

**ANALYSIS OF FACTORS THAT CONTRIBUTED TO
RAPID ADOPTION OF M-PESA IN KENYA**

Cross-Country Comparison of Kenya, Tanzania and South Africa

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M-PESA is a unique mobile banking application that has achieved enormous success since the very first year of its introduction in Kenya. The uniqueness of M-PESA not only in the context of Kenyan market but also globally, was a motivation for the researcher to investigate the factors that lead to fast growth of M-PESA in Kenya as there was no similar application in existence even in the developed countries.

The objective of the study was to explore the factors that contributed to rapid integration and adoption of M-PESA by Kenyan users. The data was collected through extensive review of literature on economic, technological, regulatory and social factors characterizing Kenya at the time of implementation of M-PESA.

The findings unveiled that rapid adoption of this new technology was enforced with the lack of alternative solutions. Effective targeting and ease of using the mobile application for a wide variety of purposes also contributed to the popularity of M-PESA. The comparative analysis of M-PESA success in Kenya and its failure in Tanzania and South Africa proved that Kenya's environment was uniquely suitable for the emergence of M-PESA due to favorable regulations, large percentage of the unbanked and increasing mobile coverage.

The recommendations on further expansion of M-PESA in Kenya include simplification of use of M-PESA, customization to address needs and preferences of local users, effective marketing through network of agents.

Key words M-PESA, Kenya, e-commerce, electronic money

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SYMBOLS AND ABBREVIATIONS

SIM	Subscriber Identity Module
ATMs	Automated Teller Machines
GDP	Gross Domestic Product
SMS	Short Message Service
E-Commerce	Electronic Commerce
ITU	International Telecommunication Union
USSD	Unstructured Supplementary Service Data

1 INTRODUCTION

This chapter discusses the background of the thesis. Additionally, it discusses motivation and the thesis objectives. Lastly, this chapter describes the thesis structure.

1.1 Background

M-PESA was launched in Kenya in 2007 by Safaricom, a subsidiary of Vodafone. M-PESA is a unique system of money transfer, where M stands for mobile and Pesa is the Swahili word for money. (Katz & Berry 2014, 241.) M-PESA is the SMS-based money transfer system introduced in Kenya (Moore 2015, 102). Latusek (2010, 161) adds that M-PESA is a mobile banking application that offers a variety of financial services via mobile phones. Users can check their account balance, make deposits, withdraw cash, pay bills, purchase credit and transfer their mobile phone credit to other users within the system (Latusek 2010, 161).

The system empowers users to make electronic payments via ordinary mobile phones without the requirement to connect to online banking using the Internet (Katz & Berry 2014, 241). Users merely need to register at M-PESA retail stores by carrying their national identification (henceforth ID) cards. Users create electronic accounts and link those accounts to their phone numbers and Subscriber Identity Module (henceforth SIM) cards. (Katz & Berry 2014, 241.)

In addition, users create a private PIN for using when accessing the account. The M-PESA users deposit cash money in the retail stores and they in-turn receive equal float (henceforth e-float). Transactions are confirmed with a notification in the form of an SMS for both users and the retail agent. Through the confirmation and notification, users are able to see new account balance and the retail agent as well remains with the transaction records of the money sent and received. (Bosire 2012, 6.)

Cash up to \$500 can be converted into electronic money, which can be used to pay bills, purchase goods and transfer funds. It is free to register and deposit the money, whereas users pay a flat fee of \$0.40 per transfer. There is no interest payment to customers. (Katz & Berry 2014, 241.)

The PaymentView software provides solutions by diverting the payment processes through the FrontlineSMS platform that uses M-PESA enabled SIM card, computer and GSM Modem to aggregate payments into the software interface. Due to the use of the PaymentView software, users can conduct transactions without access to an Internet connection. (Richardson 2014, 1.)

1.2 Motivation

M-PESA is unique not only in the context of Kenyan market environment but also on a global scale makes M-PESA interesting to investigate as no similar system was in existence even in developed countries in other parts of the world. The choice of Kenya to launch such an innovative system of money transfer raises many questions.

On one side, Kenya has a largely underdeveloped economic environment and a significant proportion of people are poor, not to mention lack of bank accounts. There is a shortage of electricity supply in the majority of rural areas (Katz & Berry 2014, 241). On the other side, the innovative approach proposed by Vodafone could not be tested in developed countries, where users already have the advantage of credit card-facilitated payments and do not rely on cash payments. Yet, despite this assumption, the question of why M-PESA gained so much support in Kenya and became the primary avenue for money transfers even in the most remote parts of the country remains unanswered.

The launch of M-PESA was an enormous success because it brought instant benefits to the users, financial institutions and mobile providers (Katz & Berry 2014, 241). Within a short period of time, M-PESA outperformed Kenya's bank branches, reaching 17 million users by the end of 2013. Today, two-thirds of the population actively uses M-PESA, which handles 25% of the national gross domestic product (henceforth NGP). The adoption of mobile phones and M-PESA in Kenya occurred at the fastest pace of any consumer-level technology in the history. (Jack & Suri 2011, 2.)

What is more, M-PESA became the target of deep research and analysis because the initial intention behind creation and launch of M-PESA differed greatly from its application and use by consumers. In other words, M-PESA was started as the service to bridge the gap between financially-underserved people in rural areas in their access to financial services, but it was consumers who started using the system for money

transfer. This service modification by consumers is the phenomenon that deserves particular attention.

Inspired with the success of M-PESA in Kenya, the developers of this system expanded its reach to Tanzania, Afghanistan and South Africa. However, none of these countries exhibited the same degree of success as did M-PESA in Kenya. This observation triggers the interest in conducting a thorough research with the analysis of the primary factors that contributed to the quick integration of M-PESA into financial and mobile industries of Kenya.

The rapid integration of M-PESA in Kenya triggered the wave of studies focusing on factors that contributed to the acceptance of new technology by combining telecommunication services with financial and banking sectors. However, previous studies mostly dealt with the analysis of internal characteristics of Kenyan regulatory and economic environment, leaving the discussion on exact issues that made Kenya a choice for testing M-PESA technology.

Furthermore, the enormous success of M-PESA in Kenya motivated expansion of this service to nearby countries, namely Tanzania and South Africa. Yet, M-PESA was not as quickly adopted in those two countries as it was in Kenya, which raises the question of whether Kenya's environment was more favorable for introduction of such technology.

1.3 Objectives

The main objectives of the study are to review the factors that brought M-PESA to Kenya as well as to explore the issues that facilitated to the rapid integration of M-PESA into the economy of Kenya. The primary attention is to be paid to the economic and social environment of Kenya. The specific objectives of the study are discussed below.

One specific objective of the study is to investigate the technological aspects of M-PESA integration into rather technologically-underdeveloped Kenya. This specific objective deals with identifying the specific technological factors that affected the adoption of M-PESA in Kenya that is not characterized with high support for technological innovations. To achieve this objective, literature review focusing on

technological factors behind the introduction of M-PESA is conducted, tracing the origin of the idea of M-PESA.

Another specific objective is to evaluate the social perception of M-PESA as a secure and convenient tool for money transfer in the light of the customers-driven modification of the functions offered by M-PESA platform. This objective targets the assessment of the social factors driving perception of M-PESA by the people who are technology-oriented. Literature review specifically focuses on the analysis of M-PESA users and their expectations.

Among the specific objective is to understand the role played by regulators in government and banking sectors in rapid integration of M-PESA into national system. This specific objective is related to the in-depth discussion on the regulatory environment in Kenya as one of the potential factors that contributed to growth of M-PESA in Kenya.

Additionally, to compare M-PESA in Kenya with South Africa and Tanzania for the purpose of identifying the key success factors in Kenya and the causes for system's low popularity in Tanzania and South Africa. This objective is embedded within the observation that M-PESA was exceptionally successful in Kenya but failed to achieve the same success in Tanzania and South Africa.

Furthermore, the study also outlines the major impacts of M-PESA on economy and society in Kenya. This objective is focused on evaluating the effects of M-PESA on households, the way people understand and use electronic money and the changes that resulted in the business sector.

Finally, the study provides recommendations on how to further advance M-PESA system in Kenya. Therefore, future researchers need to explore the opportunities of M-PESA by adding more features and services.

To meet the above objectives, extensive literature review is presented with the primary focus on unique characteristics of technological, economic, social, and regulatory situation in Kenya. The understanding of the success factors behind M-PESA system in Kenya will empower policy makers, software developers, non-profit sector, and financial

service providers to address the issue of poverty and barriers to financial services in other parts of Kenya.

1.4 Thesis Structure

This thesis is divided into 5 chapters. The second chapter discusses the scope, research questions, methodology and limitations. Chapter 3 is devoted to analyzing relevant review of literature with sections focused on most important factors that affected integration of M-PESA in Kenya. Chapter 4 focuses on discussions of the findings of this study. Additionally, this chapter deals with analyzing the evaluation, ethical consideration and the usability of the study. Finally, chapter 5 concludes with the summary of the study and recommendations for further integration and expansions of M-PESA uses and services in Kenya and suggest for further research.

2 RESEARCH SCOPE, QUESTIONS, METHODOLOGY AND LIMITATIONS

This chapter discusses the scope and research questions of the study. Additionally, the study discusses the methodology which describes research methods used for data collection and analysis. Finally, the chapter describes the limitations of the study.

2.1 Research Scope

The scope of the study focuses on unveiling the factors that facilitated quick integration of M-PESA by Kenyan consumers. The launch of M-PESA in Kenya came at the time when majority of the people in the rural part of Kenya were unbanked. Therefore, the study includes the assessment of new technology implementation in comparison with unsuccessful launch of M-PESA in Tanzania and South Africa for the purpose of finding the key factors that lead to fast integration of the M-PESA in Kenya.

To achieve this objective, thorough review of literature is conducted. The understanding of differences in perception of M-PESA in three countries will result in recommendations on how to further advance M-PESA system in the country.

