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FİNANSAL İÇERME İÇİN MOBİL PARA

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ÖZ

Gelişmiş dünyaya kıyasla Gelişmekte olan ülkeler mali içerme açısından sürüncemede kalmaya devam ediyor. Bankalar ve diğer geleneksel finans kuruluşları, ticari hayatta kalamama eksikliği nedeniyle piramidin alt kısmından çekilmeye tereddüt etmektedirler. Bununla birlikte, bu eğilim son on yılda mobil para uygulamasıyla tersine dönmüştür. Mobil paranın uygulanması, işlerin birçok yerde nasıl yapıldığını ve gelişmekte olan bazı ülkelerde de ekonomik ilerleme için kredi verilme biçimini değiştirmiştir. Bununla birlikte, tüm ülkelerin mobil para uygulamasında aynı seviyede bir başarıya sahip olmadığını kaydedilmiştir; bazıları kötü bir geçiş dönemi yaşarken, bazıları tamamen başarısız olmuştur. Bu çalışmada mobil para uygulamasının başarısına bakarak, bu farklılığın temel nedenlerini belirlemek için Kenya ve Filipinler'deki mobil para uygulamaları incelenmiştir.

Anahtar Kelimeler: *Mobil Para, M-Pesa, SMART, Globe Telecom, Sanal Cüzdan*

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MOBILE MONEY FOR FINANCIAL INCLUSION

ABSTRACT

Developing countries have dragged in terms of financial inclusion as compared to the developed world. Banks and other traditional financial institutions have hesitated from engaging the bottom of the pyramid for lack of commercial viability. However, this trend has all but been reversed in the past decade, thanks (in most part) to mobile money. The application of mobile money has changed how business is conducted in many places and has been credit to economic advancement in some developing countries. It is, however, noted that not all countries have had the same level of success with mobile money; some have performed poorly while other have failed entirely. We set out to discern the main reasons for this disparity by looking at the success of mobile money as displayed by the operators considered by many as model examples in mobile money- Kenya and the Philippines.

Keywords: *Mobile Money, M-Pesa, SMART, Globe Telecom, Virtual Wallet*

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Introduction

Mobile money (which is a form of transformational mobile banking) refers to the use of mobile phone SIMs (Subscriber Identity Module) as the identifiers for holding money as opposed to bank accounts (Nyaga, 2014). The value is provided

by the mobile network operator who may hold the corresponding cash or entrust it to a financial institution. The amounts thus held may be transferred to other recipients or used to make payments as per the wishes of the subscriber. Mobile money has become one of the most recognizable areas of financial inclusion to provide banking services to the currently unbanked, also otherwise known as the bottom of the pyramid customers.

M-banking (herein traditional m-banking) on the other hand refers to the use of mobile devices and communication networks (wireless application protocol, WAP) to access banking systems and perform financial transactions like access to accounts balances, funds transfers and payment of bills, among other financial services (Luarn and Lin, 2005*;* Anderson, 2010*)*. The funds in question in the traditional m-banking are held in an account with a conventional bank as opposed to mobile banking where the funds are virtually held in the SIM (Subscriber Identity Module) and the cash value held physically by the mobile network operators or supporting bank (Porteous 2006).

Both practices have the potential to improve the access to financial services especially in the emerging economies where the banking infrastructure in terms of bank branches and ATMs are not adequate and thus factors like distance and crowding tend to keep people from the available facilities (Afshana and Sharif, 2016; Baptista and Oliveira, 2015). Mobile money, especially, provides an alternative to people long excluded from the financial grid owing to their remoteness or level of education among other factors (Mothobi and Grzybowski, 2017).

This paper provides a review and an insight of what makes mobile money work in some countries better. The Philippines is one of the early adopters of mobile money and Kenya has become one of the most popular reference points of success in mobile money owing to its rate of adoption and the various ways adopted by M-Pesa in implementing its form of financial inclusion.

The Sim Service

The mobile money operation system is basically made of three players operating on two platforms. At the very basic, mobile money works on an electronic platform that connects the transmitter and the receiver of funds. This is a platform that is run by the service provider who happens to be a bank or a mobile network operator (MNO) or even a third party in some cases. The other platform is the agent platform that acts as the physical location for depositing into or withdrawing money from the mobile accounts (Evans and Pirchio, 2015). An agent refers to a business outlet that operates with permission from the service provider and conducts cash-in and cash-out services. The agent, on behalf of the operator, accepts cash from the individuals who wish to send money and deposit a corresponding amount of *e-money* into their mobile account. The sender may then transfer the digital value from his phone account to the receiver who may then convert this value into cash by presenting it to an agent who will pay cash upon ascertaining their identity. As a solution to the lack of infrastructure, to be viable, mobile money needs to operate on easily available platforms and systems. As such, for most of these systems, a USSD (Unstructured Supplementary Service Data), an SMS (short message system), or an application embedded on a unique SIM card (Donovan, 2012) are used for mobile money transfer while an NFC is used to process mobile payments.

