, at least as far as m-banking/m-payments as an "ICT4D" is concerned.

In this section, we introduce three crosscutting themes, each drawing on the existing body of research on technology use, which illustrate social structures underlying m-

banking/m-payments and can guide decision-makers and practitioners as they build and evaluate these systems over time. These themes are the bi-directionality of influence, amplification versus change, and the multi-dimensionality of trust. As possible themes and theoretical perspectives, these three are neither mutually exclusive nor collectively exhaustive. However, they do help contextualize issues encountered in these early days of the technology. These three themes are sufficient to illustrate this paper's primary argument: the importance of "use studies" as input to the evaluation of adoption and impact of m-banking/ m-payments systems.

A willingness to examine the bi-directionality of influence between communication technologies and the social structures in which they exist—a focus on the "dynamic interactions between people and technology" (Orlikowski and Iacono, 2001)—is a hallmark of many studies applying a "use heuristic" or "ensemble" view (Orlikowski and Iacono, 2001). Within the communication research tradition, two prominent examples of these approaches are adaptive structuration theory (Poole and DeSanctis, 1990), usually applied to organizational settings and domestication theory, and usually applied unsurprisingly, to domestic settings. Mobile telephones have also been the subjects of a wide range of studies complicating the directionality of influence, from technological affordances to user choices to social structures and back again (Donner, 2008).

Studies that take "ensemble" approaches to assessing the spread of m-banking/m-payments systems are sorely needed. Like text messaging (Ling, 2004), multimedia messaging (Ling and Julsrud, 2005), and simple missed calls (Donner, 2007c), the set of social norms and expected behaviors surrounding mobile-enabled financial services will evolve over time and probably will differ from place to place. For example, respondents in the Manila focus groups reported a norm of "gifts not loans," based partially on their family structures and partially on their experience with the m-banking/m-payments system. Wholly different norms might emerge within another system, where perhaps early adopters were not dispersed families seeking a channel for cost-effective remittances but rather traders looking for a way

to protect money from theft on deserted roads. In that case, transfers to near-strangers might be perfectly acceptable, even expected.

A second crosscutting theme involves the capacity of a communication technology to amplify existing relational and social structures as well as to alter them. When we speak of the "impact" of a technology on a social structure—a particularly common frame within the ICTD perspective—, we often seek insight into how technologies change social structures, but the reverse can also be true (Harper, 2003). If we look with this lens, we may find that m-banking/m-payments systems may increase the volume or frequency of existing transactional patterns rather than alter the target of those transactions. For example, in the Manila focus group, of the 10 people using the system, only one had used it to trade with somebody that they had not previously traded with using another channel—a women who had used the service to start her own informal money lending business (Donner, 2007b). Additional findings of this kind may qualify some of the "transformational" language used concerning mobile banking to this point.

A final crosscutting issue involves the introduction of "trust" as a factor in the analysis of m-banking/m-payments use. Early evidence and intuition alike suggests that "trust" plays a role in use (Ivatury, 2004; Porteous, 2007). For example, users feel more comfortable with at least some face-to-face contact and assistance while using an m-banking/m-payments system like Wizzit (Ivatury and Pickens, 2006). Luarna and Lin (2005) proposed a modified technology acceptance model that included a trust variable—perceived credibility—to predict m-banking adoption in Taiwan. Yet their modification also included another variable, self-efficacy, a form of trusting one self. Indeed, trust itself is a multifaceted concept, which must be handled carefully in any analysis of m-banking/m-payments use (Benamati and Serva, 2007).

Trust is a crosscutting concept in that people can trust (or mistrust) their own skills. They can trust the interface, the network across which their funds travel, the representatives of the institutions (channels) who control their money, and/or trust

the institutions themselves (Maurer, 2008). And, of course, they can differentially trust various people in their networks: some might be eligible as exchange partners using m-banking/m-payments systems while others might not. These forms of trust may change over time with use of the system. People might become more or less trusting along any of these dimensions as their experience of the system changes, relative to friends, family, and others in the community.

The role of trust is a crosscutting issue because multiple research traditions examine economic transactions in their social context—not as discrete acts but as markers and reinforcements of a set of interrelated responsibilities, roles, and transactional networks in which trust plays a central role.

Often these transactions are seen as either being structured by or creating a form of "social capital". These transactions need not be face-to-face; researchers have used social-capital/social-networks lenses to explore how the information technologies generate and reinforce social/economic relationships in ways that provide "returns" to actors (Huysman and Wulf, 2004). For example, Horst and Miller (2006) described the practice of "link up" in Jamaica, where mobiles are used quite strategically to build and maintain networks of resources for future assistance or loans.

Initial reports from an ongoing ethnographic project in Kenya elaborate these dimensions, distinguishing the complexities of trust in the local m-banking middleman from trust in the telco that runs it and from the government that (presumably for many users) controls the whole operation. However, there is room for more work that assesses which forms of trust support or are supported by m-banking/m-payments use, particularly among low-income users.

Unbanked and under-banked

According to Federal Bulleting (2012), unbanked people are defined as someone who does not have a bank account for savings, checking or money market account. An under banked customers is someone who has a savings, checking or money

market account but who also do not use one alternative financial service frequently, such as loan, payments and money transfer. By contrast, we refer to a consumer who has a bank account and does not use alternative financial services as fully banked.

Mobile Banking Technology

Currently, mobile banking is implemented through three different technology solutions such as browser based application, messaging application and client based application (Tiwari&Buse, 2007). The browser-based application is essentially a Wireless Access Protocol (WAP)-based internet access (Kim et al., 2009). This requires a compatible mobile phone which is WAP-enabled. The mobile phone is used to access banking portals through the Internet.

The communication between the bank and the customer is carried out via text messages on the messaging based application. For example, the customer sends a predefined command to the bank, and then uses text messages to conduct transactions with the bank, by using a registered mobile number. An example of messaging-based applications is the Unstructured Supplementary Service Data (USSD), which has compatibility with most mobile phones. Tiwari&Buse (2007) highlighted that existing mobile banking applications based on USSD includes Airtel Money, M-PESA, Zpesa and TigoPesa in Tanzania. Special software is installed in the mobile phone on client-based applications. An example of a client-based application is what is called the SIM Toolkit standard (STK).

2.2.2 Background of M-Banking Technology

In the recent years banks have developed innovative products and offered a wider range of services in an effort to increase customer satisfaction and efficiency, which is their main goal. Thus, banking services are being offered through electronic delivery channels.

M-banking which provides banking services via mobile phones and personal digital assistants is among the newest services to be offered (Mari,2003; Saleem and Rashid, 2011). More recent developments in Information and Communication Technology (ICT) have provided the opportunity for customers to access banking services

without necessarily visiting the bank branches. This technological development has intensified in recent years and has led to the reduction of financial institutions' costs (Mari, 2003; Saleem and Rashid, 2011). M-Banking is a subset of electronic banking (Porteous, 2006; Porteous and Neville, 2006). This system helps banks to increase speed, shorten processing periods, improve the flexibility of business transactions and reduce costs associated with having personnel serve customers physically "(Ayo, Adewoye and Oni, 2010). The use of mobile phones has facilitated the expansion of markets, social business, and public services in both developing and developed economies (Spence and Smith,2010). Lin (2011) argues that rapid advances in mobile technologies have made M-banking increasingly important in financial services.

The use of M-banking offers a way of lowering the cost of moving money from one place to another (Donner and Tellez 2008; Anyasi and Otubu 2009), at the same time bringing more users into contact with formal financial services (Anyasi and Otubu,2009). Porteous (2006) categorized M-banking into two groups; firstly, transformational M-banking, which is the provision of banking services using a mobile phone to reach the unbanked population. Secondly, additive M-banking, in which the mobile phone is simply an additional channel that is used to provide banking services to those already banked. Payments and account management products over mobile GSM phones as SMS service have been available in Finland since 1992. Majority of Finnish customers conduct their routine banking mainly via internet, thus, the number of bank branches have decreased significantly (Mari and Minna, 2004).