2.2 Research Questions

The aim of this study is to analyze the major factors that speeded the integration of M-PESA in the Kenyan market. At the same time, the study conducted a cross country comparison of Tanzania and South Africa to analyze the key factors that might have enhanced Kenyan environment a suitable for the introduction of M-PESA, since the introduction of M-PESA failed in Tanzania and South Africa. The study conducted reviews of related literature. To achieve the objectives of the study, the study was guided by the research questions. The main research question is as follows:

Why did M-PESA integration in Kenya succeed and why did this integration fail in other countries? The research questions are discussed below.

1 What was the role of technological factors in M-PESA launch in Kenya?

The aim of this research question is to find the answer regarding the impact and/or contribution of technological factors in adoption of M-PESA in Kenya. Given the fact that

M-PESA is a technology-driven innovation, technological factors should be evaluated based on review of the literature findings.

2 Which characteristics of the banking and financial sector contributed to the adoption of M-PESA?

This research question deals with the issue of banking and financial sector analysis. This is because M-PESA is a form of electronic money transfer. Therefore, the research question tries to identify whether banking and financial sector speeded the integration of M-PESA in Kenya or not.

3 How did regulatory environment shape the introduction of M-PESA?

This research question is closely intertwined with the second question because the banking sector is strictly regulated. Thus, policies and rules do play a role in shaping adoption of new technologies. Therefore, review of the literature on regulatory environment is analyzed to answer this research question.

4 Why did M-PESA fail to achieve the same success in Tanzania and South Africa?

The aim of the research question is to identify the reasons behind the failure of M-PESA in Tanzania and South Africa. Literature review related to factors that contributed to failure of M-PESA in Tanzania and South Africa is conducted for the purpose of achieving the objective of this research question.

5 What should be the next step in further expansion of M-PESA in Kenya and African context?

Finally, the research question is addressed with the motivation to propose recommendations for further expansion of M-PESA in Kenya and other countries. In addition, the expansion of M-PESA services in the Kenyan market.

2.3 Research Methodology

To find the answers to the research questions discussed above, a qualitative research methodology is applied. The framework for data collection and analysis is based on literature analysis.

As the main question of this study aims at finding the answer to the question “why”, a qualitative research methodology is more suitable than a quantitative framework in this study. According to Diggs-Brown (2011, 116), a qualitative research is questions “why of an action or behavior”. Unlike a quantitative research, a qualitative provides descriptive information that can be better applied to understand the perceptions, thoughts, or preferences of the target audience.

A qualitative research “does not measure the how many or to what degree or frequency of the feelings” and “does not provide precise numbers that can be projected to a population” (Diggs-Brown 2011, 117). Instead, a qualitative research method empowers researchers to build strong contextual information. The main advantage of a qualitative research is an opportunity to explore how target audience i.e. the Kenyan society, relates to the issue of the adoption of M-PESA. (Diggs-Brown 2011, 117.) As Rubin and Babbie (2012, 40) highlight, a qualitative research method unveil the trends in human experiences and allow generating theoretically richer observations that are not always achievable through a quantitative research framework.

The utilized methodology based on a qualitative research design and meta-analysis of published studies is addressed with the premises of the grounded theory, as discussed by Amandeep (2014, 47). The grounded theory includes data collection, systematic analysis, and creation of new knowledge on the issue being researched. The resulting body of the knowledge is attributable and dependable. What is more important, the grounded theory application draws not only to find the answer to the research questions but also to generate new questions to be the subject of subsequent studies. (Amandeep 2014, 47.)

Through exploring the questions on factors that contributed to rapid integration of M-PESA in Kenya, the research will provide answers to the role played by technology or socio-demographic factors. In addition, provides sound evidence-based framework for expanding the presence and acceptance of M-PESA in other countries by learning through the experience of M-PESA launch in Kenya.

The data is analyzed using meta-analysis technique. According to Nayar and Stanley (2014, 176), meta-analysis is a reliable method for data collection and analysis because of the targeted selection of secondary sources. While using secondary sources of

information, statistical treatment is not applicable; however, descriptive analysis can be conducted (Habib, Pathik, & Maryam 2014, 57).

Nayar and Stanley (2014, 176) emphasize that the quality of meta-analysis or meta-synthesis depends on the number of studies available on the topic. In addition, the quality of the selected studies, detailed description of theoretical/methodological orientation of previously published studies. Thus reporting of the findings should be assessed to ensure reliability of the research methodology. Therefore, particular attention is paid to the above mentioned factors in selecting studies for meta-analysis.

2.4 Limitations

The limitations of the meta-analysis methodology include heavy reliance on already published or secondary research, which raises subjectivity concerns and authors' bias. Secondary literature is, by definition, old data (Daniel & Sam 2011, 110). Moreover, the purposeful collection of data is limited to researching skills of the author.

However, when the data is collected for a specific purpose in mind, the unintentional bias may occur. The methodology is also limited in terms of subjective interpretation of the research findings reported by other researchers. These limitations are addressed through cross-sectional analysis of findings and conclusions found in previous studies.

3 REVIEW OF LITERATURE

This chapter is divided into 10 sections. The chapter is devoted to critically analysing the current knowledge on factors that contributed to rapid adoption of M-PESA in Kenya. In addition, this chapter includes discussion of the factors that contributed to failure of the introduction of M-PESA in Tanzania and South Africa.

3.1 Technological Factors: Mobile Penetration and Social Characteristics

In 5 years prior to the launch of M-PESA in Kenya, the mobile penetration in the country increased from 3% to 48%. This implied that more people across the country started using mobile phones. (Katz & Berry 2014, 241.) Along with increased use of mobile services, Kenyan environment was characterized with low access to financial services across the country (King 2012). Despite the fact that M-PESA users are not charged the deposit cost, a sliding tariff is levied when the users withdraw some amount of money (Jack & Suri 2011, 5). Figure 1 shows Postapay, M-PESA and Western Union charges.

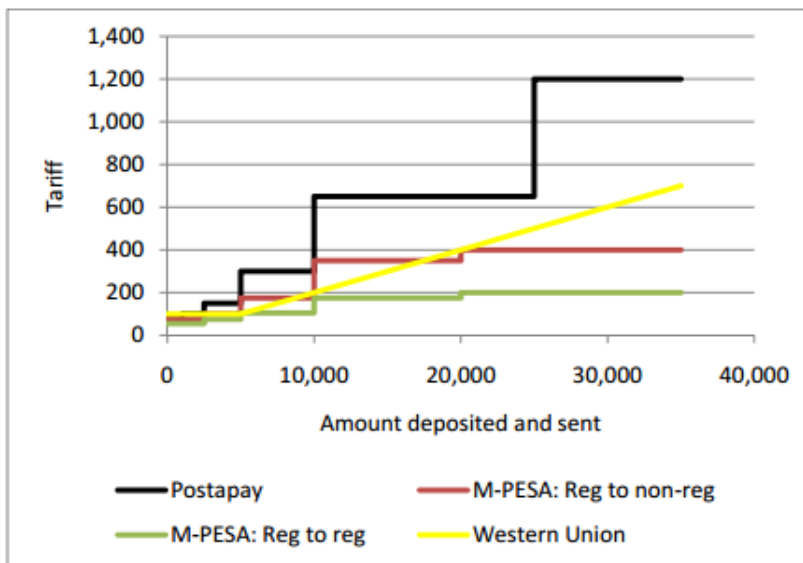


Figure 1. Net tariff charges for sending money by M-PESA, Western Union and Postapay (Jack & Suri 2011, 5)

As can be seen in Figure 1, Western Union and Poastapay charges a higher tariff than M-PESA. Due to M-PESA low charges among the registered and non-registered users, the Kenyans found M-PESA reliable since those with low income can as well afford to use M-PESA services (Jack & Suri 2011, 8). Therefore, M-PESA became successful

because it granted M-PESA users low-income members of society. In addition, M-PESA gave an opportunity to use financial services in a technically convenient manner and without access to the internet that is traditionally required for online banking operations. Moreover, as research indicates, M-PESA instantly gained support of the customers because the service could be used at low risk and cost. (King 2012.)

To address the questions about Kenyan population, more than a third of the population lives in urban areas (Omwansa 2009, 107). This statistics indicates that most of the nation dwells in rural areas that lack in accessible technologies including mobile devices and banking opportunities. Due to this disparity, many people are not accustomed to making electronic payments, and most transactions are more likely to be executed with cash. Moreover, focused surveys revealed that African businesses prefer to use cash for settling agreements. Thus, more than 80% of small and medium-sized enterprises use cash to conduct business transactions. (Omwansa 2009, 108.)

The research by Jack and Suri (2011, 5) highlight that the spread of mobile technology was particularly rapid in Africa, where the gap compared to the global mobile coverage was bridged in just a matter of a few of years. Kenya was the first country in Africa with publicly owned mobile phone company that was established in the mid-1990s. Figure 2 shows the increase in the number of mobile users in Kenya. (Jack & Suri 2011, 5.)

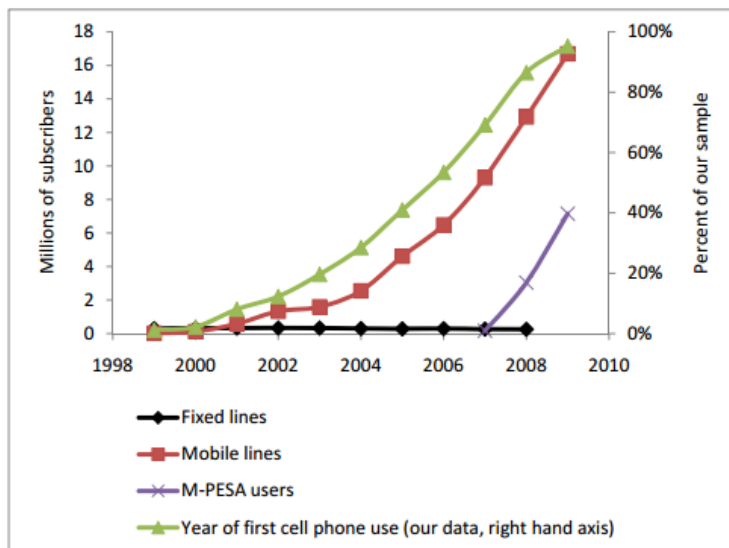


Figure 2. Increase in number of mobile subscription in Kenya (Jack & Suri 2011, 5)

The popularity of mobile phones eventually resulted in the declining share of landlines as the primary tool for communication. The mobile subscription increased from nearly 0 in 1999 to 17 million by 2008. (Jack & Suri 2011, 5.) This development could take place due to the Kenyan Communications Act that strived to guarantee that the country receives good telecommunication services. By the time M-PESA was introduced, nearly 83% of the population had access to mobile phone technologies. (Jack & Suri 2011, 5.)

