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Master's Diploma Thesis

Transformational mBanking in Emerging Markets: A Case Study of mMoney in Nigeria

Author: Christian Nedu OSAKWE

CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Department of Information Technologies
Faculty of Economics and Management

DIPLOMA THESIS ASSIGNMENT

Osakwe Nedu Christian

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Thesis title
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Objectives of thesis

The thesis objectives are in the following sequence:
Firstly, is to provide invaluable insights on the imperative need to widen financial access to the BoP in emerging markets. Secondly, is to take a cursory look at mMoney as a viable channel for reaching out to the BoP in emerging markets. Thirdly, to carry out a PEST Analysis of mMoney Market in Nigeria. Fourthly, explore mMoney Adoption Barriers, Challenges and Consumer Behaviour in Nigeria. Fifthly, recapitulate findings of the field data as well as qualitative data with Porter's 5 Forces. Lastly, but not the least prescribes measures through which mMoney adoption rate could be enhanced in Nigeria.

Methodology

This research work will be conducted using relevant secondary data from reliable sources as well as primary data. Relevant information will be elicited from a few households of the Nigerian society as well as some key stakeholders using a semi-structured questionnaire. The PEST Analysis would be based on qualitative data as well as author's own interactions with Nigerians as well as observations. The results of the findings would bring to the fore macroeconomic environment dynamics which might likely have impacts on the estimated 7.2 billion USD mMoney market in Nigeria. More so, the findings on the adoption barriers, challenges and consumer behaviour would be based on both author's own field data as well as secondary data from reliable sources. The conclusions of the thesis would be formulated based on the author's theoretical knowledge, sample survey result as well as drawing inspiration from the works of other authors who have equally contributed immensely to related research works.

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The Diploma Thesis Supervisor
Lohr Václav, Ing.

Thesis Consultant
Ing. Miloš Ulman, Ph.D.

Last date for the submission
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doc. Ing. Zdeněk Havlíček, CSc.
Head of the Department

prof. Ing. Jan Hron, DrSc., dr.h.c.
Dean

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DECLARATION

I hereby declare that this thesis is my original work. All relevant materials used in this thesis work were all cited as well as included in the bibliography section of the thesis.

In Prague, 27.02.2013   **Osakwe, Nedu Christian**

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SUMMARY

mMoney provides the platform through which those with or without formal bank accounts can make financial transactions with the aid of a mobile phone. Usually, the Base of the Pyramid (BoP) is the target market. mMoney could be perceived as a sustainable, scalable approach to providing secure, convenient and affordable banking services to the hitherto underbanked and unbanked segment in emerging markets.

The thesis examined the role of mMoney in providing financial access to the unbanked and under-served Nigerian banking populace. The level of adoption of mMoney in Nigeria was critically accessed both from the angle of consumers and mMoney service providers. More so, PEST Analysis and Porter's 5 Forces Model were respectively used to analyse the Nigerian ecosystem as well as the forces that are at play within the nascent mMoney market in Nigeria.

Some measures have been highlighted on how mMoney can be positioned as the emerging channel that could unlock the commercial potentials in the untapped (BoP) market and in tandem help drive a cashless based society, which is one of the noble goals of the Central bank of Nigeria (CBN) and completely in line with the nation's vision 2020 economic transformation blueprint.

Keywords

SOUHRN

Mobilní peníze či peníze v mobilu (mMoney) představují platformu, pomocí které lze provádět finanční transakce obvykle prostřednictvím mobilního telefonu, ať již plátce vlastní formální bankovní účet či nikoliv. Cílovým trhem této platformy je tzv. „dno pyramidy" (Base of the Pyramid - BoP). Mobilní peníze lze vnímat jako udržitelný a dostupný přístup k poskytování bezpečných, pohodlných a cenově přijatelných bankovních služeb pro segment rozvíjejících se trhů, který není dostatečně nebo není vůbec pokryt formálními bankovními službami.