This makes mobile network operators the vanguard of mobile money operations.

The Examples of Kenya and The Philippines

World over, close to 90 countries from Africa, the Middle East, and Latin America have tried one version or the other of mobile money providing well over 250 different services, but the real success stories have been seen in Kenya and the Philippines. (*Even though the examples of Kenya and the Philippines have been used as the foremost measures of success in mobile money, Tanzania has all but caught up will these early starters in terms of subscriptions numbers and innovations.*) Even though the Philippines ventured into mobile much earlier (as early as 2001) the vigor with which M-Pesa was adopted as a cash transfer service puts it at the top as the most popular and widely referenced. Some of the shared characteristics of these countries include lack of adequate access to formal financial services for the BOP (occasioned by sparse networks of financial infrastructure) and high levels of mobile phone penetration which contrasts the low banking penetration. Also, to some extent, mobile operations in these countries are dominated by one or two players. Whereas Safaricom dominates the Kenyan mobile with about 26 million subscribers, the Philippines market is controlled by SMART and Globe Telecom who together virtually control the entire mobile phone ecosystem of the Philippines. *(Stryjak, Sharma and Hatt (2014) indicate in a GSMA analysis that Smart is the largest operator with 61% of connections in Q3 2014, and Globe Telecom is the second major player with 39%.)*

The mobile money market in both countries was sold as a way for the urban migrants to transmit money back to their rural families (Ivatury and Mas, 2008), with Safaricom stating this in g their slogan for M-Pesa as 'send money home'.

Kenya- M-Pesa

The players in this system are the sender and receiver, connected through the mobile network operated by Safaricom (other operators in Kenya also run their versions of mobile money but have however been dwarfed by the success of M-Pesa). The other important party is the agents. M-Pesa operates as an application preinstalled in the mobile phone SIM. After registration, a basic process which requires only an identity card and takes more than 5 minutes, the user is ready to transfer and receive money from users in the same Safaricom network. (*The other operators have enhanced their services to allow inter operator transfer)* To send money, the sender deposits the amount in cash and a sending fee with his local agent who then transfers the equivalent in e-money to the user's mobile phone. A confirmation message is sent both to the depositor and the agent signaling the nature of the transaction. The user can then store the money in a virtual wallet maintained by the operators' server until such a time that they wish to send the funds. To send the money, the sender needs to access the M-Pesa application in his phone and fill in the amount and the intended recipient. (*Manually keying the recipient's numbers led to numerous complaints of money going to the wrong numbers, an event that has since been rectified by letting the users import the numbers from their contact lists.)* Upon confirmation, the money is transferred from the virtual account of the sender to the receiver's in real time and both receive concurrent encrypted confirmation SMS with the transaction number, the amount credited and debited (respectively) and the registered name of the other party. The M-Pesa service charges no fee for deposits but charges a graduated amount for sending and withdrawing money.

The withdrawal process mirrors the sending process. The user selects the withdrawal option from his M-Pesa menu and keys in the amount he wishes to withdraw and the unique identification number of the agent from whom he wishes to withdraw. One can only make a withdrawal if they have the e-money equivalent of the money they seek (plus a withdrawal fee). After he enters the amount to withdraw and confirms the transaction, the user and the agent will simultaneously receive confirmation messages of the nature of the transaction after which the agent hands cash to the user. Basically, the withdrawal process is just sending the e-money to the agent for cash exchange.

Withdrawals are also possible from ATMs of selected banks even when the user does not have an account in those banks. All he needs is his phone and the digital money equivalent of the cash he needs.

The other services that enshrine M-Pesa to its growing clientele include the *PayBill* option where users can directly pay bills to different enterprises directly from their e-money wallets just like you would a debit card (or a credit card). *Lipa Na M-Pesa* is another service which allows customers to pay for their online purchases using M-Pesa.

Philippines- G-Cash and Smart

The Philippines mobile money market is run by G-Cash and Smart Money which are the products of Global Telecom and SMART. Smart Money was the first sustainable mobile money system at its launch in 2001 by Smart Communications.