The Kenyan Communications Act prohibited monopoly in an attempt to liberalize telecommunication services. For this reason, mobile phone services have largely functioned as a duopoly, because Safaricom and Centel prevailed in the market. (Omwansa 2009, 108.) However, the Act did not attempt to regulate electronic commerce, mobile commerce, or mobile banking, which possibly affected the way in which M-PESA advanced across the nation and becoming a popular and convenient choice among the majority of the population. Safaricom was established in Kenya in 1997 and currently remains the primary operator of mobile phones in the country. Safaricom has around 6 million subscribers, 1,000 employees, and ten retail shops nationwide. (Karugu & Mwendwa 2007, 4.)

Safaricom was established as a division of Telkom Kenya that continues to be the monopolistic landline services provider in Kenya. It controls 80% of the market share, although a number of large international operators have already entered the market. (Jack & Suri 2011, 5.) Given the rapid adoption of mobile technologies by Kenyan people, the decision to test M-PESA in this country was strategically right. Figure 2 displays the current mobile connection coverage in areas of high population density.

Province	Towers	Population per tower	Area per tower (sq mi)
Nairobi	584	4,872	0.5
Rift Valley	375	22,448	179.0
Coast	247	12,046	130.7
East	214	24,871	288.5
Central	206	19,048	24.7
Nyanza	162	30,771	38.5
Western	90	46,122	35.9
North-East	45	29,467	1,088.8
Total	1923	17,653	117.0

Figure 3. Mobile Network Coverage by Province (Jack & Suri 2011, 9)

Interestingly enough, the study reported by Morawczynski (2011, 4) shows that the penetration of the market by landline telephones was rather slow compared to the rapid integration of mobile phone technologies. Researcher specifically pointed out that landline telephones did not become demanded because of the inherent inefficiencies in telecommunication infrastructure. Rural areas were deprived of access to landline telephone services and the quality of service was low. It took on average 97 days to install landline telephones, where mobile phone connection did not require any waiting time. (Morawczynski 2011, 4.)

Moreover, telephone services were too expensive for the local customers in rural Kenya, whereas mobile phone services were much more affordable. This in turn facilitated the integration of mobile services into the market. In addition to rapid spread of telecommunication services across Kenya, especially in rural areas, particular attention should be paid to social and demographic characteristics of targeted users of M-PESA. (Morawczynski 2011, 4.)

According to the research presented by International Finance Corporation (2009, 2), literacy rate in Kenya is over 90% for males and 80% for females. Although access to high quality education is rather low, high literacy rate is high enough to claim that the population is likely to adopt new technologies. Moreover, prior to the launch of M-PESA in Kenya, the predominant majority of citizens were familiar with basic operations such as making voice calls and texting. (International Finance Corporation 2009, 2.)

Nevertheless, during the first months of M-PESA launch, the market analysis unveiled that customers did not have trust in the service in general and agents in particular (International Finance Corporation 2009, 2). The report by International Finance Corporation (2009, 4) specifically indicates that when SMS receipts were delayed or lost, users blamed the agents. With 4.3% of money being transferred to wrong recipients, the scope of distrust toward the service was a high barrier for market penetration; nevertheless, it was not high enough to prevent success of M-PESA in Kenya. Kenyan consumers were looking for reliability and simplicity and M-PESA system met both of these expectations, which in turn made it a popular application. (International Finance Corporation 2009, 2.)

3.2 Partnering Organizations

In order to understand why M-PESA became such a popular choice, it is also essential to investigate what role Vodafone played in establishing this service in Kenya. Indisputably, M-PESA is a product of fruitful collaboration between many partners. However, it was an original idea of Vodafone Group Plc. Since the company determined a gap in the market, Vodafone initiated discussions and negotiations with potential partners about extending opportunities that mobile services present. (Buku & Meredith 2013, 385-386.)

Due to social benefits that could be found in mobile services, Vodafone engaged Safaricom among other affiliates. Consequently, Safaricom provided the local mobile telephone network. In their turn, Vodafone and Department for International Development took care of funding the project. Faulu Kenya was in charge of finding clients to test the product in the framework of operating businesses. The Commercial Bank of Africa acted as a banker for the project. Together these organizations aimed to enhance the efficiency of microfinance establishments. The affiliates strived to make payments fast and easy. (Buku & Meredith 2013, 386-387.)

In addition to Safaricom, there were other affiliates who were involved in the project, thus deserve similar attention. Their history influenced company involvement in the project. Vodafone services are diverse and abundant in the sphere of telecommunication. (Muthuri & Gilbert 2011, 469.)

In 2004, Vodafone founded a Social Investment Fund worth 9.8 million US Dollars. This development was crucial for M-PESA in Kenya, because the objective of this fund is to offer resources not only to financially attractive ventures but also to the causes that have a socially beneficial meaning. For example, Vodafone used resources from the fund to develop speaking phones for visually impaired people and mobile services oriented for the deaf enabling them to have normal conversation with people that have no such disabilities. The Kenyan government was not very cooperative and failed to implement investment friendly to the regulations in order not to discourage domestic investment. (Muthuri & Gilbert 2011, 469.)

The good cause of the fund expanded and reached Kenya, as Vodafone used some resources to invest into the development of M-PESA. Since Kenyan people lacked in quality mobile banking services, the decision to spend funds on integrating M-PESA into the life of the nation enabled many people to enjoy the benefits of contemporary technologies. The Fund contributed into financing about 52% of the M-PESA trials. (Karugu & Mwendwa 2007, 4.)

Another affiliate that had an impact on the process of developing and integrating M-PESA into society was the Department for International Development established by the British government for the purposes of assisting developing countries to enjoy benefits of the contemporary world that are prevalent in developed countries. Thus, the Department invested remaining 48% into the trials. Both Vodafone and the Department for International Development collected necessary resources to make the project a reality. (Buku & Meredith 2013, 385.)

Another mentioned affiliate is Faulu Kenya. This microfinance organization functions in the most parts of the country. The client of Faulu Kenya constitutes around 100,000 low-income individuals who borrowed money within limits from 300 US Dollars to 20,000 US Dollars. Most of the customers borrowed little sums of money. This model entails peer pressure, because a group of clients can receive future loans only if all members of the group repay previous debts. Overall, forming such partnerships makes it possible to enhance intangible assets for persons, businesses, and society. (Busse et al. 2014, 7.)

Faulu Kenya has been a highly successful enterprise. Within its framework, it was reported that the loan repayment rate amounted 96% which is more than 20% higher than the loan repayment rate at the commercial bank. (Karugu & Mwendwa 2007, 4.) Since Faulu has a nationwide coverage, it was selected to participate in the project. Through Faulu, it became possible to access great numbers of low-income people to evaluate M-PESA potential in the market concerning repayment of loans. Four hundred and fifty customers of Faulu took part in the pilot trials. These customers were divided into 21 groups, with a Faulu field officer monitoring the progress of the trial. Importantly, the groups represented urban and rural clients separately to test how M-PESA would function in different settings and study preferences of individuals coming from different backgrounds. (Karugu & Mwendwa 2007, 4.)

Finally, the Central Bank of Africa and Microsave lent their support in leading the trials. While the role of the former will be examined later in the paper, it is sufficient to say that it is the largest privately owned Kenyan bank that specializes in corporate and institutional banking. In its turn, Microsave is a non-governmental organization that offered micro-finance industry experience and expertise to the project. Microsave is funded by the mentioned Department for International Development. (Chopra et al. 2012, 9.) Overall, these organizations that have undergone scrutiny were decisive components in influencing M-PESA development and integration into Kenyan society (Buku & Meredith 2013, 386).

3.3 Economic Factors and Banking

Along with increased mobile network coverage and a rapid expansion of mobile services across Kenya, one of the important factors that contributed to the success of M-PESA in Kenya was lack of reliable financial services, especially in remote rural parts of the country (Katz & Berry 2014, 241). The objective was to make financial services to those users who did not have access to banks and online payment options. Moreover, what made M-PESA unique is the targeting strategy that aimed at making technology to the unbaked, poor segment of the population, whose needs were traditionally neglected by traditional banking and financial service providers. In essence, the launch of M-PESA system eliminated the discrimination inherent in provision of financial services targeting customers who have money. (Katz & Berry 2014, 241.)

Evidence suggests that the targeting of the unbanked poor was a highly effective strategy to pursue in the launch of M-PESA. In particular, research indicates that prevalence of bank accounts among the people living outside Nairobi was very low, representing only 25% of total bank accounts. (Korngold 2014, 32.) With the introduction of M-PESA this number increased to 75% by year 2011. The use of banking accounts among the poor people radically increased as well. Specifically, only 20% of households with income of less than \$1.25 per day had bank accounts. With the launch of M-PESA, the share of users increased to 72%. (Korngold 2014, 32.)

Another unique financial factor that should be discussed in the context of M-PESA expansion in Kenya is the reliance on information money transfers as a means to support livelihood. The research by Morawczynski (2011, 43) concluded that transfers made by family and friends represent one of the primary sources of income for people in remote rural areas. Morawczynski (2011, 43) attributed this economic activity to the wide gap between the rich and the poor. In other words, while the predominant majority of people live in rural areas, income and profits are earned in urban centres which in turn create the need for money transfers.