2.2.3 M-Banking Technology in Developed and Developing Countries

In both developed and developing countries, mobile phones have become the primary form of telecommunications (Bhavnani, Chiu, Janakiram and Silarszky, 2008). The Northern European countries are among the most advanced ones in the adoption of different new mobile technologies. In 2003, M-banking in Finland enabled services such as checking account balances, funds transfer, payment of bills, share dealing, portfolio management and purchase of insurance (Mari, 2003). As

Pankki et al.(2003) have argued, wide internet and mobile phone penetration makes it possible to offer banking services through electronic channels. The growth of M-banking is revolutionizing how customers gain access to financial services, especially in developing world where majority of the population lacked formal banking services Ngugi, Pelowski and Ogembo (2010).

Branchless banking has largely contributed to the development of financial access in developing countries (Ivatury and Mas, 2008). Thus, this system of banking has proved to be a very important innovation in developing world (Anyasi and Otubu, 2009).As Kimenyi and Ndung'u (2009) have argued, majority of households in developing countries lack access to financial services which impedes economic growth and development. M-pesa, a service provided by Safaricom Company in Kenya is the most celebrated success story of M-banking in developing world. M-pesa was introduced in March 2007 as mobile money transfer service, today; it's a success story of financial services development with a technological platform that makes it cost effective and cheap Indeed. M-banking has opened opportunities for many Kenyans and others in developing countries. The rapid growth of M-pesa Kenya is enough prove of the great need for low -cost financial services in developing countries.

The growth is expected to continue and contribute to economic growth in the country. In developing world, M-banking technology has the potential to be one of the great new innovations in telecommunications sector (Donner, 2007).

Benefits of M-Banking Technology

M-banking customers are driven by the convenience that is brought about by the technology in terms of deposits, withdrawals and making payments (Porteous,2007; Mas and Radcliffe, 2011; Masinge, 2010). Johnson, Brown, and Fouillet (2012) argue that M-banking offers a high level of reliability and convenience since agents are located even in small market centres and customers can undertake transactions from the comfort of their homes.

This system therefore offers a great potential for formal financial providers to reach low-income rural people. M-banking has the potential of reducing costs across the financial system. Findings from a survey conducted in 2008 showed that, on average the closest agent to respondents was reachable in less than 12 minutes and at a transport cost of approximately 15 shillings. By contrast Fin Access data showed that the nearest bank branch for around 60% of the population would be reached in more than30 minutes and the transport would cost more than 50 shillings. This highlights the significance of proximity to overall transaction costs (FSD Annual Report 2009; FSD Annual Report 2010). M-banking lowers the cost of delivery, which includes costs both to banks of building and maintaining a delivery channel and to customers of accessing services, for example, costs associated with travelling and queuing in the banks (Lymanet al., 2006; Porteous, 2006; Ivatury and Mas,2008; Anyasi and Otubu, 2009; Masand adcliffe, 2011; Ayo et al., 2010; CCK, 2012). M-banking facilitates faster and more efficient financial transfers, increasing the volume of trade and access to finance for a large segment of the unbanked in developing countries. M-banking customers can conduct transactions wherever they have cell coverage; they need to visit a retail agent only for transactions that involve depositing or withdrawing cash. In developing countries, M-banking may reduce the need for the rollout of higher cost financial infrastructure such as dedicated point of sale (POS) devices (Porteous and Neville, 2006).

2.2.4 Mobile Financial Services

The African Development Bank (AfDB) provide that mobile banking is a powerful way to deliver savings services to the billion people worldwide who have a cell phone but no bank account (AfDB, 2010). It has a number of advantages over traditional banking methods as it breaks down geographical constraints; it also offers other advantages such as immediacy, security and efficiency.

The terms Mobile Phone banking and mobile banking (M-Banking) are used interchangeably to denote the access to banking services and facilities offered by financial institutions such as account-based savings, payment transactions and other products by use of an electronic mobile device (Njega, 2008).

Porteous, (2006) pointed that since 2005, mobile financial applications have emerged in a variety of developing countries. The systems usually involve a set of applications that facilitate a variety of financial transactions via mobile phone, including transmitting airtime, paying bills and transferring money between individuals. There are also currently a few m-money systems in developing countries that allow international money transfers. Different institutional and business models provide these services; some are offered entirely by banks, others entirely by telecommunications providers and still others involve a partnership between a bank and a mobile phone service provider.

In Tanzania, most utility bills including water, electricity and television charges are paid through mobile phone applications. This innovation has removed completely the usual queues at the Tanzania Electric Supply Company Limited (Tanesco), Dar es Salaam Water Supply Company Ltd (Dawasco) and other utility organizations.

Porteous (2006) continued to highlight that most m-money systems allow the user to store value in an account accessible by the handset, convert cash in and out of the stored value account, and transfer value between users by using a set of text messages, menu commands, and personal identification numbers (PINs). A "pseudo account" can be established by purchasing "electronic money" (e-money) from an agent, usually a third party or someone who works for the mobile phone operator or bank. The user can then send e-money to another recipient with a phone, who then withdraws the e-money from their local transfer agent. Fees are generally charged for each transaction.

But Levine, (2005) sees many m-money systems in developing countries as not technically banking from either a financial or legal perspective: they do not provide interest on savings, facilitate access to credit from formal financial institutions, nor insure the value stored in the mobile account. However, recent development in mobile banking shows that some mobile phone companies in Tanzania have started

providing credits (for example TIMIZA of Airtel, Tigo is providing dividend monthly and Vodacom is providing loans on savings).

According to World Bank Report (2009), mobile money systems potentially create new class of currency as they grow in magnitude. The potential largest impact of these systems is on international money transfers. The World Bank estimates that it officially recorded remittance flows reached US$338 billion in 2008, with US$21 billion in transfers to sub-Saharan Africa. Mobile money transfer systems could change the magnitude of these remittances, duration and frequency, thereby affecting households' business opportunities, educational investments and income. The introduction of mobile money transfers in sub-Saharan African provides a unique opportunity to examine the impact of this service on remittance flows, migration patterns and welfare outcomes (Yang, 2008).

2.2.5 Mobile Financial Services in Tanzania

Bångens & Söderberg (2008) argued that the mobile phone has also showed to be a powerful technical platform for banking services, financial services that can be delivered to people in rural areas without bank offices and at a low cost. In sub-Saharan Africa, where the mobile penetration increased the most in 2007, only 1% of the population is connected to a formal bank.

The Economist (2008) reported that Tanzania is one of the pioneering countries in mobile banking and there have been services available for over a year. Right now there are three mobile network operators (MNOs) that are providing this service. The first one to launch was Zain with Zap , The initiative has since then stagnated but now they are beginning to recruit agents for the first time. The most popular service in the country is M-Pesa which was launched by Vodacom in April 2008. This is the second implementation of M-Pesa, the first one was in Kenya where it has achieved great success. The last one to launch was ZPesa by Zantel. Airtel is known for their good network coverage in rural regions and have succeeded in signing up a great number of agents in a short time.

The Economist continues to report that the three services are marketed differently depending on the regulatory setup and all of them have different agreements with banks. ZPesa and Zap are both promoted as something more than a way of sending money. ZPesa is described as banking on the mobile phone - a place where you safely can store your money. At the moment there is a variety of payment services that are being introduced, first is the ability to buy pre-paid electricity using Airtel money, which both M-Pesa and Zpesa are following to implement.

The Economist (2008) also reported that MPESA is also used as a form of savings account, even though it does not pay interest. Having even a small cushion of savings to fall back on allows people to deal with the unexpected, such as suddenly having to pay for medical treatment. .An awful lot of people climb out of poverty every year, but a lot drop back in because they have no savings, no bank account so when something bad happens they have to sell assets and lose a lot of ground.

2.2.6 M-banking and the Development of Small Business

As the popularity of mobile banking continues to grow, especially in developing countries, small business vendors and banks have realized the need to work with mobile phone companies. According to Wordpress (2009), Equity bank in Kenya has introduced M-Kesho, a form of mobile banking strategy which is a bank account introduced by both Equity and Safaricom (Provider of M-Pesa services) where customers can earn interest from as little as Ksh. 1, and can withdraw cash from their Equity Bank Account to their M-PESA accounts and can also deposit through their M-PESA accounts to their M-KESHO Bank account. In Tanzania, CRDB bank Plc is currently popularizing its Sim-Banking product, where customers can deposit and withdraw cash from their accounts in the bank to their mobile phone accounts and vice versa.