As an extension, Smart Money users are given Smart Money cards (optional) which are basically debit cards supported by money held in the users' Smart Money (digital wallet) account. The card can be used to conduct transactions in MasterCard and MasterCard Electronic, and Smart Money-affiliated establishments as well as to make withdrawals in ATMs of affiliated banks.

G-Cash, like M-Pesa, is a digital wallet on the phone that seeks to lighten the load of money transfer by drastically reducing the cost, improving efficiency, security and speed. Also, like M-Pesa, G-Cash involves the sender, receiver and an agent.

To withdraw cash from the G-Cash account, one needs to go to the nearest agent where they will be required to fill out a form of the nature of transaction they wish to conduct based on which the agent will start the withdrawal process. The client gets an SMS confirming his intent upon whose approval the specified amount plus a service charge is deducted from their G-Cash account. The agent then presents them with the cash and receipt of the transaction.

The Growth and Development of Mobile Money

For effective operation, M-Pesa needed an adequate network of agents to facilitate the cash-in and cash-out since the consumers need to make cash deposits and, also convert their e-money into cash (Jack and Suri, 2014). Thus, the number of agents grew parallel to the subscription numbers.

Safaricom managed to bank on the existing public goodwill on its corporate brand and sold M-Pesa on affordable convenience and ease of use.

Reasons for Success

The reasons for the success of mobile money as an alternative financial service

can be explained by the very factors that explain its existence. Suárez (2016) cites lack of financial alternatives evidenced by the limited bank branches and ATM network as one of the major reasons for existence. Lack of infrastructure that supports the conventional banking necessitated the search for an alternative for the largely unbanked or underbanked populations of most emerging economies. However, not all operators and countries that attempted mobile money as an alternative have succeeded hence the need to try to understand what makes other countries better at it than others. M-Pesa's popularity has made it the de facto measure of success in mobile money. The Philippines have also received attention given the fact that they were the pioneers of mobile money as we know it today. Tanzania was previously cast as a non-starter (Heyer and Mas, 2011) but they have presented a remarkable turnaround and now tops the list of the success stories. Some of the reasons responsible for the success in the mobile money ecosystem in these countries are discussed below.

Prevailing Circumstances and Demand for Alternatives

Unique geographical layout and limited geographical coverage by formal financial institutions leave a gap that needs filling in terms of financial inclusion. Evans and Pirchio (2015) credit poverty and lack of basic infrastructure with the success of mobile money. Most of the countries considered in this study are emerging economies that have poor or non-existent physical infrastructure to support financial inclusivity. This is a fact that is visible in most countries where mobile money has taken root like the Philippines, Kenya and Tanzania. To some extent, this is one of the factors that explains the not so great run of mobile money in South Africa.

In most developing economies, there is a distinct rural-urban settlement where most working family members live and work in urban centers while remitting financial support to their rural homes. In the Philippines for instance, Alampay and Bana (2009) report that most of the money remittances are likely to be from the relatively rich urban areas to poorer rural areas. In this vein, services like M-Pesa was designed on the basis of 'sending money home' owing to the cultural pressures that mandate migrants to remit money to their families in ancestral homes. Tobbin (2011) reports that such remittances account for the main sources of income for about 17% and 28% of households in Kenya and Tanzania respectively. Stryjak, Sharma and Hatt (2014) impute the diversity in the demography of the Philippines, in terms of high poverty in rural areas, high levels of social inequality (uneven wealth distribution) and the high number of natural disasters leading to the need to create alternatives to financial services that have not been covered by the traditional institutions.

A large part of the population of both countries falls under the BOP which remains unbanked due to lack of commercial viability to the banks hence their limited access to traditional financial avenues. While the traditional banks never saw financial feasibility in the base of the pyramid customers, mobile operators focused on the last penny. They focused on discovering the commercial viability of the common man. According to (Beshouri and Gravråk, 2010), it is only possible to achieve commercial viability from mobile banking if an operator can persuade 15 to 20 percent of the addressable market to sign up for the services. This is a feat that was achieved easily by the main operators in Kenya and the Philippines given their market domination.

Financial transactions in most developing countries are cash-based hence there is always demand for cash. This fact, coupled with the sparsely scattered bank branches and ATMs makes the demand for anytime, anywhere payment options (Jenkins, 2008) high in these areas. In contrast, Jenkins (2008) cites an example of Russia where payment for utilities, for instance, is not a matter of urgency as utility bills may take up to a year before they are on demand, and hence their need for urgent liquidity is drastically minimized.