Tato práce zkoumá roli mobilních peněz jako způsobu zpřístupnění finančních služeb pro populaci v Nigérii, která není dostatečně nebo není vůbec pokryta bankovními službami. Úroveň zavádění mobilních peněz v Nigerii je zde kriticky zhodnocena z úhlu pohledu spotřebitelů i poskytovatelů služby mobilní peníze. Pro analýzu ekosystému a sil zapojených v rodícím se trhu mobilních peněz v Nigerii byla dále použita PEST analýza a Porterův model pěti sil.

Práce poukazuje na opatření, pomocí kterých se mobilní peníze mohou profilovat jako nová metoda, která by mohla zpřístupnit komerční potenciál dosud nevyužitého trhu (BoP). Současně by mobilní peníze mohly pomoci budovat společnost méně závislou na peněžní hotovosti, což je jedním z chvályhodných cílů Nigerijské národní banky (CBN) a navíc zcela v souladu s nigerijským programem „Vize 2020 - Modrá kniha ekonomické transformace" (Nigeria's Vision 2020: Economic Transformation Blueprint).

Klíčová slova

Mobilní telefon, mobilní bankovnictví, mobilní peníze, finanční začlenění, rozvíjející se trhy, dno pyramidy (BoP), Nigérie, PEST analýza, přijetí faktory

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1. INTRODUCTION

According to a recent publication by Wireless Intelligence (2012), a wholly owned subsidiary of the GSMA, the African continent is now the world's fastest growing region in terms of mobile phone connections and represents just over 10% of the global market. The total mobile phone connections in the second quarter of 2012, was estimated to be 700 million across Africa. The same report opined that Nigeria has more than 93 million mobile phone subscribers and this represents 16% of the continent's total mobile subscriptions, thereby making Nigeria the leading country in Africa in terms of mobile phone subscription.

The ubiquity of mobile phones in emerging markets is forging a new enterprise culture. More so, there is a paradigm shift from the brick-and-mortar traditional banking system to a new wave of innovative financial service delivery using the mobile phone – money (mobile money). mMoney offers tremendous opportunities for reaching out to a majority of the poor in emerging markets who were hitherto excluded from the formal financial system.

According to the World Bank, globally, estimates of 2.5 billion people are currently unbanked. 75 percent of the world's poor do not have any bank account, not just as a consequence of poverty, but in addition due to the cost, travel mileage, and also the documentations involved in opening a bank account. An additional explanation behind low financial inclusion is that banks almost always overlook the "long-tail" clients, who they are unable to serve viably. For banks, the top 20 percent of clients commensurate with 80 percent of their profitability; hence there is little or no economic incentive to banking the unbanked (The Boston Consulting Group, 2011). Those without access to formal banking often have to make use of informal banking channels that are extremely risky.

Nigeria trails South Africa, Botswana and Kenya in terms of the percentage of the population that is financially served, a research report released in 2012 by Enhancing Financial Innovation & Access (EFInA), has said. Figure 1.1 shows the Financial Access - Cross Country Comparisons.