Mulingii (2013), argues that the banking industry in Kenya has experienced tremendous growth in terms of customer deposits, asset base and profitability. This indicates that customer deposits increased by 20.3% in the year 2011; the collective

total assets of the banking industry grew by 20.4% in the same year; average profit before tax increased by 16.1% whereas loans and other credit facilities advanced to customers increased by 31.5%. The statistics are an indication that the banking industry has deepened over the time, one of the reasons being “crossing the boundaries of traditional banking” and embracing new innovations as well as adopting new banking models.

2.2.7 Underlying Theories and Models

2.2.7.1 Models of Mobile Payments in m-Commerce

It is quite obvious that mobile payment is advantageous compared to other means of money transaction. Mobile payment are fast, easy, cost effective, time saver and provides same level security as using computers or even better compare to other methods. Switzerland, India and Tanzania are all exercising mobile payment and factual statistics shows rise in numbers. According to Jupiter Research, mobile payment transactions values for both digital and physical goods will exceed 300 billions USD in next five years with comprise of 50% of the total handsets available. This section describes in details typically four models that enable mobile payments.

2.2.7.2 SMS Based Payment

A very simple method of transaction payment in which a mobile user sends money or payment request through a simple SMS text message or sometimes short code. In Tanzania, four MNO have so far launched mobile money platforms and they include Vodacom (M-PESA), Airtel (Airtel Money), Tigo (TigoPesa) and Zantel (Z Pesa). For example; [PIN code] SEND [amount to send] [recipient phone number] to short code 150* 04# sends money to another user in which changes will be done to his mobile wallet. India has the same access channel to transact but lags behind Tanzania in term of popularity.

2.2.7.3 Direct Mobile Payment

Another mobile payment method that consumer is provided with mobile billing option after online purchase. In the checkout interface, the user provides authentication by PIN number followed by One-Time-Password. Is this way, the mobile phone account is charged for the purchase. This method is an alternative payment method with no requirements of online banking such as Post Finance or credit/debit cards, thus enable bypassing the above hindrances altogether. This type of mobile payment method is prevalent and popular in India. Switzerland also offers the same services for online payments for some vendors. The method is secure, convenient, easy and fast proven.

2.2.7.4 Benefits of mobile banking systems:

There are many benefits derived from using mobile banking. Mitha, A. (2011) names some of the imminent benefits of mobile banking as follows:

i. **Reduced costs of service delivery** make financial services more accessible to the poorest segments living in remote areas. The cost of transaction, seen from a customer standpoint, consists of two elements: the price charged by the provider and the cost to the customer of physically accessing the service. The use of ICT technologies combined with a granular agent network can positively impact both cost elements. In theory, mobile banking has the potential to advance access to finance by providing services at much lower cost. For instance, a costing exercise conducted in the Philippines has shown that the cost to the bank of a financial transaction carried out at a bank branch was approximately $2.50 while the cost of the same transaction, if undertaken from a mobile phone, would only be $0.50. That gives the provider an opportunity to pass on some of the savings to the customer and apply better pricing. However, experience so far shows that prices are not always dropping as significantly as cost saving potentials would let expect.

The ‘’hidden’’ costs that impact the actual opportunity cost to the customer in traditional branch banking (travel expenses to reach the branch, time spent queuing at

the branch) can also be lowered by bringing in proximity through the right mix of technology and agent services.

ii. **Support of income generating activities:** access to working capital in the form of remittances or micro-loans enable people living in rural areas to build assets for themselves. Advancing the access to domestic and international transfers can leverage their impact on health, business activities or education. In particular, enabling migrants to transfer money from economically active areas to disadvantaged areas balances economic disparities and potentially reduces social tensions. Studies conducted in Kenya have shown the positive impact of M-Pesa on village communities, which have started investing in better housing and common welfare goods such as water pumps etc.

iii. **Security of cash:** In environments where security is an issue and handling large amounts of cash is a major risk, a mobile-based electronic store of value (mobile wallet) could well become the safest way to carry money around. As an example, during the post-election riots in Kenya, thousands of Kenyans emptied their socks to deposit money into their M-Pesa accounts, considered a safer place than their homes to store their cash. Similarly, microfinance organizations in Afghanistan are leveraging the mobile channel to disburse loans and collect loan repayments, for reasons of increased convenience and security.

iv. **There are other benefits,** directly linked to the range of services that can be enabled via the mobile channel. Early experiments have only begun to unfold the possibilities of mobile enabled branchless banking and theoretical analysis shows promising potential. In contrast to these obvious and already well-known benefits, there is less knowledge on the transformational impact of branchless banking. There are still many open questions: how truly transformational is branchless banking in practice and what are the main achievements so far? What are the early successes, if any, and what challenges remain to be addressed? What role can international development organizations play to support this nascent industry? What stance should regulators take in order to control for unwarranted flows of capital. Indeed, the

industry has just begun to organize itself to tackle the challenge of financial inclusion. It is in this context that German Development Cooperation aims at reviewing existing branchless banking experiences, assessing their transformative impact, extracting insightful lessons, identifying challenges and outlining opportunities for actions going forward.

2.2.7.5 Factors affecting use of mobile financial services

Irrespective of the many benefits of mobile financial services, however, there are also many challenges that hinder the rapid diffusion of the services, especially in developing countries. Bångens and Söderberg (2008) argue that m-banking is diffusing rapidly in sub-Saharan Africa but the pace is dictated by a multitude of factors; general and country specific. They say, diffusion process resembles a learning curve which takes place at company and organizational level but also at a system level. To develop and adapt technologies that mobile banking utilizes takes time, which is not surprising considering the lack of standards in M-banking. The introduction of M-banking draws upon the successful marriage of two fundamentally different technological platforms, banking and mobile telephony. However, the daunting task of overcoming technological challenges will not constitute the major barrier in the future for fast diffusion in sub-Saharan Africa.

Further Bångens and Söderberg (2008) insist, rather the organizing of markets and interaction between market forces and regulatory framework will comprise the key task in virgin markets. The focus is on three related issues; what type of actor should take the lead? How to create a market that efficiently address and troubleshoot blocking mechanisms? Lastly, the demand-supply enigma. The first issue might be phrased as who is best equipped to launch M-banking ventures? Small innovative firms like WIZZIT or large MNCs (Multinational Corporations) such as Vodacom (Safaricom17)?

Mainstreaming, replicating, using standard solutions, and economies of scale all speak in favour of large-scale organizations that easily can copy-cat models and adapt them to a new national context. M-Pesa's launch in Tanzania is such an

example. The WIZZIT approach has its advantages when functioning markets are more than commercial actors, and relies on a system of users, suppliers, research institutions, financial institutes, regulatory authorities, etc. Efficient communication and interaction is required across organizations to sort out question-marks as M-banking treads in unknown territory. Technology is probably the most well-known factor in the equation whereas the management of financial transactions on mobile networks is a new activity for the majority of stakeholders. The success rate will ultimately draw on the mutually interdependent matching of supply and demand curves. Services offered must address "real" needs as perceived by the target group. These needs must be fairly straightforward converted into a demand for market growth. But the needs will not remain constant over time as the unbanked are just about to discover how M-banking can solve their "banking" problems. Therefore Mbanking operators must be flexible in launching offers to suit the financial behaviour of poor people. Bångens and Söderberg (2008) compare the case of Philippines, as demonstrating the need to introduce new features step-by-step as the market grows.

Sharma, A and Kansal, V (2012) the challenges of using mobile financial services stem from three factors; access problems, dissatisfaction and lack of knowledge. They argue that access is the most important factor. Accessing Problem statements such as `Possibility of error is higher than Internet Banking, Using key code list with mobile phone is complicated and Mobile phone is an unpractical device for banking emerges with good positive correlations. The great influence on the adopters not to have mobile banking services. On dissatisfaction the authors argue; 'dissatisfaction' is the second significant factor, which accounts of the variations. The statements `Data transmission is very slow , Mobile banking services are risky and not secure, Mobile banking services are not enough versatile and Its use has been a disappointment by others signify that the non-adopters have seen the dissatisfaction among the users of mobile banking services.