South Africa is often cited as one of the places where mobile money had a lackluster performance. This may be attributed to its relatively better network of banks and other financial services. The banking sector in South Africa had already developed stronger roots before mobile money showed up. MTN, for instance, ran mobile money services in more than 8 countries in Africa including South Africa but was forced to shut down operations in South Africa due to what it terms as lack of 'lack of commercial viability' brought about by the stiff competition from the banks. This is the same fate that had been encountered by M-Pesa in South Africa earlier in the year.

Network of Agents and Partners

The number of agents that a mobile money operator is capable of pulling in will determine the accessibility of their services to customers. According to Beshouri and Gravråk (2010), the proximity of the agents determines the appeal of mobile money over other alternatives. Agents within a 10 minutes distance encourage frequent usage to as much as 30 times a month. A 2009 survey by CGAP and other collaborators (Pickens, 2009) in the Philippines seems to corroborate this view by stating that users who use mobile money services more than four times a month are likely (to a magnitude of 40%) to be those living within five minutes of mobile money agents. In other cases, users may decide to save their money in the digital wallets as they can easily be converted to cash in an agent dense environment. Safaricom has managed to enhance its distribution of agents to over 100,000, initially starting from their airtime distributors. Smart Communications in the Philippines, as of 2010, had just over one million airtime resellers, providing a great pool from which they could draw an easy network of agents for Smart Money.

The number of partnerships that a mobile money operator also impacts their ability to better serve their customers as well as expanding the nature of services they can offer. Tobbin (2011) consents that the strength of the mobile money ecosystem depends on the interconnectedness of the key players in the system including the operators, the customers, agents, banks and the regulators among others. In the Philippines while SMART Money is backed by Banco De Oro (BDO) bank, they have managed to build a strong network of partners like Master card and other international banks like NCB, AUB, BDOInternational *(GSMA, Mobile Money for the Unbanked. Mobile Money in the Philippines – The Market, the Models and Regulation)* thereby expanding their operations beyond their country's borders. G-Cash, on the other hand, teamed up with the Rural Bankers Association to enhance their operations in the rural areas of the Philippines (Ndiwalana, Morawczynski and Popov, 2010). Safaricom's M-Pesa has so far partnered with over eight banks to facilitate its *Lipa Na M-Pesa* (retail payment) service. In the same breath, they have also accelerated the rate of collaboration with retailers in order to increase the volume of transactions while providing more options to the customers.

The following words attributed to the President of Smart Communications,

Napoleon Nazareno by Jenkins (2008) in which he implies that the success of mobile money is largely dependent on the ability to organize the different players into a network to drive growth and operations.

"*The objective is ubiquity. The three rules of retail are location, location, location. In mobile money, they're partnership, partnership, partnership. We need to create a mesh of partnerships covering various networks of relationships*".

Lack of specific market dominance has made it difficult for operators to develop sufficient networks of agents. For instance, the South African market lacked a clear dominance with Vodacom and MTN running 37 and 35 percent respectively. Safaricom controls nearly 67% of the Kenyan market whereas the Philippines market is run by the duopoly of Globe and Smart Communications at 52 and 48 percent. In Tanzania, Vodacom's M-Pesa dominates the market at 52%. *(All the figures are for 2016.)* The case in Tanzania has been boosted by inter-operability implying that all the agents can be used by customers of any of the operators.

Innovations to Adapt to The Changing Demands of The Customers

Both G-Cash and SMART Money of the Philippines and Safaricom of Kenya have kept a consistent rate of innovation to increasingly endear themselves to their customers over the years. Widening the scope of services offered by anticipating the demands of consumers is likely to increase the uptake of the services according to a GSMA report referenced by Jenkins (2008). The inclusion of both local and international remittances, payment of utility bills and conducting retail purchases as well as savings and credit services is a great avenue for the operators to enrich their repertoires. For instance, in all these operators' systems, users can make both remote and over the counter purchases of goods and services, pay utility bills, make international and domestic mobile remittance while still purchasing airtime credits (*Over 41% of airtime purchases of Safaricom airtime is done through M-Pesa (Annual Records, 2016)*) from their digital wallets (Proenza, 2007, Mendes, et.al 2007).

The Kenyan M-Pesa (backed by Commercial Bank of Africa, CBA) has introduced a credit service that allows users to borrow for 30-day periods of time without the cumbersome processes involved in obtaining these credits from conventional banks. The credits risk associated is borne by CBA, but with its reputation of forwarding list of defaulters to the credit bureau for blacklisting, this risk is generally quite low.