	Banked	Formal other	Informal only	Financially excluded
South Africa 2012	67%	8%	8%	19%
Namibia 2011	62%	3%	4%	31%
Botswana 2009	41%	18%	8%	33%
Nigeria 2012	33%	10%	17%	40%
Rwanda 2012	23%	19%	30%	28%
Ghana 2010	34%	7%	15%	44%
Kenya 2009	23%	18%	26%	33%
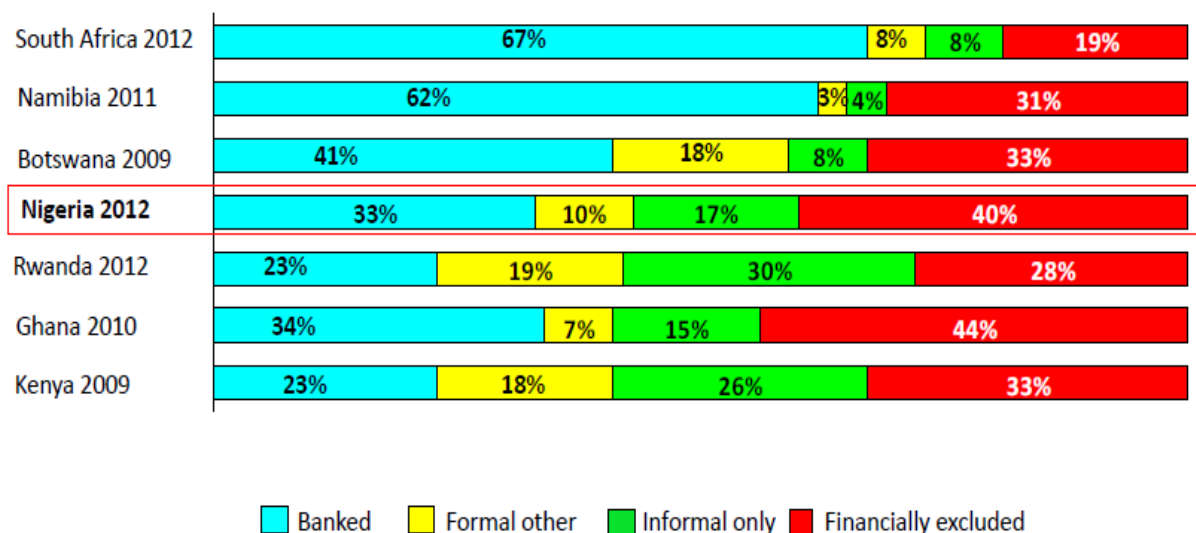
Figure 1.1: Financial Access-Cross Country Comparisons (Source: EFInA Access to Financial Services in Nigeria 2012 survey)

From the report, many Nigerians are unbanked and lack access to formal financial services due largely in part to irregular income, unemployment, and travel distance to bank branch, "bank proximity is of greater concern to the rural population."

mMoney could be perceived as a sustainable, scalable approach to providing secure, convenient and affordable banking services to the hitherto underbanked and unbanked segment of the Nigerian society.

The author of this thesis is not oblivious of the fact that the adoption rate of mMoney in Nigeria is still at a snail's pace. Some of the critical factors impeding the adoption rate of mMoney would be thoroughly looked at as well as proffering solutions to these challenges.

mMoney is a global phenomenon that is changing the face of financial services most notably in emerging markets such as Kenya, Tanzania, South Africa, Philippines, Pakistan, Paraguay, and Cambodia. In this new wave of innovative banking, Kenya has an estimated 19 million mMoney subscribers with M-PESA alone accounting for 15 million users as of July, 2012.

According to a report by The Economist (2012), a survey of global financial habits by the Gates Foundation, the World Bank and Gallup World Poll found 20 countries in which more than 10% of adults say they used mobile money at some point in 2011. In Kenya, Sudan and Gabon, half or more of adults used mMoney.

Mobile banking is on the edge of transforming from an innovative driven niche service for the banked to a mass-market appeal (Deloitte Consulting LLP, 2010). Mobile banking as a self-service channel involves the use of mobile (cell) phones for payments, deposits, remittances, and account information.

In reality, the use of the mobile phone as a banking channel, has the potential to address two key challenges. Firstly, it presents an opportunity for financial inclusion for the population that is currently underserved by traditional banking services. More so, it opens up possibilities for financial institutions to deliver a plethora of services at low cost to the poor and people living in remote areas (Diniz, et al. 2011).

Branchless banking within the context of this thesis is viewed as an alternative banking channel. For the purpose of this research work, transformational mBanking and mMoney would be used interchangeably. The emphasis of this research work is driving financial inclusion in emerging markets through mMoney with particular reference to Nigeria.

2. OBJECTIVES AND METHODOLOGY

2.1 Objectives

The thesis objectives are in the following sequence:

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Lastly, but not the least prescribes measures through which mMoney adoption rate could be enhanced in Nigeria

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This research work would be conducted using relevant secondary data from reliable sources as well as primary data. Relevant information was elicited from a few households of the Nigerian society as well as some key stakeholders using a semi-structured questionnaire.

The PEST Analysis would be based on qualitative data as well as author's own interactions with Nigerians. The results of the findings would bring to the fore macroeconomic environment dynamics which might likely have impacts on the estimated 7.2 billion USD mMoney market in Nigeria.

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The conclusions of the thesis would be formulated based on the author's theoretical knowledge, sample survey result as well as drawing inspiration from the works of other authors who have equally contributed immensely to related research works.