For the third factor; Inability to Provide Knowledge, this is another crucial factor, which is reflection of variations. The statements of insufficient guidance is there for

using mobile banking and its use is complicated which reflects that consumer behavior tends to be based on how a given problem is to be solved. In this research, the non-adopters of mobile banking are afraid of being the usage of new technology due to the complications in the systems and, moreover, no proper guidance is provided to them.

2.3 Empirical Literature Review

Donner, Jonathan and Tellez, Camilo. (2008) studied the economic impact m-banking in small enterprises in urban India. The study found that the services offered a way to lower the costs of moving money from place to place and that offering a way to bring more users into contact with formal financial systems, m-banking/m-payments systems may prove to be an important innovation for the developing world. But the authors argue that the true measure of that importance will require multiple studies using multiple methodologies and multiple theoretical perspectives before the questions about adoption and impact are fully answered.

Linah (2013) conducted a study on mobile money transfer, its impact and usage in Kenya. The study was conducted through questionnaires with 12 questions to potential respondents. The results of the study show that 89% of the respondents preferred using the mobile money transfer service while the other 11% preferred using formal banks to carry out their financial activities. They all gave their reasons for their preferences which give insight on the positive and negative sides of mobile money transfers.

Another study was conducted by Masinge (2010) on factors influencing the adoption of mobile banking by the Bottom of the Pyramid (BOP) in South Africa. The study focused on analyzing security/privacy risk, trust, time risk, perceived risk and cost, performance risk, social risk and financial risk. Data was collected through content analysis. The study found that customers in the BOP will consider adopting mobile banking due to its perceived easy to use and useful. Although, affordability and cost were regarded as the most critical factor for the customer, significantly, trust was

found to be negatively correlated to perceived risk. Therefore, risk mitigation and in enhancing customer loyalty trust plays a role.

Kirui, Okello and Nyikal (2012) examined the impact of mobile phone based money transfer (MMT) services on smallholder agriculture in Kenya. The study aimed at providing information regarding financial intermediation to the excluded through the use of new generation Information Communication Technology (ICT) tools especially the mobile phone. The study used cross-sectional data collected from Western and Nyanza provinces 379 multi-stage households randomly selected in Kenya. The study found that the use of MMT services significantly increased level of household agricultural commercialization by 37%, annual household input use by $42 and household annual income by $224. They conclude that MMT services in rural areas help to resolve an idiosyncratic market failure that farmer's face while accessing to financial services.

2.4 The gap in the literature

The empirical literature cited in this study has attempted to present excerpts on the impact of mobile financial services. Unfortunately, all studies cited in this paper were conducted elsewhere, out of Tanzania, where the geographical, demographic and even social settings may be different from those in Tanzania. For that, it is still imperative to conduct another similar study in Tanzanian environment and in particular for foodstuff vendors.

2.5 Conceptual Framework

The conceptual framework for this research has been developed from theoretical review of literature which has led to come out with the theoretical framework in figure 2.1. It depicts the relationships between the independent and dependent variables.

2.5.1 The independent variables:

There are six independent variables in this study; Mobuse (number of mobile phone economic transactions (calls, messages, money transfers) made solely for business

purposes), avail (availability of m-banking benefits), netquality (network quality), coverage (accessibility of network), lowprotect (availability of laws protecting m-banking users) and risks (m-banking user trust) explained as follows:

Number of mobile phone economic transactions

This implies calls, messages and money transfers made solely for business purposes, for example sending automatic sms messages for repayment reminders and allowing customers to check balances using their mobile phones.

Availability of m-banking benefits

The benefits of m-banking include the availability of money control of m-banking users and performing several financial functions conveniently and securely from their mobile.

Network quality

Network quality is very important to the end users; improving network quality could attract and retain m-banking users.

Accessibility of network

An access network is mobile network which connects m-banking users to their immediate service providers. Access could either be in successful access or in access failure.

Availability of laws protecting m-banking users

Law protecting m-banking increases trustworthy to users through fund safeguarding. Declaration of law establishes the relationship between m-banking users and service providers.

M-banking user trust

The role of trust is a crosscutting issue (Donner and Tellez, 2006). M-banking users need to be aware of and protect themselves from potential risks to their m-banking financial transactions.

2.5.2 The dependent variable:

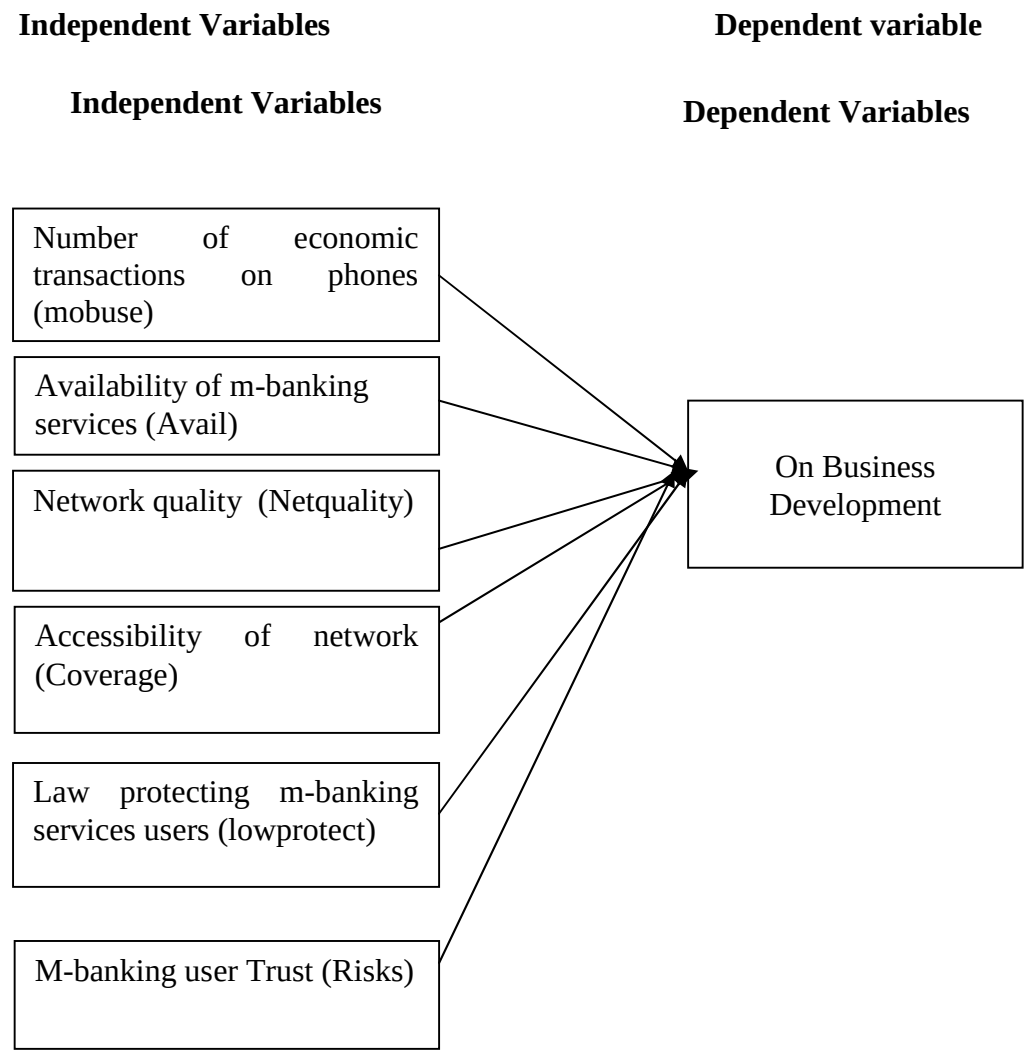
Dependent variable is on business development.

This study argued that independent variables affected dependent variable towards on small business development as depicted in chapter four. All data were tested qualitatively, depending on the views of respondents only.