To cope with different user requirements, Philippines' SMART money has developed a system that positively discriminates between the technology savvy customers and the not so well-versed group *(GSMA, Mobile Money for the Unbanked. Mobile Money in the Philippines – The Market, the Models and Regulation).* Transactions by the latter group are assisted by agents who make the remittances on behalf of the customer. The former group is accorded an autonomous service where they can easily load money onto their digital wallets and send it to the intended recipients without the need for a contact person (agent).

In 2016, Tanzania became the first country to fully implement inter-operator transfers were applied among the three players. This increased the level convenience of customers who otherwise had to possess SIM cards of other operators just to perform transactions. This is the same case observed in Pakistan which is also another budding example of growing success. Kenya and Tanzania

provide *interests* (profit sharing) on funds held in the money wallets a process which allows the customers to benefit from savings in their e-wallets at a given interest rate.

Regulatory Environment

Porteous (2009) decries the absence of permitting policy and considerate regulatory environments in what he terms transformational branchless banking. He goes ahead to confirm, by comparing four countries with operation mobile money system, that a conducive regulatory environment is indeed necessary for the development of a mobile money model. Lyytinen (2010) corroborates the effect of a non-restrictive regulatory environment on the development of disruptive innovation. Evans and Pirchio (2015) took 22 countries that have attempted mobile money and found that of the 8 success stories, 7 operated in a relatively moderate regulatory environment while most of the failures were encumbered by heavy regulations. The Kenyan system was aided by a regulatory environment which trails and seeks, as much as possible, to accommodate the innovation, as opposed to other regimes where any form of innovation is required to fit the confines of already laid regulatory systems (Mas and Radcliffe, 2010). The Central Bank of Kenya gave a lot of room for the expansion of Mpesa as an avenue for payment and funds transfer by applying a regulatory policy that has been described by Mas and Ng'weno (2009) as experiment first, then regulate in which the regulator actively consulted in the development of the M-pesa to standards it deemed satisfactory. With this in play, M-pesa was thus exempted from playing by the banking laws.

When Smart Money and G-Cash started operating, there were no regulations (Suarez, 2016) as it was a new area of experiment. This freedom aided the quick growth and expansion of both operators. The regulatory environment in the Philippines later required that all mobile money agents undergo AML training in the capital Manila (this has since spread to other cities) under the watch of the Central Bank before they can start operation (Ivatury and Mas, 2008). This has however been made more flexible as more training centers have opened and the operators have been allowed to take charge of training their agents. This has reduced the rate of growth of the agent network.

In South Africa, mobile money operators were treated more or less like banks and subjected to the same regulatory requirements *(https://techcentral.co.za/why-mobile-money-has-flopped-in-sa/58282/)* as opposed to the flexible systems in Kenya.

Di Castri and Gidvani (2014) argue for what they term a 'test and learn' approach for regulators where the regulatory structure responds to the market trends as observed in the success story that is Tanzania. Putting in place provisional policies to regulate activities in the market as they work in collaboration with the operators to establish regulations that reflect the dynamic nature of this market.

Threats and Opportunities to Mobile Money as A Tool for Financial Inclusion

Taking advantage of the failure by the traditional banks to reach more of the unbanked population through more bank branches and ATMs, mobile money pioneered by mobile operators has managed to reach nearly every nook to provide the much-needed financial services. Mobile penetration is still on a growth path in

most developing economies, meaning an expansion of the potential market for mobile money, with the number of mobile money subscribers in Kenya standing at just over 30 million and over 400 million accounts globally *(GSMA 2015).* However, there is still more unbanked and uncovered base.

Most banks, especially in countries where mobile money has made great strides, have woken up and have started reclaiming lost ground. The concept of agent banking has taken root in Kenya where agents, more or less like the ones used in the mobile money services, are engaged to perform limited banking functions on behalf of the bank. Major banks (Equity bank in Kenya) have also ventured into the mobile money industry. Regulation still provides a threat and an area that needs to be reviewed regularly. The regulation authorities need to embrace the role of mobile money as a faster path to financial inclusion than the traditional means and make legislations that support mobile money without adversely affecting the existing banking ecosystem.

From the foregoing, it is clear that there is a real competition between the conventional banking and mobile money. There is a need, therefore, to study the impact of the development of mobile money on the banking industry. A qualitative study should be performed to understand whether the advancement of mobile money in these countries acts as a catalyst or an obstacle to the development the banking system.

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