3.   LITERATURE REVIEW

3.1 Mobile and Financial Services Convergence

Globally, there is a paradigm shift from cash to digital money considering the fact that we live in a digitised global community. Mobile financial services delivery is widely perceived to be a disruptive innovation. The ubiquity of mobile phones is seen as a useful tool for bridging the financial gap between the banked and the hitherto underserved banking populace.

In a world where the use of a particular technology can serve in diverse ways, the use of mobile phones has not only fueled the means of communication but also provides access to a growing number of services. One of such services is mobile financial services, which could be seen as the convergence of the previously somewhat disconnected financial and telecoms sectors (Renub Research, 2012).

As posited by Mohapatra (2012), mobile financial services convergence is a technological innovation that is beneficial to all consumers and help them experience the power of instant gratification as well as financial and social inclusion. It aligns the convergence of technology with the financial world. The potential of mBanking has been realized due to the drift from traditional bricks and mortar to electronic channels.

 Jack and Suri (2011) noted that as the developed world begins to rebuild the recently collapsed global financial system, the financial architecture in parts of the developing world is being rapidly transformed. Given the affordability of mobile phones and its suitability to be adapted as a channel for financial service delivery channel, banking via the cell phone has begun to spread across and within poor countries. The low-cost of mobile phone, and the widespread unmet demand for financial services, as captured by low rates of bank access, means that mMoney has the potential to reach remote corners of developing countries that were once neglected.

The rapid growth of mobile phone usage and the continuous rise in wireless coverage fuel expectations that access to financial services through mobile phones could transform the way financial services are provided. The emergence of the convergence of mobile phone and financial services, can potentially resolve inefficiencies that explain the large unbanked population(Prior and Santoma, 2010).

As pointed out by The Boston Consulting Group (2011), in the developing world, there are at least 2.5 billion adults who do not have access to financial services while about the same number of adults have mobile phones. This means that there could be up to 2 billion mobile phone users who could be reached through mobile financial services (MFS).

As posited by Asongu (2012), the high growth and penetration rates of mobile telephony that is transforming cell phones into pocket-banks in Africa is providing opportunities for countries on the continent to increase affordable and cost-effective means of bringing on board a large chunk of the population that hitherto has been excluded from formal financial services for decades. Such a transformation is of interest not only to banks and Micro Financial Institutions (MFIs) but also to governments, financial regulators as well as development partners who are providing support to improve the livelihoods of Africans through poverty reduction and sustained economic growth.

3.2 mBanking Branchless Approaches

As postulated by Payne and Kumar (2010), mBanking, is one of several approaches to "branchless banking," which include other tools such as ATMs, POS (point of sale) terminals, and electronic bank cards. Mobile banking (mBanking) is a subset of eBanking which in turn is a subset of electronic commerce. This could be expressed as "eCommerce >> eBanking >> mBanking >> mPayments" (Negash, et al. 2011).

Mitha (2011) posited that mBanking is actually branchless banking with a mobile phone as the underlying technology. It is used in its broad meaning to include alternative approaches allowing customers to get access to a variety of financial services from their mobile phones.

In that respect, mBanking complements other channels and is comparable to online banking but with less sophisticated services.

mBanking facilitates banking convenience and perhaps make banking services cheaper for those who already have financial services (additive approach). More so, it holds out the prospect of increasing access to appropriate formal financial services by those who presently lack it (transformational approach). These two mBanking branchless approaches are not necessarily exclusive but neither are they necessarily linked (Porteous, 2006).

3.2.1 Additive mBanking Branchless Approach

The primary focus of this approach is existing bank customers. In their works (Porteous 2006; Juniper Research 2012), additive approach is associated with banks using the mobile device as an extra channel to communicate with their customers and provide services over and above existing channels that include the bank branch, call centre, ATM (Automated Teller Machine), and online banking as the fifth channel. In practical terms, this means enabling customers to manage their accounts via information and alerts, and to conduct account transactions from their mobile devices. This approach hinges on a bank-focused model tailored to meet the needs of existing and prospective banks' customers.