Variable relationships: In order for m-banking services to have impact on business development, the number of mobile phone transactions on economic purposes must be large, there must be awareness of m-banking users on the benefits of m-banking on business development, the networks must be of high quality and available all time. Also there should be clear laws safeguarding transactions on financial mobile phones and m-banking users themselves must be trustful. It was assumed, if the independent variables proved to be positive, and then the dependent variable that is on business development would have a positive impact too.

Measurements of variables: The independent variables were measured qualitatively whereby respondents were required to rate the variables on a scale of 20, 15, 10, 5 and 0. If the respondents 'strongly agreed', they rated the variable as 20. If they 'agreed', they rated it as 15. If they were 'indifferent' they rated it as 10. If they 'disagreed' they rated it as 5 and if they 'strongly disagreed' they rated it as 0. The mean scored from all respondents was computed for each variable against the expected score of maximum 20. Using a chi-square the calculated figure was obtained against the table figure at the respective degree of confidence.

Figure 2.1 Conceptual Framework for the study.



Source: Own Developed Model, 2015

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This Chapter focuses on the research methodology which was used in the collection and processing of data. The chapter explains the design, approach, area of the study, the population concerned, and types of data and methods of data collection. It sets out also what information was required, how respondents (sample size) were selected and eventually how data collected were analyzed.

3.2 Research Design

The study design of this research is a mixture of quantitative and qualitative. A quantitative research seeks to collect facts about a phenomenon (figure, counts) without including people's opinions. These facts are then analyzed quantitatively to reach at the conclusion of the study. On the other hand, a qualitative seeks to understand a phenomenon from the opinions and perspectives of the respondents. Kariakoo Market was selected as a case study to undertake this study.

3.3 Research Approach

The approach of this study is pragmatism, which stands on the continuum between constructivism and positivism. It therefore draws on the two designs of quantitative and qualitative approaches. Research paradigms address the philosophical dimensions of social sciences. A research paradigm is a set of fundamental assumptions and beliefs as to how the world is perceived which then serves as a thinking framework that guides the behaviour of the researcher (Wahyuni, 2012). The four popular paradigms that shape the thinking of researchers are positivism, postpostivism, constructivism and pragmatism. Tashakkori and Teddlie (1998) argue that while pragmatism refuses to join the 'paradigm war' between the positivist and interpretivist research philosophies, and instead of questioning ontology and epistemology as the first step, pragmatist supporters start off with the research question to determine their research framework. This study takes the stand of pragmatist in reaching the object of the study.

3.4 Area of the Study

The study was conducted at Kariakoo Market in Dar es Salaam city and involved foodstuff vendors. On the other hand, laws protecting m-banking financial service users were examined from the Tanzania Communications Regulatory Authority (TCRA).

3.5 The target population and sample size

According to Kariakoo Market Corporation, there were 120 foodstuff vendors at Kariakoo Market. Using Cochran's (1977) formula (Barlett, Kotrlik and Higgins, 2001) for categorical data at precision level of 95%, the population of 120 returns the sample size of 91 plus one respondent from TCRA to make the total sample size of 92.

3.6 Data Collection Methods

During the study, both primary and secondary data collection methods were used. Primary data constitute the current usage of m-banking services for economic transactions and the related barriers to the use of m-banking services for economic activities. Secondary data constituted the MNO related problems and the laws protecting m-banking usage. Data were collected from the population by using questionnaires and interview.

3.6.1 Questionnaires

A written questionnaire (also referred to as self -administered questionnaire) is a data collection tool in which written questions are presented that are to be answered by the respondents in written form (Chaleunvong, 2009). A written questionnaire can be administered in different ways, such as by sending questionnaires by mail with clear instructions on how to answer the questions and asking for mailed responses or gathering all or part of the respondents in one place at one time, giving oral or written instructions, and letting the respondents fill out the questionnaires; or hand delivering questionnaires to respondents and collecting them latter. The questionnaires were designed based on the research questions and self-administered

to the various respondents. Questions were designed in form of closed ended questions to ensure consistency of respondent feedback. Some questions were left open ended, to obtain numerical data or to solicit some written comments and ascertain expect opinion on some issues. The questionnaires were first pretested to a 10 respondents and found to be valid. Respondents were given structured questions to answer on their own and bring back to the researcher. Other questionnaires were sent to the TCRA management for collection of records regarding the growth of mobile phone financial service users.

3.6.2 Interview

Interview was conducted to both TCRA and food stuff vendor respondents. Interview was conducted to both food vendors and TCRA spokesperson as a way to make clarifications to ambiguous responses in the questionnaires.

3.7 Ethical implications

The researcher has moral obligation to strictly consider the rights of the participants who were expected to provide this knowledge (Streubert and Carpenter 2003, p. 314). The researcher considered very important to establish trust with the participants and to respect them as autonomous beings, thus enabling them to make sound decisions (Bush and Grove 2003, p.65). Ethical measures are as important in mixed methods research as in quantitative and qualitative research and they include ethical conduct towards participant's information as well as honest reporting of the results. The ethical measures in this study included; consent, confidentiality, anonymity, privacy, dissemination of results, by ensuring the respondents that, the information provided are going to be used in research purpose only, and the respondents had the right to withdraw from the study partially or completely.

3.8 Data measurement and analysis

Data was analyzed using Chi-Squire statistical model and STATA II with support of Microsoft Excel. The chi-square (I) test is used to determine whether there is a significant difference between the expected frequencies and the observed frequencies in one or more categories. In this case, the performance rates of inventories to be

tested were determined against an expected level, and whether the actual and expected figures differed significantly. The Table 3.1 was used for testing the following inventories in Data Analysis. Stata was used to calculate the mean scores ie observed outcomes, (refer Table 4.4 in chapter four).

The analyzed data was presented in form of tables.

Table 3.1: Performance Inventories

Inventory type (to be tested against answers from respondents	Weight (maximum score used in Stata)	Outcomes (Chi-square results in chapter 4); 20=strongly agree, 15=agree, 10= not sure, 5 = don't agree, 0=stromgly don't agree
Level of M-banking services usage for economic activities (Mobuse)	20	
Quality of MNO Customer Care (Netquality)	20	
Availability of M-banking services (Avail)	20	
Area covered by MNO (coverage)	20	
Adequacy of Laws protecting M-banking customers (lawprotect)	20	
Risks of money loss (Trust)	20	
TOTAL	120	

3.8.1 Chi-Square

The chi-square test is always testing what scientists call the null hypothesis (Ho) which states that there is no significant difference between the expected and the observed result. Using two hypotheses, the study has tested between the significance of expected and observed factors. In this study we have tested the level of m-banking

usage for economic activities, Quality of MNO customer care, availability of m-banking services, coverage, availability of laws protecting m-banking customers and perceived risks of money loss.

Table 3.1 provide the detailed inventories which were tested to find the 'observed' against the benchmarks of 'expected' outcomes. The formula for calculating the chi-square is the sum of the squared difference between the observed (o) and expected (e) data, divided by the expected data in all possible categories. The chi-squared value (c2) is calculated using the following equation:

$$\sum \frac{(\text{observed} - \text{expected})^2}{\text{expected}}$$

So to obtain some number known as the chi-square statistic, in order to determine how good our data fits to our expected results - we first need to determine the degrees of freedom (df). Degrees of freedom (df), refers to the number of phenotypic classes minus 1. Then, we determine a relative standard to serve as the basis for rejecting the hypothesis. We have therefore used the inventories in table 3.1 (Test Inventories) to calculate the level of Chi-Square from the weights given.

3.9 Data Reliability and Validity

3.9.1 Validity

Joppe (2000) provides that validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are. In other words, does the research instrument allow you to hit "the bull's eye" of your research object? By using Kariakoo Foodstuff vendors, who represent small business operators, and who were always engaged in transactions with people from far apart (farmers from upcountry regions), it was expected that the vendors would use m-banking services to make payments for their supplies and marketing activities. And data collected from the foodstuff vendors in Dar es Salaam City would have a replicability effect since the respondents were a representative sample of all small business operators in the whole of Tanzania.