Traditional banking system with cards and checks could not be possibly integration because of lack of access to financial institutions in rural areas, whereas M-PESA solved this problem. (Morawczynski 2011, 43.) Furthermore, Kenyan financial institutions and banks had no rationale to expand their services in rural areas because the demand for financial services was low and operational costs were high. (Morawczynski 2011, 48.)

3.4 Regulatory Factors

In addition to the shortage of financial services, the launch of M-PESA did not encounter any regulatory barriers. Researchers clearly implied that regulators were willing to support the business model offered by Safaricom. Moreover, M-PESA was initially designed with the objective not to advance profit-driven interests of Safaricom or Vodafone but rather with the motivation to deepen the financial access of the unbanked poor. (Korngold 2014, 32.) With this purpose at the core of the development and implantation of M-PESA, the national government of Kenya supported the initiative and did not prevent Safaricom from testing its application. The idea of designing M-PESA

was suggested by the UK Department for International Development, which is the leader in fighting against world poverty through long-term projects. (Korngold 2014, 32.)

However, the launch of M-PESA system would be impossible without collaboration with telecom's regulators and the Central Bank of Kenya. Both of these regulators supported the idea and the project was launched on national scale. The idea was specifically proposed by Nick Hughes, an employee at Vodafone headquarters in UK, who suggested using cell phones for disbursement and repayment of microfinance loans. (Korngold 2014, 32.)

The idea was approved and 1 million British pounds sterling were allocated to build the software and hardware platform. The partnership with Safaricom, a local bank, and a microfinance provider was also established. As the first test launch was done, the project leader noticed that people connected to M-PESA used the system not for the purpose of obtaining microloans but rather to transfer the money from one person to another, which was not the initial purpose of the project. The platform was enhanced and modified to address this particular need of users. (Korngold 2014, 33.) As the initial intention was to make financial services accessible to the underserved members of Kenyan society, the project was not profit-driven in its core and it became the primary factor for approval by regulators (Korngold 2014, 33).

The research by Morawczynski (2011, 46) brought to the light the discussion on the enormous role played by the government in facilitating expansion of mobile network coverage and integration of M-PESA into the financial system. It is important to mention that M-PESA is not a financial instrument, although it serves as such. Therefore, the national government faced the dilemma of how to regulate the process of implementing M-PESA. The economic reforms initiated by the Kenyan government were supported by the World Bank and International Monetary Fund that supported the programs aimed at economic growth. (Morawczynski 2011, 46.)

Collaborating with these international bodies, the national government took the course on economic reforms, market liberalization and privatization of critical infrastructure (Morawczynski 2011, 46). The change in political discourse on market regulation empowered Safaricom and other private companies to make technological advances to

Kenya, which in turn set the favourable environment for introduction of M-PESA. (Morawczynski 2011, 46).

The study by Jack and Suri (2011, 7) focused on the role played by the Central Bank of Kenya in making it possible for M-PESA to enter the market. Although the Central Bank of Kenya was initially resistant to the idea of introducing M-PESA, because it is not a bank and not a financial service. The rapid growth of its users and lack of regular banking services in rural areas led the financial leaders of the country to admit the viable contribution of M-PESA to economic growth of the country (Jack & Suri 2011, 7).

According to Jack and Suri (2011, 7), the Central Bank of Kenya expected that M-PESA accounts could eventually serve as substitutes for traditional bank accounts. However, M-PESA was readily accepted not only by those members of society who lacked access to banking services but also by those who were banked. For this reason, the Central Bank of Kenya was largely uninvolved into the process of implementing M-PESA and shifted this activity to private players on the market. (Fung, Molicco & Stuber 2014, 30.)

3.5. E-commerce Factors

The introduction of M-PESA was accompanied with extensive testing of the market prior to its launch. In particular, Safaricom had the objective of motivating at least 1 million customers to start using the system with the first year. Several pilot tests were conducted across the country, which confirmed the capacity of all 750 stores to handle the transactions via M-PESA system. (Katz & Berry 2014, 241.)

The e-commerce emphasis was made on exceptional customer service and brand recognition among users of Safaricom mobile services. In other words, customers had trust in its operator. The test launch of the system was a success as more than 1 million customers joined the system just in a matter of several months. (Katz & Berry 2014, 241.)

3.6 M-PESA Technology

As partners developed the concept into a usable mobile service for the trial period, a testing project began in Kenya to examine the M-PESA potential to facilitate the operation of microfinance organizations. Trials started in November of 2005. As

mentioned above, 450 people participated from different areas, both urban and non-urban ones. The participants were Faulu Kenya clients. (Karugu & Mwendwa 2007, 5.)

The developed system enabled the use of mobile phones to transfer funds between virtual accounts. Thus, customers could use mobile devices in lieu of debit cards, while transactions came into effect through text messaging. From the inception of trials, the service was used for four types of basic money transferral. Money could be transferred between individuals as well as individuals and businesses. (Luo et al. 2010, 225.)

Furthermore, M-PESA allowed withdrawing and depositing cash at registered outlets. Another type of money transfer was loan repayment and disbursement, but after the testing period, it became less popular, making other types of transfer to lead transaction rates. Additionally, even during the trials people were able to access information on account balance payment history that facilitated the use of the service. Simultaneously, this feature became convenient to persuade customers that the mobile service is a safe tool to make transactions on a regular basis. People's trust highly depends on their perception of technologies. (Luo et al. 2010, 225.)

At the start of the trials, participants received cellular phones containing special subscriber identity module (SIM) cards. These special SIM cards allowed users testing virtual transactions. Faulu customers engaged in the pilot applied for loans as they used to do it. However, the subsequent process was totally different from the process prior to the M-PESA introduction. Hence, applying for a loan, clients did not receive a cheque or cash. Instead, funds were transferred from Faulu's M-PESA account to M-PESA accounts of appointed field officers. The latter concluded the transaction process by distributing loans via text messages to the clients at group meetings. Afterwards, clients could enjoy several options to make use of received funds. (Yu 2012, 119.)

Moreover, clients could withdraw cash from authorized outlets, transfer money to other individuals, or utilize funds to pay for a variety of goods. Since users sometimes preferred to receive cash in authorized outlets, shop owners received commission for every transaction of this type. Since convenient financial cost and perceived credibility are the essential factors making individuals adopt mobile banking, this process was accepted well. (Yu 2012, 119.) Figure 4 illustrates how loans were distributed from the Faulu M-PESA account and how they later travelled for different purposes.

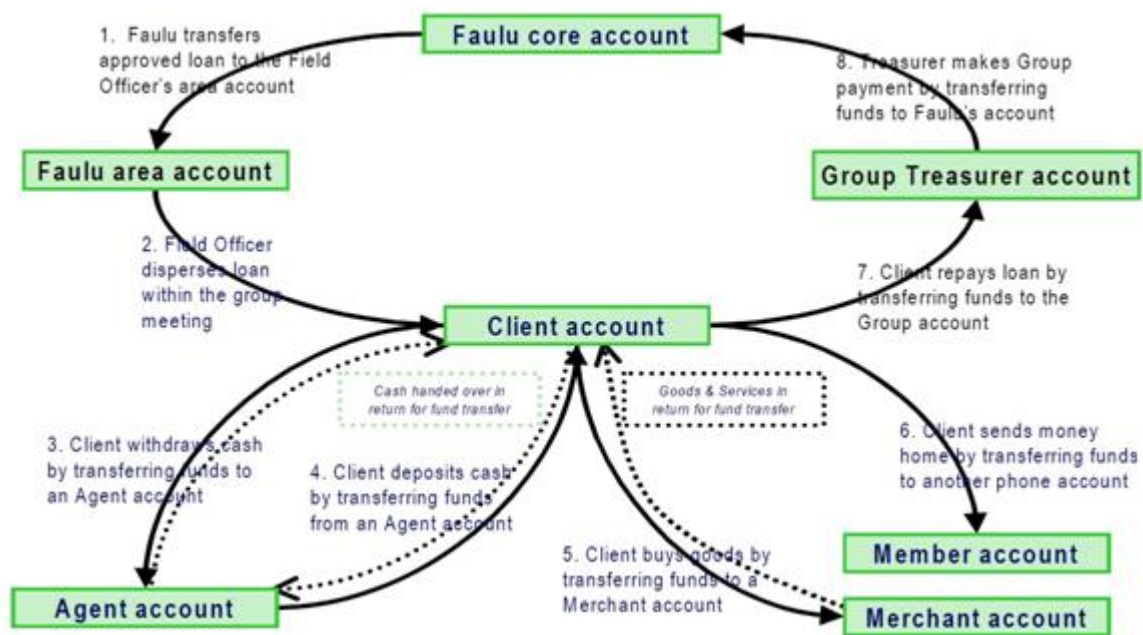


Figure 4. Client Money Movement in the M-PESA Process (Karugu & Mwendwa 2007, 6)

Customers intending to withdraw cash needed to visit agents to confirm that they have necessary funds in the account. Provided that cash was available, users were directed to the M-PESA menu service that led them through simple guidelines to withdraw cash. Pre-programmed instructions required users to enter the phone number from which they planned to withdraw cash i.e. the agent's M-PESA number, amount they wanted to withdraw and their personal identification number unknown to foreign parties. To confirm the entered details, users were required to text certain details to M-PESA. In response, a text message from M-PESA confirmed that they were able to withdraw funds. As a result, the mobile service sent a text message to the agent who upon its receipt could issue cash to the customer. This mechanism is part of the success of M-PESA in Kenya. (Dermish et al. 2011, 93.)

The process of topping up an M-PESA account is similar, because customers had to visit agents with the cash that they intended to place into an M-PESA account. As the agent sent an SMS to M-PESA informing the system that the client needs a certain amount to be transferred to his or her account, the agent later received a confirmation that the agent should accept cash from the client because the transaction was completed. (Karugu & Mwendwa 2007, 8.)