3.2.2 Transformational mBanking Branchless Approach (Mobile Money)

This is the extension of financial services to those at the Base of the Pyramid (BoP) that lack access to the traditional bricks-and-mortal bank branches. Juniper Research (2012), this approach exploits the ubiquity of the mobile phone and are often led by MNOs (Mobile Network Operators) with banks or an independent organization as the case may be in Nigeria so as to integrate both the underbanked and unbanked population into the formal financial sector.

Transformational mBanking is a form of branchless banking that disrupts existing models. It involves new technologies and new partnership models, organized in a way that each player in

the value chain has an incentive to support the service at minimal cost, in order to cater to previously unbanked customers in a commercially viable and sustainable way. Branchless mBanking can be transformational if it radically impacts the output of the resulting financial system in terms of financial inclusion (Mitha, 2012).

3.3 mMoney Business Models

CGAP (2012) noted that a business model typology helps the private sector to identify and evaluate new business opportunities in their markets and helps to decide what the "play" is that makes the most sense for them. While for the regulators and policy makers, it helps them to understand the market forces that may be shaping their agenda and to understand what drives the actors in their markets and what issues need to be addressed to protect the public interest.

From recent studies of literatures on mBanking, mMoney business models can be grouped into four models - Bank-led Model, Telco-Centric Model, Neutral/Agnostic Model, and Hybrid Model.

3.3.1 Bank-led Model

In this model, the bank is the lead initiator. The bank delivers financial services through a retail agent, however using the technology for the delivery of mMoney transactions through agents who handle all customer interactions. The bank manages all third-party relationships and integrates the participating Mobile Network Operators (MNOs) in the market (Rani 2010; Okoegwale 2012). Examples of banks approved by CBN for bank-led model in Nigeria include UBA, GTBank, Ecobank, First Bank, Zenith Bank, and Stanbic IBTC.

3.3.2 Telco-Centric Model

Under this model, the MNO is the lead initiator and it leverages on its existing network infrastructure and recruited agent networks to deliver financial services to consumers. Examples include M-PESA (Kenya), GCASH (Philippines), M-Paisa (Afghanistan), etc.

3.3.3 Neutral/Agnostic Model

In this model, an independent organization that is neither a Deposit Money Bank (DMB) nor MNO acts as the lead initiator. It provides and manages the service infrastructure needed to deliver mobile financial services to customers. Such an organization includes but not limited to switching companies and payment system service providers. The MNO provides the telecommunication network infrastructure for use by the scheme operator while the bank acts as a safe keeper of surplus funds. Examples in Nigeria include Pagatech, Monetise, eTranzact, PayCom, Parkway Project, etc.

3.3.4 Hybrid Model

This model has evolved as a result of the strategic alliance involving a bank, MNO, and an independent entity. As posited by Ketley (2010), it involves creating a shared economic interest in a distinct entity normally involving profits and losses shared according to shareholding. Examples include South Africa MTN Mobile Money (MTN and Standard Bank), Telenor and Tameer Bank (EASY-PAISA, Pakistan), and Orange and BNP Paribas (Côte d'Ivoire).

3.4 Mobile Financial Transactions Access Channels

The access channel choices deployed by a service provider play a critical role in successful acceptance and adoption of mobile commerce, mobile payment, and mobile banking solutions. The technology of the mobile devices, user's knowledge of the mobile technology, user's familiarity, and comfort with access channels, will impact the levels of adoption of mobile business models Goudar (2012). Some of the benchmark mobile financial transactions access channels as well as their suitability and limitations are as shown in table 3.4.