3.9.2 Reliability

Joppe (2000) defines reliability as the extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable. First the questionnaires used on data collection were pre-tested to ensure that respondents understood the questions as the author expected. Reliability ensures consistence of research instruments such as questionnaires. In order to ascertain reliability of the study, a pilot study was also conducted. This was used to identify questions that might be unclear or ambiguous to the respondents and to ascertain that respondents understood the questions as intended by the author

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF FINDINGS

4.1 Introduction

This chapter presents the data as captured from the field, about the "Economic Impact of m-banking on small business development in Tanzania", a case study of Kariakoo Foodstuff Vendors. The study sought to answer the following research questions; to what extent Kariakoo food stuff vendors use m-banking in their business transactions, and if so, what benefits can be attributed to such uses, and what are the main factors within m-banking contributing to these benefits?. If they are not using this innovation, then what are the hindering barriers and how can they be eliminated to make the vendors use it and benefit from it? The study used a sample of 92 respondents, 91 being food vendors at the Kariakoo market in Dar es salaam and another one spokesperson of the Tanzania Communication Regulatory Authority. During collection back of questionnaires, only 88 vendors and one TCRA returned their questionnaires dully filled.

4.2 Characteristics of respondents

The characteristics referred to are; gender, age and education of respondents.

Table 4.1: Gender distribution of respondents

Sex	Freq.	Percent
Male	69	77.53
Female	20	22.47
Total	**89**	**100**

Source: Field research, 2015

Table 4.2: Distribution by age ranges

Age	Freq.	Percent
18-25	21	23.60
26-35	23	25.84
36-45	20	22.47
45+	25	28.09
Total	**89**	**100.00**

Source: Researcher, analysis, 2015

Table 4.3: Distribution by education level

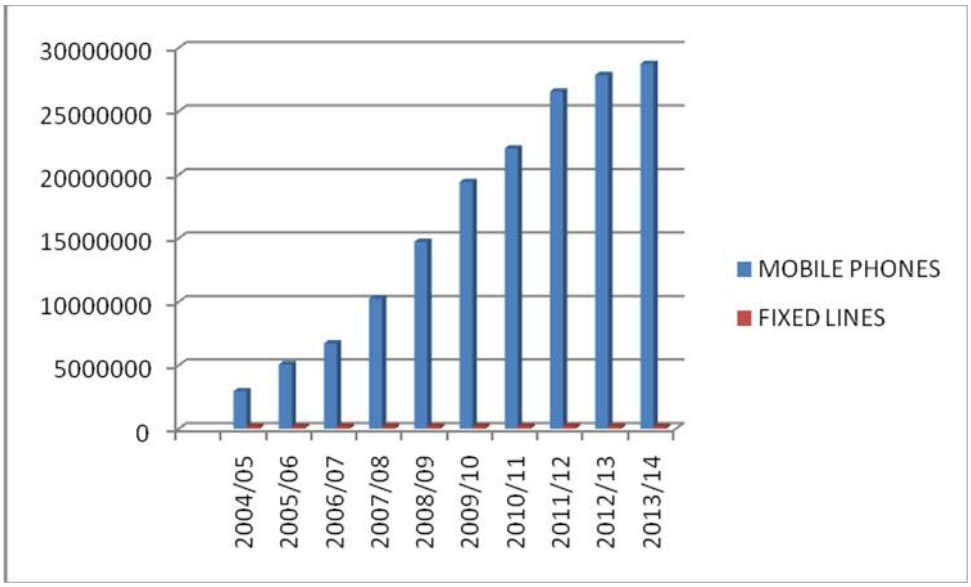
Education level	Freq.	Percent
Primary	37	41.57
Secondary	32	35.96
College	15	16.85
University	5	5.62
Total	**89**	**100.00**

Source: Researcher, 2015

4.3 To determine the extent to which m-banking services are used by Kariakoo foodstuff vendors for economic activities

The number of mobile phone users has continued to grow tremendously over the last 10 years from around 3 million mobile phones in 2004 to 29 million in 2014 a growth of over 800% for a period of 10 years. This study was of interest to find out to what extent this growth was benefiting the users of mobile phones on economic uses.

Figure 4.1: Growth of mobile phones from 2004 to 2014



Source: TCRA, 201

Number of mobile phones financial transactions

Even with the fast growth of mobile phone usage in the country during 2004 to 2014 as provided by TCRA, however, TCRA said didn't have the data as to how many financial transactions were monitored on yearly basis. The reason provided was that TCRA was not regulating finance by then, but gave room for effecting of that monitoring in future.

The study was interested to know how food vendors at Kariakoo market were confident with the use of mobile services for business transactions. It was assumed that this confidence was a function of; actual mobile usage for financial transactions (mobuse), network quality (net quality) availability of m-banking services (avail), coverage of networks (coverage), availability of laws protecting mobile transactions (law protect) and adequate management of risks (risks).

The following table shows the responses of Kariakoo Foodstuff Vendors as to their opinions on the above variables:

Table 4.4: mobile phone usage confidence scores on financial transactions

Variable	Obs	Mean	Std. Dev.	Min	Max
mobuse	88	8.125	5.838462	0	20
netquality	88	12.04545	4.832622	5	20
avail	88	11.59091	3.678569	10	20
coverage	88	12.5	4.354942	10	20
lawprotect	88	4.829545	2.78015	0	10
risks	88	3.75	4.029346	0	10

Source: Researcher, 2015

Table 4.5: Chi-square computations

Test Factor	Expected (E)	Observed (O)	(O-E)	$(O-E)^2$	$(O-E)^2/E$
Mobuse	20	8.125	-11.875	141.015625	7.05078125
Netquality	20	12.04545	-7.95455	63.2748657	3.163743285
Avail	20	11.59091	-8.40909	70.71279463	3.535639731
Coverage	20	12.5	-7.5	56.25	2.8125
Lawprotect	20	4.829545	-15.170455	230.1427049	11.50713525
Trust	20	3.75	-16.25	264.0625	13.203125
					41.27292451

Source: Researcher, 2015

From the table computed, Chi-Square (X^2) = 41.27. The df for the chi-square = (rows x columns) – 1 = 5

At confidence level of 95 and 5 df the table value for Chi Square is 11.070 which is less than the calculated value of 41.27. The calculated chi-square value for the set of data analyzed (41.27) is greater than the table value (11.070) and therefore there is a strong reason to conclude that the results are not by chance but real, that use of mobile financial services for economic transactions is still unacceptable due to the different factors as mentioned above; that mobile phones use on business transactions, quality of network, availability of network, coverage of network, availability of law protecting MFS users and trust among users are still low, so making the scores lower than the expected results. Compared these results with the standard Chi-square expected results; they differ significantly, which is not by chance.

4.4 To examine the economic benefits of m-banking among food vendors at Kariakoo

The study was interested to examine, what economic benefits the food vendors of Kariakoo got from using m-banking. The study considered four factors which are; 1. easy access to withdrawals, easy service payments, low cost account servicing and low risk of funds. Table 4.6 depicts the results:

Table 4.6: Economic benefits which Vendors at Kariakoo were getting from M-banking

Ecobenefits	Freq.	Percent	Cum.
Low risk of funds	20	22.73	22.73
easy access to withdrwals	45	51.14	73.86
easy service payments	11	12.50	86.36
low cost account servicing	12	13.64	100.00
Total	88	100.00	

Source: Field Research, 2015

From table, 4.6 it shows that Kariakoo foodstuff vendors considered easy access to withdrawal of funds from their m-banking accounts as the first economic benefit (51.1%) followed by low risk of funds (22.73%) then low cost of account servicing (13.64%) and easy service of payments was the last being supported by 12.50% respondents.

4.5 Challenges hindering the use of m-banking services on economic activities by Kariakoo foodstuff vendors

The study inquired about available challenges which made Kariakoo Vendors not to use m-banking services on economic activities. First the study asked the vendors whether they knew that m-banking was potential for the revamping of their business through quick transaction.

Table 4.7: Knowledge of Kariakoo Vendors

Knowledge	Freq.	Percent	Cum.
no	16	18.18	18.18
yes	72	81.82	100.00
Total	88	100.00	

Source: Field Research, 2015

Table 4.7 depicts 81.82% of the respondents as understood the potential of m-banking on business transactions such as m-payments to their business partners who were far away in the upcountry who used to supply them the foodstuffs. However, they mentioned that this was hampered by mistrust among the business partners, difficulty of money recovery in case of loss and network problems.