Interestingly, MPESA requires a special generation of SIM card. For this reason, SIM card manufacturers had to adjust their capacities to produce SIM cards that supported the mobile service. The specially developed software demands these measures to be taken. Additionally, users with old SIM cards could easily replace them with new generation SIM cards at local mobile dealerships for a humble fee. The M-PESA Operations Account receives a small fee for every transaction. (Karugu & Mwendwa 2007, 8.)

3.7 M-PESA Trial Results and Feedback

Upon evaluation of the trial period, it became apparent that M-PESA holds certain benefits for users. Primarily, M-PESA transactions promise security, because the mobile service is a safe service to send funds to other individuals and businesses. In addition, customers have no need to carry cash, especially large amounts of money, when they would like to spend money belonging to them on purchases from merchants. (Karugu & Mwendwa 2007, 8.)

Another advantage of having an M-PESA account is convenience, because the mobile service negated the need to travel to bank establishments and wait in long queues. Moreover, efficiency characterizes the M-PESA experience. Customers are not required to leave homes when they simply need to bank money and pay loans. This aspect is particularly useful to business owners who can continue working in the premises of their offices without wasting time. Ultimately, M-PESA's simplicity was found as a remarkable quality of the service. The guidelines are clear and easy to follow making the training in M-PESA usage fast rendering excellent results. (Karugu & Mwendwa 2007, 8.)

However, the feedback from both field officers and customers indicated that there were certain issues that needed to be addressed (Karugu & Mwendwa 2007, 8). Most importantly, the following problematic areas should be taken into account even now, when M-PESA has successfully established its presence in the Kenyan market. One of the major issues confronted by the trial participants was the lack of knowledge of some people on usage of mobile devices. Since in 2005, a relatively small number of people resorted to mobile phones, lack of knowledge was an important issue that prevented people from engaging in the M-PESA experience. However, currently more Kenyans favour mobile phone services, so this problem can be considered mostly resolved.

Some people require additional training to establish how M-PESA processes work. (Chopra et al. 2012, 33.)

Furthermore, the pilot findings unveiled that people with scarce knowledge of banking are in need of additional training. For these two reasons, it is important to employ competent agents with good communication skills in order to clarify matters that some people find complex in the entire process. Wireless access is another issue to consider. Some areas of rural Kenya are too remote to be covered by mobile networks and population of such territories cannot enjoy the benefits of M-PESA. (Chopra et al. 2012, 33.)

3.8 M-PESA in Tanzania

However, M-PESA achieved enormous success in Kenya, as evident from review of literature in previous sections; the integration of mobile banking in Tanzania was not as welcomed as it was in Kenya. According to research, the primary cause for failure of M-PESA in Tanzania is related to the financial market characteristics. At the time M-PESA entered Kenya, the majority of people had no access to financial and banking services. However, the network of ATMs and bank branches was rather well-developed. In Tanzania, financial penetration was less developed. Formally, only 9 percent of people were banked and nearly 53 percent of citizens were excluded from financial services. (Bosire 2012, 26.)

This fact alone would suggest that people in Tanzania should welcome the introduction of M-PESA that would provide instant, cost-efficient access to financial services; however, this strategy did not work (Bosire 2012, 26). According to Bosire (2012, 27), one of the key reasons for slow growth of M-PESA in Tanzania was wide availability of alternative methods for sending money, which in turn implied that the demand for a new money transfer system was low. Unlike M-PESA with its strict rules, local money transfer systems in Tanzania did not require registration or identification card. Even though M-PESA was cheaper than local systems, Tanzanians found it more convenient to use because of fewer steps that had to be taken to use the system. (Bosire 2012, 27.)

At the regulatory level, Tanzania's laws and regulations were stricter than those of Kenya's. Thus, the process of implementing agent-based money transfer system

proved cumbersome for ordinary users. Moreover, Kenya had a stronger economy at the time M-PESA was introduced, whereas economic situation in Tanzania was less favourable for the entry of a new service. (Bosire 2012, 35.) Overall, the financial industry development was poor and it was difficult to expand agent network needed for full-scale launch of M-PESA.

Furthermore, the International Telecommunications Union Report (2009, 2) highlighted that only 15% of the adult people in Tanzania were familiar with the basic operations of a mobile. The launch of M-PESA required use of USSD protocol and very few of the mobile phone users had sufficient knowledge to install it. The report also emphasizes that the marketing message stating “send money home”, which worked well in Kenya, did not appeal to users in Tanzania as the service itself was perceived as a premium product. (International Telecommunications Union Report 2009, 2.) According to International Telecommunications Union Report (2009, 9), M-PESA failed in Tanzania because no market analysis was done before the launch, whereas the assumption that Tanzania consumers will be interested in the service to the same degree as Kenyans proved to be false.

At the technological level, the report by InterMedia: The Financial Inclusion Tracker Surveys Project (2013, 7) concluded that Tanzania had 4 mobile network operators and the telecommunications market was rather competitive. In recent years, the voice over internet protocol telephony was introduced along with 3G mobile service. Yet, M-PESA is just one out of four available mobile-based money transfers in Tanzania. While in Kenya it was an innovation with a broad group of customers, M-PESA was met in Tanzania as one of the new services no different to those that were already in place. Figure 5 shows the mobile money transfer volumes in Tanzania and Kenya.

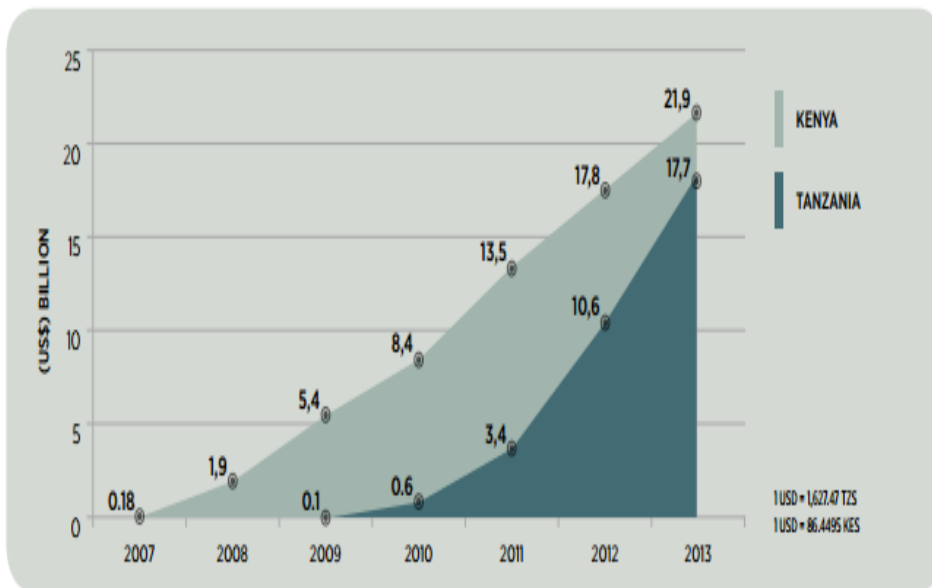


Figure 5. Mobile Money in Tanzania and Kenya: Annual Transaction Value (Di Castri & Gidvani 2014, 3)

As Figure 5 shows, the volume of transactions through M-PESA system in Kenya remains much higher as compared to Tanzania. Although, the volume of transaction difference between Kenya and Tanzania is slowly decreasing. (Di Castri & Gidvani 2014, 3.)

3.9 M-PESA in South Africa

In addition to Tanzania, M-PESA was also launched in South Africa, where the mobile banking service failed even more than in Tanzania. By the end of March 2015, M-PESA had one million subscribers in South Africa. For comparison, M-PESA in Kenya has 20 million users and 7 million in Tanzania. (Tshabalala 2015.) Figure 6 shows that current number of M-PESA subscribers in South Africa, Tanzania, and Kenya (Tshabalala 2015).

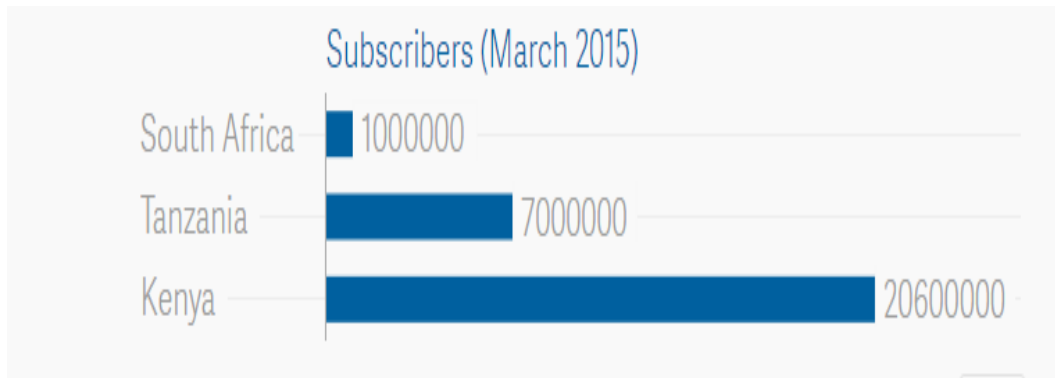


Figure 6. M-PESA Subscribers in South Africa, Tanzania and Kenya (Tshabalala 2015)

However, the causes for failure are radically different from those in Tanzania. South Africa has the most developed economy on the African continent. The banking system is well-developed and all types of customers, including those with the lowest level of income, have access to reliable and easy to use financial services in all parts of the country. Banking kiosks can be found even in the most remote areas. Moreover, the national financial system already provides several options for mobile banking such as sending and receiving money via cell phone without having a bank account. The transaction fee is just \$1. (Tshabalala 2015.) In other words, M-PESA had no customers to serve in South Africa because the population had no challenge in accessing banking services.

At the regulatory level, South African imposed strict regulations that made it difficult for foreign companies to enter mobile money transfer market. Poor marketing efforts and slow distribution of service agents across the country contributed to failure of M-PESA in South Africa. (Tshabalala 2015.) As of today, M-PESA has only 8 000 agents in South Africa compared to 60 000 agents in Kenya. Vodafone did attempt to re-market M-PESA in South Africa by first entering the market as mobile money solution, later as mobile money wallet and most recently as a tool to store money. All three strategies did not work. (Tshabalala 2015.)