Table 3.4: Access Channels for Mobile Financial Transactions

Access Channel	Advantages	Limitations	Most suitable for:
SMS	- Available on all handsets - Easy to use and modern	-The service could fail or be delayed due to the MNO being overloaded, weak reception or a problem with the telephone (low battery). - The lack of encryption is a concern - Additional costs of the SMS are incurred (e.g. for a delivery report or billing report) which makes this option relatively expensive for small amounts	This access channel can be used for all kinds of uses: - transfer of money - remote payments and so on (car park renewal tickets,P2P payments, etc.)
NFC	-Speed and practicality: the transaction time is optimized. According to VISA, cash transactions take on average 34 seconds, card transactions 24 seconds and NFC cards 15 seconds - Security	- Terminals which offer NFC payments(whether mobiles, chips or POS) are currently not very common - The level of acceptability for telephone customers must be considered - The system has yet to be fully launched in the commercial arena - An additional cost for the components must be taken into account - The customer must be physically present at the point of sale	- This is used for payments at point of sale
WAP/ Web	-Available on all handsets with Internet access - Usage is familiar and identical to using the Internet on a computer	-This option is not widely used and accounts for 5% of mobile financial transactions made -Users need a subscription to allow them to connect to a telephone information network	This can be used for: - online payments - transfer of money
USSD	- Available on all handsets - Easy to use and contemporary -USSD 2.0:Interractive menu which requires SMS, USSD, or WAP sessions	- The payment service could fail or be delayed due to the MNO being overloaded, weak reception or a problem with the telephone (e.g. low battery) - Security must be ensured	This access channel is used mainly in countries where the mobile telephone fleet is old or bottom-of-the range. It is also used as a supplement to other channels for rapid and relatively insecure interactions. Its comparative cost is low

Source: Kurt Salmon and PHB Development, 2011

Aside Short Message Service (SMS), Near Field Communication (NFC), Wireless Application Protocol (WAP), and Unstructured Supplementary Service Data (USSD); others are SIM Toolkit (STK), Interactive Voice Response (IVR) and Mobile/Java App.

STK-based applications need the active support of the mobile operator, to install the menu (client program) and enable the encryption keys in the operator-controlled SIM card. The

mobile operator needs to give access to the memory on the SIM card, which it controls, and needs to use its over- the- air (OTA) platform to provision the application onto customers' SIM cards. The underlying bearer can be either SMS or USSD; because the interaction is through a client menu, the customer is not aware of which bearer is actually used (Mas and Kumar, 2008).

In telephony, interactive voice response (IVR) is a phone technology that allows a person, select options from a voice menu and interact with the phone system. A pre-recorded voice prompt is played and the caller presses a number on a telephone keypad to select an option (Krugal, 2007).

Mobile/Java App offers the friendliest user interface due to its full graphics support. This requires initial download and installation of software application on a mobile device. Once installed on the phone, the application would use GPRS, USSD or SMS to carry the consumer data or instruction from the device to the service provider (Ibid).

3.5 mMoney Adoption Factors: Consumers' Perspectives

The majority of the factors of the factors influencing the adoption of money was adapted from the theoretical frameworks of well documented and researched models such as Technology Acceptance Model (TAM) by Davis, 1989; Diffusion of Innovation (DOI) by Rogers, 1995; and Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al., 2003.

As posited by Aliyu et al. (2012), the relevant factors that determined the adoption of eBanking in Nigeria are awareness, ease of use, security, cost, reluctance to change and accessibility. Likewise, Adesina and Ayo (2010) found out that users of eBanking system use it because it is convenient, easy to use, time-saving and right for their transaction needs. Privacy concerns most notably the security of the network and the system were equally of major concerns to intending users.

Dass and Pal (2011), in their findings based on existing literature on mobile financial services highlighted thirty-four adoption factors. Based on the literature, perceived ease of use/complexity was found to be the most highlighted factor followed by perceived usefulness. An overview of the stated factors influencing mBanking adoption rate is as shown in Appendix B.

3.6 mMoney in Nigeria: The Need for Financial Inclusion

As posited by CBN (2012), financial inclusion is achieved when adults are not only able to afford financial services but also have unfettered access to a wide range of financial products designed to meet their needs. mMoney could be seen as one of the most viable channels to serve those at the BoP. As of December 2010, Nigeria had a combined total of 5,797 bank branches, 9,958 ATMs and 11,223 POS terminals.

The author is not oblivious of the fact that the first mBanking platform in Nigeria, FlashMeCash, was initiated by the defunct First Atlantic Bank in 2003. Though this product now exists under the aegis of First City Monument Bank (FCMB). Arguably, FlashMeCash is more of an additive mBanking product since it lacks visibility (absence of transaction agents outside the bank branches for "cash-in and cash-out") just like most other mBanking service offerings of other commercial banks in Nigeria.

mMoney has different value propositions in different countries. In some countries, such as Kenya and Nigeria, the value proposition for mMoney was as an alternative for payments and transfers because the existing financial infrastructure had such poor penetration (IFC, 2011a).