Table 4.8: Challenges against use of m-banking services on business

Challenge	Freq.	Percent	Cum.
Trust	47	53.41	53.41
moneyrecovrry	22	25.00	78.41
netprobl	15	17.05	95.45
notsure	4	4.55	100.00
Total	88	100.00	

Source: Field Research

Table 4.8 tests the challenges against the use of mobile financial services by Kariakoo foodstuff vendors. The factors tested are; trust among the people, easiness of money recovery in case of loss, network problem. The frequencies reflect each factor and the respondents who mentioned it. The last row; not sure, is for those who said didn't know any of the other factors.

TCRA Responses

The study was interested to understand whether there were laws specifically protecting usage of mobile phones for monetary transactions. TCRA did not respond to this question. Further investigation showed that there were no well-articulated laws governing use and transfer of money on mobile phones in the country.

4.6 The intervention measures required to revamp the use of m-banking services for economic activities by foodstuff vendors at Kariakoo Market.

From the above findings, the study concluded that there were a number of challenges facing the use of m-banking services on business transactions. These were;

- Regulatory based
- Network Operator based
- And Network User-based.

Regulator based challenges

Tanzania Communications Regulatory Authority (TCRA) was the sole regulator of communications in Tanzania, including mobile phone communication. Our study tried to find out from TCRA what laws governed the use of mobile money transactions after understanding that fear of loss of money through mistrust, network malfunction, theft by network operators was a potential challenge that made more people fear to send huge amount of money through phones. However TCRA was not on the position to give the exact laws so this problem remained in suspense and a cause of fear.

Network Operator based challenges

These challenges include; network problem, coverage problem, slow or sometimes absent mechanisms for recovery of lost money and thefts by some staffs in the networks problems. Until these problems can be eliminated, use of m-banking services for economic reasons, especially when large amount of cash is involved will remain to be a challenge.

Network users' challenges

These were identified as the transacting people and it was more of mistrust nature. The study found that some vendors have had lost their cash when they tried to pay their business partners but who eventually declined that they did not receive the money. Or the other way round, the senders of cash could pretend to have sent the money while it was not true. Therefore a mechanism was needed to cross-check and ensures that the sender and the receiver would be assured that they real exchanged the cash.

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

5.1 Introduction

This chapter presents the discussion of the findings in chapter four. Basing on the calculated results of the chi-square, a statistical tool used to compare assumed weight of a variable (expected) against actual weight (derived from perception of respondents) it has been seen that the two weights are very different, whereas the computed chi-square is 41.27 the tabulated figure at 95 confidence level and 5 df is 11.070. This suggests that there is a statically difference between the weights which cannot be by chance.

5.2 Discussion of the findings

Generally it can be seen that food vendors at Kariakoo Market have had not benefited much from the innovation of mobile phones m-banking. As seen only 12.50% of respondents used m-banking on business transactions (payments). The African Development Bank (AfDB) provide that mobile banking is a powerful way to deliver savings services to the billion people worldwide who have a cell phone but no bank account (AfDB, 2010). It has a number of advantages over traditional banking methods as it breaks down geographical constraints; it also offers other advantages such as immediacy, security and efficiency.

Basing on the argument of the African Development Bank, Kariakoo Foodstuff Vendors, though have not started using m-baking on effecting their business transactions, yet they were benefiting from high security of their money, easy access to withdrawals and low cost of serving their accounts. It thus remains to be the challenge of Network operators and the Regulatory Organs to see that those factors which hinder mobile phone users from using their m-banking accounts on business transactions are worked upon and removed. For example, risk of money transactions remains a challenge because when such money gets lost for whatever reasons, recovery of the same is slow and sometimes difficult. Network availability is also a problem as some places remain to be slimly accessible and so sending or receiving money through phones is difficulty. Thanks to the fact that mobile phone users are

now registered, but no clear laws governing transactions on phones are open and known by the people. This is a cause of worries.

It was found that Foodstuff Vendors at Kariakoo were well aware that they could revamp their businesses through m-banking as it was possible to make orders of their foodstuffs from the upcountry regions like Iringa, Mbeya, Katavi and Shinyanga where most supplies came from, and at the same time make payments to the farmers upon receipt of the supplies. However, the vendors blamed mistrust among farmers, who sometimes declined receiving the cash. Difficulty of money recovery when a problem happens during the transaction was another problem.

This was said to be from poor customer care among the network operators. A vendor complained that he made transaction to a wrong person and when he realized, he informed his network operators, and they assured him that his money was safe and it would be recovered in 72 hours. “I was happy to hear that, but to my disappointment of these people, after the 72 hours, when I reminded them, they said the money was already cashed out”, he complained. To this effect, it wasn’t clear who would be responsible when such irresponsibility on part of the network operators occurred. This scared the vendors to make huge transaction which they said ranged up to 20 million.

In some remote areas of Tanzania, network was still experiencing problems, so the vendors found it difficult to take the risk of sending money while they were not sure the network would support such transfers. This was again a challenge to be dealt with by the network operators before Kariakoo Foodstuff Vendors could benefit from the m-banking innovation. TCRA said were not regulating financial transfers.

Similarity of the findings and literature

The results of this study, that Kariakoo Foodstuff vendors were not using their mobile phones for economic transactions, thus impacting their business development through the m-banking innovation rightly is consistent with another research conducted India and reported by Donner, et al. (2008) in the Asian Journal of

Communication. The study ought to understand the relationship of mobile banking and economic development - linking adoption, impact, and use. It was found that much of the uses of handsets were focused on voice and texting. The study concluded that the existing theory about the significance of mobile communications in the developing world has focused on voice and text messaging (Donner, 2008). While the focus was appropriate, but called for mobile theory to keep pace, accounting for m-banking/m-payments systems along with other capabilities. While the bases for these findings were not clearly provided, the authors suggested another studies to find out the factors behind the results.

But a similar study conducted in Kenya by Mbiti and Weil (2011) on the impact of M-Pesa in Kenya found that increased use of M-Pesa lowered the propensity of people to use informal savings mechanisms such as ROSCAS, but raised the probability of their being banked. Further the study found that M-Pesa promoted individual banking and transfers.

CHAPTER SIX
SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

In this chapter, the study presents the summary, conclusion and recommendations for further studies about the Economic Impact of m-banking on Small Business Development in Tanzania, a case study of Foodstuff Vendors of Kariakoo Market in Dar es Salaam.

6.2 Summary of the findings

In the context of country wide uses of mobile phones, the study has established a landslide increase of mobile phones usage in Tanzania over the past ten (2004 – 2014) whereby lines increased from 3 million to 29 million a growth of over 800%. However, as far as Food stuff vendors of Kariakoo were concerned, usage of mobile phones on economic activities was not found to go in line with the increase of mobile phone lines. At confidence level of 95 and 5 df it was found that calculated value of the chi-square was 41.27 greater than the table value 11.070 showing that the results were not by chance but real, that use of mobile financial services for economic transactions was still unacceptable due to the different factors; those of users themselves, network operators and the regulator (TCRA) factors.

However it was found that the vendors understood the benefits of m-banking and mentioned things like easy access to withdrawals, easy service payments, low cost account servicing and low risk of funds. But even with this knowledge, few were already using m-banking for economic activities. This means that food vendors at Kariakoo Market have had not benefited much from the innovation of mobile phones m-banking. The benefits are many including breaking down geographical constraints; offering other advantages such as immediacy, security and efficiency. Kariakoo Foodstuff Vendors though have not started using m-baking on effecting their business transactions, yet they were benefiting from high security of their money, easy access to withdrawals and low cost of serving their accounts. It thus remains to be the challenge of Network operators and the Regulatory organs to see

that those factors which hinder mobile phone users from using their m-banking accounts on business transactions are worked upon and removed. For example, risk of money transactions remains a challenge because when such money gets lost for whatever reasons, recovery of the same was said to be slow and sometimes difficult. Network availability was also a problem as some places remained to be slimly accessible and so sending or receiving money through phones was difficulty. Sometimes Network Operator Agents are not in position of cashing in money from customers due to insufficient e-float or cash out money to customers due to insufficient cash.