Moreover, South Africa's consumers did not perceive M-PESA as a solution to any of their problems. The number of subscribers did not grow for the last 4 years. (Budree & Williams 2013, 6.) In comparison to Kenya where an average user of M-PESA makes 6 transactions per day, the rate for M-PESA use in South Africa remains as low as 0.3 transactions per day (Budree & Williams 2013, 6). Similar to case of Tanzania, people in

South Africa find M-PESA excessively complicated to use. A typical profile of M-PESA user in South African includes two categories; youth group and migrant labour group aged 18-30 years, unemployed or studying. Most of them use M-PESA to receive money for transportation fees, clothing, and other purchases. All other groups of customers rely on bank account. (Budree & Williams 2013, 6.) Figure 7 illustrate the difference between South Africa, Tanzania and Kenya in terms of preference for mobile account vs. account with a bank.

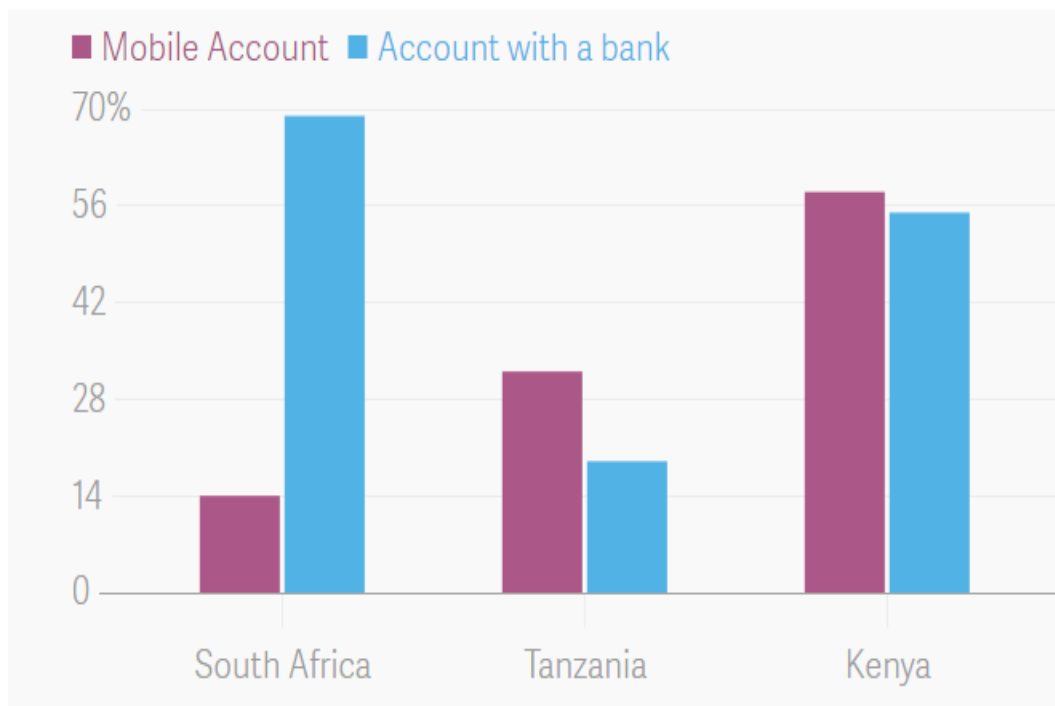


Figure 7. Bank Account vs. Mobile Account (Tshabalala 2015)

As Figure 7 suggests, people in South Africa have a strong preference for bank account. The rate of mobile account is low as compared to that of Tanzania and Kenya. (Tshabalala 2015.) According to conclusions made by Chopra, Sharma & Sherry (2013, 21), users of M-PESA in South Africa do believe that this system is secure and convenient to use. However, a large proportion of population still has difficulty using mobile technology and prefers face-to-face interaction in conducting financial operations (Chopra et al. 2013, 21).

3.10 Impact of M-PESA on Society, Banking Sector, and E-commerce

M-PESA had and continues having a significant impact on Kenya's society, banking sector and e-commerce. As M-PESA did not work either in Tanzania or in South Africa, the Kenyan case remains unique in terms of rapid integration of new technology and its unprecedented effects on overall economy and transformation of financial service sector. The introduction of M-PESA did not only make financial services accessible to unbanked members of society, but the service transformed the perception of financial service and money transfers in the country, affecting not only individuals, households and business units but also the entire economy of Kenya. (Jack, Ray, & Suri 2013, 360.)

In particular, the study by Jack et al. (2013, 360) showed that M-PESA users in Kenya are engaged more in remittance activity compared to those who do not use this mobile system. M-PESA users are more likely to receive and send remittances within their personal networks i.e. family members and friends. Moreover, users of M-PESA more frequently send and receive payments as opposed to those who do not use M-PESA. M-PESA users engage in twice more transactions (Jack et al. 2013, 360). This finding implies that M-PESA facilitated flow of money within the country.

M-PESA is used mostly for three types of transactions: the extension or repayment of credit, emergency support and regular support (Jack et al. 2013, 361). In other words, M-PESA has confidently replaced the face-to-face interaction for the purpose of financial support. Serving as a tool for insurance and regular support, M-PESA also takes the role of a microcredit for Kenyans who are in need of finances. Even though M-PESA is mostly used as a tool of sending and receiving the money for personal reasons, small businesses benefit from microcredit options. (Jack et al. 2013, 361.)

Furthermore, research also points out that M-PESA is eventually expanding its reach across Kenya. While during the first years of its launch M-PESA was predominantly used by urban, highly educated users, in recent years more users from rural areas find it convenient to send and receive money with the help of M-PESA. The rapid growth of M-PESA also led to the transformation of the entire perception of banking industry. (Mbiti & Weil 2013, 372.)

According to Donovan (2012, 2655), M-PESA is currently prioritized by users above traditional banking services. In other words, M-PESA has already become more demanded than banks and ATMs. Donovan (2012, 2655) also discovered that many Kenyans feel pressured to start using M-PESA by peers who are already using the system.

The research by Rutten and Mwangi (2012, 84) further discovered that M-PESA facilitates business development in the country. In particular, the study showed that many retailers provide more M-PESA related services than purchasing other merchandize available in shops. The number of M-PESA agents exceeds the number of bank branches and ATMs. As of today, 99% of users have trust in M-PESA. (Rutten & Mwangi 2012, 90.)

Moreover, M-PESA has a potential to be a remarkable product in Kenya. Many people living below the one dollar a day line cannot afford formal bank accounts (Karugu & Mwendwa 2007, 8). For this reason, M-PESA has a strong positive impact on impoverished tiers of population providing them with opportunities to apply for loans and use received money in most convenient ways. With the introduction of the mobile service, people were unable to acquire debit or credit cards have opportunities to use M-PESA account money in shops and similar establishments, where debit cards ceased to be the only means of cashless payment. (Karugu & Mwendwa 2007, 8.)

Besides, the new system introduces new levels of efficiency into operation of microfinance establishments. The influence of the latter on the overall economy is apparent (Buera et al. 2012, 43). M-PESA saves time for both customers and banking service providers. Users are able to enjoy the benefits of the mobile service without visiting banks and teller machines. Overall, this surge in efficiency level has a power to minimize the expenditure of time resources by many parties connected to the process. Thus, microfinance companies provide related services with a significant decrease in time spending. (Buera et al. 2012, 43.)

The M-PESA system has had a substantial effect on the way small transactions are performed by individuals. With the help of this mobile service, it became possible to conduct even the smallest transactions involving insignificant sums of money. Although clients are subject to fee payment, such transactions are more expensive when

rendered through commercial banking establishments. For this reason, low-income clients benefit from this opportunity. (Buera et al. 2012, 43.)

Similarly, employers became able to transfer wages in small amounts to employees' accounts. Consequently, the social side of M-PESA influence is tremendous, because the system facilitates lives of many impoverished individuals. People with low incomes are able to receive remuneration, no matter how meagre, on time. The microfinance of wages has a potential to influence the economy. (Buera et al. 2012, 43.) Since more payments are made through M-PESA, service payments have become less complex leading to a decrease in transportation costs. Additionally, microfinance establishments experience a diminishment in costs concerning loan repayment and disbursement. Thus, M-PESA has had a considerable effect on the economy of Kenya saving many funds on now redundant services. (Buera et al. 2012, 43.)

However, since M-PESA was integrated into the functioning of microfinance institution, entrepreneurial activities experienced an extensive rise at the low end of the market (Karugu & Mwendwa 2007, 9). It has become apparent that small and medium-sized businesses began to grow upon the introduction of the system into the society. Additionally, people whose business activities are executed by just one entrepreneur who does not receive more than one dollar per day now have access to an alternative to bank establishments. Such entrepreneurs include shoe shiners, grocers, barbers, and other similar professions. (Mwobobia 2012, 112.)

Due to poverty, many of such entrepreneurs were unable to execute transactions in regular banks, but M-PESA became an option to consider. Female entrepreneurs in Kenya face even more challenges. (Mwobobia 2012, 112.) Vodafone reports reveal that Kenyan economy and Gross Domestic Product have grown upon the introduction of the system. This development has become obvious especially in comparison with similar nations where mobile penetration remains poor and where, consequently, there are no services similar to M-PESA. (Karugu & Mwendwa 2007, 9.)

Additionally, M-PESA has exerted a great influence on the monetary system in Kenya. Since people deal with cash less often, there are fewer chances to mishandle money. As for virtual transactions, M-PESA employs a secure system requiring users to enter secret identification numbers. Besides, M-PESA allows blocking accounts on suspicion

of fraudulent activities. Therefore, the mobile service has contributed into safeguarding financial well-being of the nation. (Karugu & Mwendwa 2007, 9.)