It was found that Foodstuff Vendors at Kariakoo were well aware that they could revamp their businesses through m-banking as it was possible to make orders of their foodstuffs from the upcountry regions at the same time make payments to the farmers easily. But the vendors blamed mistrust among farmers, who sometimes declined receiving the cash. Difficulty of money recovery when a problem happened during the transactions was another weakness. Network was still experiencing problems, so the vendors found it difficult to take the risk of sending money while they were not sure the network would support such transfers.

The Tanzania Communications Regulatory Authority (TCRA) had not worked on some aspects causing m-banking use on economic transactions like coming up with well-articulated laws to govern financial transactions. Network reliability was still a big concern including its coverage. But trust within the community must be built also if m-banking was to be widely used on economic transactions.

6.3 Conclusion

The study has established that the Economic Impact of m-banking on Small Business Development in Tanzania was still insignificant, because of pertinent factors from the Network Operators, the Regulator of communications in Tanzania (TCRA) and the community itself especially when trust is considered. The study has found that unreliability of network and its coverage created a basis for worries especially when one considered sending much money to a remote business partner. The worries were

made greater in times when an error occurred and a need to return the money was sought. This was found to be complicated more by the network operators (Airtel, Vodacacom, Tigo, Zantel). The vendors complained that returning the money sometimes took too long even never at all in some cases.

The regulator was requested to strengthen the laws of money transactions especially on business activities. Currently, during the study, it was found that either there was no law or it was weak enough to allow for injustice of one or more of transacting partners. And this was a basis for mistrust of people to use m-banking on large sums of money.

6.4 Recommendations

Use of Mobile Financial Services (MFS) in Tanzania has aggressively grown over the past few years. It is has been shown that subscribers of MFS are now approaching to thirty million across the country. This is evidence that MFS has become part and parcel of peoples' life. However, increased usage of the services might not be of significant impact into the peoples' life if the services do not impact their economic life. This study has found that only 8.125 (9.2%) of Kariakoo Food Vendors used their mobile phones for business transactions which is very low. The study would therefore, like to make recommendations so that more people can be economically impacted for general social development.

6.4.1 Enactment of law protecting MFS users

One of the concerns raised by the respondents in this study as constraining use of MFS services on business transactions was fear of loss of money. Indeed during the study, we found a multitude of complaints from victims of money losses through MFS. But at the same time, neither the MNOs nor the government has made commitments to take responsibility on effect of losses of money. For example, what is the law tasking a company (MNO) when it happens that a person sends money but the same money doesn't reach the intended recipient and also it doesn't go back to the sender? And what is the platform that would ensure that a person who receives money for business purposes is bound to deliver the goods or services as agreed?.

How about if he or she denies receiving the money, is the platform for locating and eventually capturing the culprit easy and friendly? For this the author of this study recommends that a law be specifically enacted to safeguard business transactions on mobile phones so that more of people can have the confidence to trade through MFS services.

6.4.2 Network operators should ensure network reliability

It was found that Kariakoo food stuff vendors wre afraid of using m-banking services on economic transactions partly because network operators were not punctual enough inn cases of money loss. It is recommended that strong measures ensure network reliability all time and when losses occur due to negligence on their part then strong measures must be taken by the regulator. This will bring confidence to Kariakoo food vendors and the society in general to use MFS in business transactions.

6.4.3 More education is required to increase uses of MFS on business transactions

The potential for economic impacts through use of MFS is great as more people are connected. However such mobile phones, especially as they are used by youths are not used for productive activities. And in fact, we have observed that more time is used on phones for no good uses. This removes the essence of mobile phones which are meant to make people connected, break the geographical boundaries but at the same time increase the economic benefits to the beholders. The author of this study recommends that more education is to be provided on the potential of MFS. These include; such for markets from as far as across the regions or even outside the country. Payments of goods and services can be well eased when mobile phones are used. Only we recommend that while this education is provided other weaknesses making the fear for transacting on phones be dealt with.

6.5 Area for further research

It was noted during the study that more people (especially the youths) were using more time on charting through mobile phones with friends far apart to the extent that more time was used unproductively. While mobile phone innovation is cheered to as potential innovation to make life of people become well, it is not known whether not more time is lost through non-productive communications. It is recommended that a research be conducted to find out to what extent mobile phones usage is lessening peoples' productive time and what is the impact of such usage on psychology of youths?

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APPENDICES

Appendix I: Introductory Letter

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: FILLING RESEARCH QUESTIONNARE.

I am among of Masters' Students at Mzumbe University (Mwanza Center) undertaking field research about The Economic Impact on m-banking on Small Business Development in Tanzania (A case study of Kariakoo foodstuff Vendors).

The main objective is to measure to how extent use of mobile phone banking has economic impact in Tanzania, particularly on small business development.

This questionnaire form has two parts, part one is for Kariakoo foodstuff Vendors and part two is for Tanzania Communication Regulatory Authority (TCRA), and is intended to enable me to collect data for writing my dissertation report to fulfill requirement of pursuing Masters' degree.

The information provided is for academic purpose and will be strictly confidential.

Ultimately, I will appreciate your participation and spare of your valuable time in filling this questionnaire and giving some comments as you may consider appropriate as outlined in the questionnaire form.

Thanks in advance

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Appendix II. Questionnaires for foodstuff vendors at Kariakoo Market

Section A: Personal Information

Please circle the correct answer

1. Age (in Years)

a). Between 18 - 25

b). Between 26 and 35

c). Between 36 and 45

d). Above 45

2. Sex

a) Male

b) Female

3. Level of education

a) Primary education

b) Secondary education

c) College

d) University

Section B: Study Questions

Answer by selecting one of the answers as you perceive correct

4. Foodstuff vendors normally use mobile phones for paying their customers, commissioning foodstuff market searches in the farming rural

A. Strongly agree

B. Agree

C Indifferent

D. Disagree

E. Strongly disagree

5. How do you rate the quality of customer care of your Network in dealing with money transfer matters (and problems)?

A. Very good

B. Good

C Indifferent

D. Poor

E. Very poor

6. How do you find the case of availability of mobile financial transfer services whenever you need them?

A. Very good

B. Good

C Indifferent

D. Poor

E. Very poor

7. How do you find the convenience of reaching people in other locations as you call or send money?

A. Very good

B. Good

C Indifferent

D. Poor

E. Very poor

8. Would you say the laws protecting mobile money transfers adequate enough to warrant safe transactions?

A. I strongly agree

B. I Agree

C Indifferent

D. I Don't Agree Business payments ( )

E. I strongly don't agree

9. Risks of mobile phone money transfers are substantially insignificant?

A. Strongly agree

B. Agree

C. Indifferent

D. Don’t agree

E. Strongly don’t agree

10. Do you understand that there are benefits of using m-banking for promoting your business?

(a) Yes (b) No

11. Which benefits do you think you get from usage of m-banking?

(a) Easy of withdrawal of money (b) low risk of money (c) easy service payments (d) low cost of account servicing

12. What challenges do you think should be removed to increase use of m-banking on business transactions?

(a) Network availability should be improved (b) Laws to protect transactions should be enacted (c) The trust among business partners must be improved.

13. To increase use of mobile phone money transfers for business purposes, what do you think should be done?

……

……

……

Thank you for your cooperation

Appendix III: Questionnaires for TCRA

1. What was the number of mobile phone users in the country as at the close of year 2014?

……

2. What was the number during the same period in 2013?

……

3. In total how many mobile phone financial transfers were made during 2013 and 2014?

2013…….. 2014……..

4. There are people who hastate to use mobile phone money transfers for fear of loss, theft and mistrust. What laws govern the use of mobile phone financial transfers in business?

……

……

5. There are cases of theft of money from one phone to another, how is TCRA dealing with this?

……

……

6. The use of mobile phone money transfers have made it easy for business transactions especially from those who cannot access bank services, do you think the potential of mobile phone money transfers for economic purposes are being fully utilized? (Y/N)…….

Give your comments and what should be done……

……..…….

……

……

……

Thank you for your cooperation