Furthermore, despite women being able to access M-PESA service equally with men, there are certain effects that the introduction of the system has had on the female population of Kenya. Due to Kenyan women's tendency to have a more challenging workload, yet lower remuneration rates than men, women are likely to enjoy the M-PESA advantages more in terms of efficiency and cost effectiveness. Besides, in Kenya only 1% of women own property which makes it impossible for most of women to deal with banks. (Mwobobia 2012, 114.)

Overall, the M-PESA system contributed to numerous innovations in the framework of the Kenyan economic environment and social life. The mobile service has exerted considerable influence on both urban and rural population. The mobile service targets males and females as well as highly educated people and their illiterate counterparts. Hence, M-PESA replaced cash with e-currency among people with poor incomes. The system has reduced dramatically transaction costs for impoverished people unable to resort to regular banking services. (Karugu & Mwendwa 2007, 10.)

4 DISCUSSIONS

This chapter focuses on the analysis of the major findings identified through secondary data collected from a variety of sources. In addition, the chapter analyses evaluation, ethical consideration and the usability of the thesis.

4.1 Analysis of M-PESA Factors in Kenya

The critical analysis of the factors behind rapid integration M-PESA in Kenya unveiled that the success of this mobile financial instrument was shaped by a unique combination of societal, regulatory, technological, economic, and political factors. Simply speaking, M-PESA did not succeed in other countries only because the inherent market characteristics and socio-economic environments were slightly different. If Kenya had a wider network of traditional banking services or mobile penetration was not as efficient. The opportunities for rapid integrations of M-PESA may have been scarce.

The introduction of M-PESA is a perfect example of timely entry of a new product to a new market. Safaricom identified the unmet need i.e. large number of people being unbanked and offered the solution of mobile application that made money transfers and other transactions instant and secure. As a large percentage of people in Kenya had mobile phones and had the need to transfer the money to their extended families, M-PESA became an instant success. In South Africa and Tanzania, M-PESA failed because the need for this application was not as critical as in Tanzania.

Nevertheless, the uniqueness of Kenya in adopting M-PESA does not imply that this system should not be promoted in other countries or regions. Literature review led to the conclusion that M-PESA can succeed in other markets if use of the system is further simplified and application is customized to address local needs of users.

Effective marketing through network applications may also be helpful in facilitating adoption of M-PESA. To achieve the same success as M-PESA achieved in Kenya, it is necessary to make the system of money transfers and mobile banking more local in targeting specific preferences of local users. In other words, M-PESA should become less Kenyan in the perception of other users.

4.2 Evaluation of Thesis Project

The objective of the conducted research study was to critically dissect the available literature on M-PESA with the goal to identify the factors that led to rapid integration and enormous growth of this mobile application across rural Kenya. The study extended beyond the previously published research as other studies focused mostly on either multifactor analysis attempting to cover all possible issues shaping adoption of M-PESA in Kenya and did not pay sufficient attention to comparison between adoption of M-PESA by South Africa and Tanzania.

Although the conducted extensive literature review was based only on secondary data collection, the findings offer a new perspective on M-PESA's success in Kenya because of the narrow focus and cross-study analysis of previously published data. The study enriched the understanding not only on the factors that led to success of M-PESA in Kenya but also broadened the knowledge on factors that led to failure of M-PESA in other countries. Learning from Kenya's success and mistakes on other markets, M-PESA can be further enhanced to meet the specific needs of users in other parts of the world, which in turn opens opportunities for global expansion of M-PESA.

4.3 Ethical Considerations

As the study did not include collection of any primary data and there were no study participants, the ethical considerations were not raised within the theoretical framework of this investigation. Data was obtained through secondary literature review.

However, as any secondary data collection technique, meta-review is accompanied with researcher's bias, which implies that findings obtained through previously published studies are further subject to perception and understanding of the researcher based on personal and professional knowledge on the issue being researched (Nayar & Stanley 2014, 176). Researcher's bias ethical concern was addressed with integrating multiple research studies and published articles to ensure transparency, accuracy, and objectivity of the generated results.

4.4 Usability of the thesis

Even though this thesis did not incorporate primary findings, it did produce findings that have strong practical value. In particular, the study provided new information on the factors that contributed to the rapid adoption of M-PESA in Kenya and conducted

comparative analysis with the factors that led to failure of the same system in other countries.

The results and conclusions were drawn from this research study. The results can be applied in practice either by M-PESA marketing managers or by other companies that consider introducing similar technologies and mobile applications in underdeveloped or developing markets.

5 CONCLUSIONS

The main objectives of this study were to analyse the factors that contributed to quick adoption of M-PESA in Kenya as opposed to failure in Tanzania and South Africa. The study particularly emphasized on economic environment in the country at the time of M-PESA introduction. Review of literature showed that the major use of M-PESA is for transfers. In other words, M-PESA appeared at the time when people had the need to transfer the money and there were not enough bank branches throughout the country to satisfy the need. With a significant proportion of people being unbanked in Kenya, M-PESA became the alternative method for cost-effective, instant, and secure transfer of funds.

Furthermore, the research also unveiled that M-PESA serves another important economic function in Kenya. M-PESA replaced the traditional financial services rendered through banking system. Mobile money transfer proved to be easier to use by people and an increasingly number of users rely on M-PESA for saving purposes. Thus, instead of opening a savings account in a nearby bank, Kenyans prefer using M-PESA to keep their funds safe. This finding had two important implications.

Firstly, it shows that M-PESA as a mobile banking system can be used to replace traditional banking services. Secondly, this finding implies that the speed and security are the key factors in adoption of new financial technologies in poor parts of the world, as evidenced with the adoption of M-PESA by poor people living in remote rural areas without access to traditional banking services. In addition, M-PESA offered another important economic advantage to Kenyans related to the understanding of money use.

In particular, if people of Kenya were offered to use credit cards instead of M-PESA, the adoption would be very slow because credit cards require access to bank branches, identification documents, and many other procedures that are difficult to understand or accept by ordinary users. M-PESA addressed the shortages of banking sector and became a reliable solution to the existing problem. With introduction of M-PESA, users realized that they do not need to keep money at home in cash and instead can secure the finances as mobile money.

M-PESA decreased instances of mugging across the country. M-PESA also empowered women to be more financially independent because they have the way to manage their

private funds in way that is inaccessible to other family members. Review of literature showed that the above benefits of M-PESA would not be as evident in Kenya if economic environment did not welcome emergence of a new mobile technology. Without quick penetration of mobile communications across the country, M-PESA would not be adopted. Thus, prior to launch of M-PESA in other countries, it is recommended to analyse the development of mobile networks and to identify the needs of the unbanked populations.

Along with economic factors that have definitely contributed to the rapid acceptance of M-PESA in Kenya, literature review unveiled that the country did not pose any legal or regulatory barriers to the integration of mobile banking. The key aspect inherent in regulatory environment of Kenya relates to the fact that M-PESA's launch in Kenya was driven with the intention to test the viability of such application among unbanked segments of the population. The government saw the gap in delivery of traditional financial services to the underserved rural populations and supported the initiative offered by Safaricom.

Literature review also resulted in the finding that banking system of Kenya did not oppose the idea of M-PESA launch as well. As the Central Bank realized the existence of the problem in the country with lack of access to convenient banking and it was not a profitable decision to expand network of bank branches, the Central Bank supported M-PESA's launch. M-PESA did evolve into a financial instrument; however, it was not such in the beginning. For this reason, when M-PESA entered market of Tanzania and South Africa, the governments of those two countries had a clear vision of M-PESA as a financial instrument and, therefore, regulated it accordingly. M-PESA succeed in Kenya because of governmental support, but failed in Tanzania and South Africa because of regulatory barriers.

Learning from the success of M-PESA in Kenya and its failure in Tanzania and South Africa, the recommendation for further expansion of mobile banking across African region and in other parts of the world is to ensure proper governmental support. If government does not impose barriers for implementation of mobile banking applications that generate numerous benefits for society and economy, the success of M-PESA in Kenya can be replicated in other countries.

The conducted literature review produced a number of interesting findings that provide the answer to the research question on social factors behind rapid integration of M-

PESA in Kenya. Specifically, research findings indicate that M-PESA was so quickly adopted in Kenya because people perceived it as type of leisure; consumers in Kenya liked M-PESA because it gave them an opportunity to perform serious financial tasks in a worry-free manner. M-PESA specifically targeted low-income consumers who were previously ignored by banking sector and this group of consumers rapidly adopted the new technology because there was no other alternative offered to them.

Nevertheless, the presence of large segment of unbanked population was not sufficient in itself to facilitate adoption of M-PESA in Kenya. Research indicated that trust and simplicity were two of the factors that added to popularity of M-PESA. Specifically, for many users of M-PESA, the ease of transferring the money to each other and high level of trust in security of such instant transactions were the most important. M-PESA changed the way Kenyans understand leisure because the system of money transfers via mobile phones allowed them to “imagine, dream, and think about how their lives can be better and happier due to the access they gain to the global by using M-PESA”.

Furthermore, families and social networks in Kenya live on large distances from each other and, therefore, the process of financial supporting and money sending had to be simplified to the level when money could be send without visiting any financial institution, which are scarce in Kenya, especially in rural parts. Rapid integration of M-PESA in Kenya was largely based on the ability of this mobile banking application to meet the demand for a money transfer service.

In addition, transaction costs had to be low enough in order not to scare off the potential users who belong to poor unbanked segment. M-PESA addressed this concern too by offering a flat fee that is understandable for all users and does not require any analysis or calculation. In such a way, an ordinary person, even if illiterate, knows for sure how much the service costs. The safety and security of the money transfers with the help of M-PESA made this system exceptionally popular in Kenya. Therefore, the same factors should be embedded in promotion of M-PESA in other countries.

The recommendation for future research is to explore the opportunities for M-PESA to add more features and services, including access to health information, as suggested by Haas and Nagarajan (2011, 1). As M-PESA was initially introduced for the purposes other than money transfers, it became a financial tool for a broad range of applications, as evidenced with the case study on Kenya. Consequently, there is a strong rationale to further explore how M-PESA can diversify the breadth and scope of its services.

In addition, future research could specifically focus on marketing element of promoting M-PESA on other markets. Literature review unveiled that one of the factors that could potentially lead to the failure of M-PESA in South Africa and Tanzania was inadequate marketing campaign with the message that was misunderstood by the target audience. Therefore, future study may identify the needs of local users of M-PESA as part of the recommendation on how to increase acceptance of this mobile application on other markets.

Finally, future research may redirect the focus of the study toward expansion of M-PESA on markets that are radically different from those of Kenya and Tanzania in terms of appealing to the customers who are looking for convenient money transfer system and yet access to traditional financial and banking services is not as limited as in Kenya. In other words, future research should explore growth potential of M-PESA on developed markets.

BIBLIOGRAPHY

Amandeep, T. 2014. *Market Research Methodologies: Multi-Method and Qualitative Approaches: Multi-Method and Qualitative Approaches*. Hershey: IGI Global.

Bosire, J. 2012. *M-PESA: Why Kenya?* The School of International Studies, 1-55.

Budree, A. & Williams, K. 2013. *Factors Influencing the Uptake of Mobile Banking in Developing Countries: A Case Study of M-Pesa in South Africa*. Proceedings of 22nd International Business Research Conference, Madrid, Spain, 1-10. Accessed 20th January 2016

http://www.wbiworldconpro.com/uploads/spain-conference-2013/banking/1378365255_606-Adheesh.pdf.

Buera, F. J., Kaboski, J. P. & Shin, Y. 2012. *The Macroeconomics of Microfinance* (No. w17905). National Bureau of Economic Research, 1-48.

Busse, H., Aboneh, E. A. & Tefera, G. 2014. *Learning from Developing Countries in Strengthening Health Systems: An Evaluation of Personal and Professional Impact among Global Health Volunteers at Addis Ababa University's Tikur Anbessa Specialized Hospital (Ethiopia)*. *Globalization and Health*, Volume 10, Issue 1, 1-7.

Buku, W. & Meredith, W. 2013. *Safaricom and M-PESA in Kenya: Financial Inclusion and Financial Integrity*. *Washington Journal of Law, Technology and Arts. Mobile Money Symposium*, Volume 8, Issue 3. Accessed 20th January 2016

<http://digital.law.washington.edu/dspace-law/bitstream/handle/1773.1/1204/8WJLTA375.pdf?sequence=5>.

Chopra, P., Narain, N., Pareek, A., Kumar, N., Bangari, S., Agrawal, S. & Giri, A. 2012. *Integration and Interoperability of Financial Services Good for the Poor, Great for Banks and Governments: MicroSave Research*.

Chopra, S., Sharma, R. & Sherry, A. 2013. *Comparing MFS in Kenya, Philippines and South Africa under 7 P Evaluation Framework*. *International Journal of Computer Applications*, Volume 84, Issue 9, 17-22. Accessed 20th January 2016

<http://research.ijcaonline.org/volume84/number9/pxc3892853.pdf>.

Daniel, S. & Sam, A. 2011. *Research Methodology*. Delhi: Gyan Publishing House.

Demombynes, G. and Thegeya, A. 2014. *Kenya's Mobile Revolution and the Promise of Mobile Savings*. The World Bank Policy Research Working Paper 5988, 1-30.

Dermish, A., Kneiding, C., Leishman, P. & Mas, I. 2011. *Branchless and Mobile Banking Solutions for the Poor: A Survey of the Literature*. *Innovations*, Volume 6, Issue 4, 81-98.

Di Castri, S. & Gidvani, L. 2014. Enabling mobile money policies in Tanzania. A “test and learn” approach to enabling market-led digital financial services. London: GSMA Press. Accessed 20th January 2016
<http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2014/03/Tanzania-Enabling-Mobile-Money-Policies.pdf>.

Diggs-Brown, B. 2011. Strategic Public Relations: An Audience-Focused Approach. Belmont: Cengage Learning.

Donovan, K. 2012. The Impact of M-PESA’s Network Power on Development as Freedom. *International Journal of Communication*, Volume 6, 2647–2669

Fung, B., Molico, M., and Stuber, G. 2014. Electronic Money and Payments: Recent Developments and Issues. Discussion Paper by Bank of Canada. Accessed 20th January 2016
<http://www.bankofcanada.ca/wp-content/uploads/2014/04/dp2014-2.pdf>.

Gajjala, R. and Tetteh, D. 2014. Relax, You’ve Got M-PESA: Leisure as Empowerment. *Information Technologies & International Development*, Volume 10, Issue 3, 31–46.

Haas, S. and Nagarajan, G. 2011. M-PESA and Access to Health in Kenya. *Financial Services Assessment*. Iris Center Publication, 1-3.

Habib, M., Pathik, B. & Maryam, H. 2014. *Research Methodology - Contemporary Practices: Guidelines for Academic Researchers*. Newcastle: Cambridge Scholars Publishing.

Hughes, N. & Lonie, S. 2007. M-PESA: Mobile Money for the "Unbanked" Turning Cell phones into 24-Hour Tellers in Kenya. *Innovations: Technology, Governance, Globalization*, Volume 2, Issue 1-2, 63–81.

International Finance Corporation 2009. M-Money Channel Distribution Case – Kenya. Accessed 20th January 2016
<http://www.ifc.org/wps/wcm/connect/4e64a80049585fd9a13ab519583b6d16/tool+6.7.+case+study+--+m-pesa+kenya+.pdf?mod=ajperes>.

International Telecommunications Union (ITU) Report, 2009. M-Money Channel Distribution Case – Tanzania. Referenced 05 November, 2015.
<http://www.ifc.org/wps/wcm/connect/3aa8588049586050a27ab719583b6d16/Tool+6.8.+Case+Study+--+M-PESA,+Tanzania.pdf?MOD=AJPERES>.

InterMedia: The Financial Inclusion Tracker Surveys Project. 2013. *Mobile Money in Tanzania: Use, Barriers and Opportunities*. Accessed 20th January 2016
http://www.intermedia.org/wp-content/uploads/FITS_Tanzania_FullReport_final.pdf.

Jack, W. & Suri, T. 2011. *Mobile money: The economics of M-PESA*. Cambridge: National Bureau of Economic Research. Accessed 20th January 2016
<http://www.nber.org/papers/w16721.pdf>.

Jack, W., Ray, A., Suri, T. 2013. Money Management by households and firms in Kenya. *American Economic Review*, Volume 103, Issue 3, 356-361.

Jack, W. and Suri, T. 2014. Risk Sharing and Transaction Costs: Evidence from Kenya's Mobile Money Revolution. *American Economic Review*, Volume 104, Issue 1, 183-223.

Karugu, W.N. & Mwendwa, T. 2007. Vodafone and Safaricom Kenya: Extending the Range and Reliability of Financial Services to the Poor in Rural Kenya. *Growing Inclusive Markets Case Study*.

Katz, R. & Berry, T. 2014. *Driving Demand for Broadband Networks and Services*. New York: Springer.

King, B. 2012. *Bank 3.0: Why Banking Is No Longer Somewhere You Go But Something You Do*. Hoboken: John Wiley & Sons.

Korngold, A. 2014. *A Better World, Inc.: How Companies Profit by Solving Global Problems...Where Governments Cannot*. New York: Palgrave Macmillan.

Latusek, D. 2010. *Trust and Technology in a Ubiquitous Modern Environment: Theoretical and Methodological Perspectives: Theoretical and Methodological Perspectives*. Hershey: IGI Global.

Luo, X., Li, H., Zhang, J. & Shim, J. P. 2010. Examining Multi-Dimensional Trust and Multi-Faceted Risk in Initial Acceptance of Emerging Technologies: An Empirical Study of Mobile Banking Services. *Decision Support Systems*, Volume 49, Issue 2, 222-234.

Mbiti, I. & Weil, D. 2013. The Home Economics of E-Money: Velocity, Cash Management, and Discount Rates of M-Pesa Users. *Journal of American Economic Review*, Volume 103, Issue 3, 369-374.

Moore, S. 2015. *Contemporary Global Perspectives on Gender Economics*. Hershey: IGI Global.

Morawczynski, O. 2011. Examining the Adoption, Usage and Outcomes of Mobile Money Services The Case of M-PESA in Kenya. Edinburg: The University of Edinburgh.

Muthuri, J. N. & Gilbert, V. 2011. An Institutional Analysis of Corporate Social Responsibility in Kenya. *Journal of Business Ethics*, Volume 98, Issue 3, 467-483.

Mwobobia, F. M. 2012. The Challenges Facing Small-Scale Women Entrepreneurs: A Case of Kenya. *International Journal of Business Administration*, Volume 3, Issue 2, 112-121.

Omwansa, T. 2009. M-PESA: Progress and Prospects. *Innovations. Mobile World Congress*, 107-123.

Richardson, F. 2014. *Mobile for Development Impact*. Accessed 20th January 2016

<http://draft-content.gsmaintelligence.com/AR/assets/4850670/M4D%20Impact%20Case%20Study%20-%20SIMLab%20%28FrontlineSMS%29%20Credit.pdf>.

Rubin, A. & Babbie, E. 2012. Brooks/Cole Empowerment Series: Essential Research Methods for Social Work. Belmont: Cengage Learning.

Rutten, M. & Mwangi, M. 2012. Mobile cash for nomadic livestock keepers: The impact of mobile phone innovation (M-PESA) on Maasai pastoralists in Kenya. In *Transforming Innovations in Africa*, 79-102.

Tshabalala, S. 2015. Why South Africa's Largest Mobile Network Vodacom Failed to Grow M-PESA? Quartz Africa Weekly. Accessed 20th January 2016
<http://qz.com/467887/why-south-africas-largest-mobile-network-vodacom-failed-to-grow-mpesa/>.

Yu, C. S. 2012. Factors Affecting Individuals to Adopt Mobile Banking: Empirical Evidence from the UTAUT Model. *Journal of Electronic Commerce Research*, Volume 13, Issue 2, 104-121.