With over 90 million active mobile subscribers, the mobile phone has become a veritable tool in providing financial inclusion to the unbanked population in Nigeria. This is not far-fetched because while the banks have only managed to attract 25.4 million account holders in several

decades, the telecoms companies have built over 90 million active mobile phone subscribers just within a decade (Oketola, 2012a).

In a country of over 160 million people with the larger percentage of the population lacking access to formal financial transactions, mMoney has been relatively slow to take off. In August, 2011, the Central Bank of Nigeria licensed 14 MMOs to provide financial services to the critical mass of the Nigerian populace who have been until now excluded from the traditional bricks-and-mortal banking (Maritz, 2012 and Ejaife, 2012).

As of March 2013, they were 18 licenced MMOs in Nigeria. Seven of the operators are bank-led and these include GTBank, Stanbic IBTC Bank, First Bank of Nigeria, Ecobank Nigeria, and Fortis MFB, UBA/Afripay and Zenith Bank /eaZymoney. The other 11 operators operate under the aegis of an agnostic model. These include Pagatech, eTranzact, Monitise, Eartholeum, Parkway, FET Paycom, M-Kudi, Chams, Corporeti, and Teasy Mobile Money.

The CBN deliberately disenfranchised MNOs as the lead initiator perhaps as a result of potential regulatory gaps, since the MNOs are regulated by the Nigerian Communication Commission (NCC). It also reflects the CBN's desire to ensure openness and interoperability, which may not be possible under a Telco-led model. By and large, the MNOs are key partners since they provide the infrastructure needed to facilitate financial transactions (KPMG, 2012).

In Nigeria, banking penetration remains low. There is also a low level of income coupled with inadequate infrastructure. Consequently, the bricks and mortar bank branch is not economically viable outside the major cities. The mobile phones offer an attractive alternative with over 90 million mobile subscribers overshadowing the number of bank account holders (Ibid). As revealed by Oketola (2012b), mMoney pioneers in the country have had to face teething problems exemplified by lack of agent network, technology hiccups and take-off capital, amongst others.

3.7 Transformational mBanking in Emerging Markets: Country Case Studies

3.7.1 Kenya (M-PESA)

M-PESA is the brainchild of Vodafone, UK and was launched in March 2007 by its Kenyan affiliate-Safaricom. M-PESA is an acronym for Mobile PESA, "PESA" is a Swahili word for money or cash. MPESA is said to process more volumes of transactions within Kenya than what Western Union does globally(Mas and Radcliffe, 2010).

M-PESA makes use of retail stores as cash-in/cash-out outlets thereby reducing deployment costs and which ultimately offers greater convenience to users in terms of accessibility of agent networks. M-PESA's core service offering remains largely P2P payment. Over time, Safaricom has equally integrated institutional payments into M-PESA platform, thus, enabling salary disbursements, bill payments, and in-store purchases (Ibid).

The iconic mMoney platform, M-PESA, brings the clearest indication yet that very poor and unbanked people are adopting branchless banking services. New evidence reveals that among the Kenyan population outside Nairobi, the share of people with very low incomes (below $1.25 a day) using M-PESA has increased from fewer than 20 percent in 2008 to 72 percent by 2011. Similarly, the share of non-Nairobi unbanked people who used M-PESA rose from about 21 percent in 2008 to 75 percent in 2011. In terms of remittances, M-PESA controls 93.6 percent of the domestic remittance market with 305.7 million transactions with a total worth of 8.66 billion USD (McKay, 2012; Berthaud (2012)).

As of August, 2012, they were over 15 million registered M-PESA users in Kenya. M-PESA agents has equally risen from 355 in 2008 to close to 40,000 agent networks. M-PESA growth has been quite phenomenal considering that about 65 percent of the adult population in Kenya makes use of this mMoney platform. Figure 3.7.1 shows the workflow of M-PESA P2P transaction in an agent network.
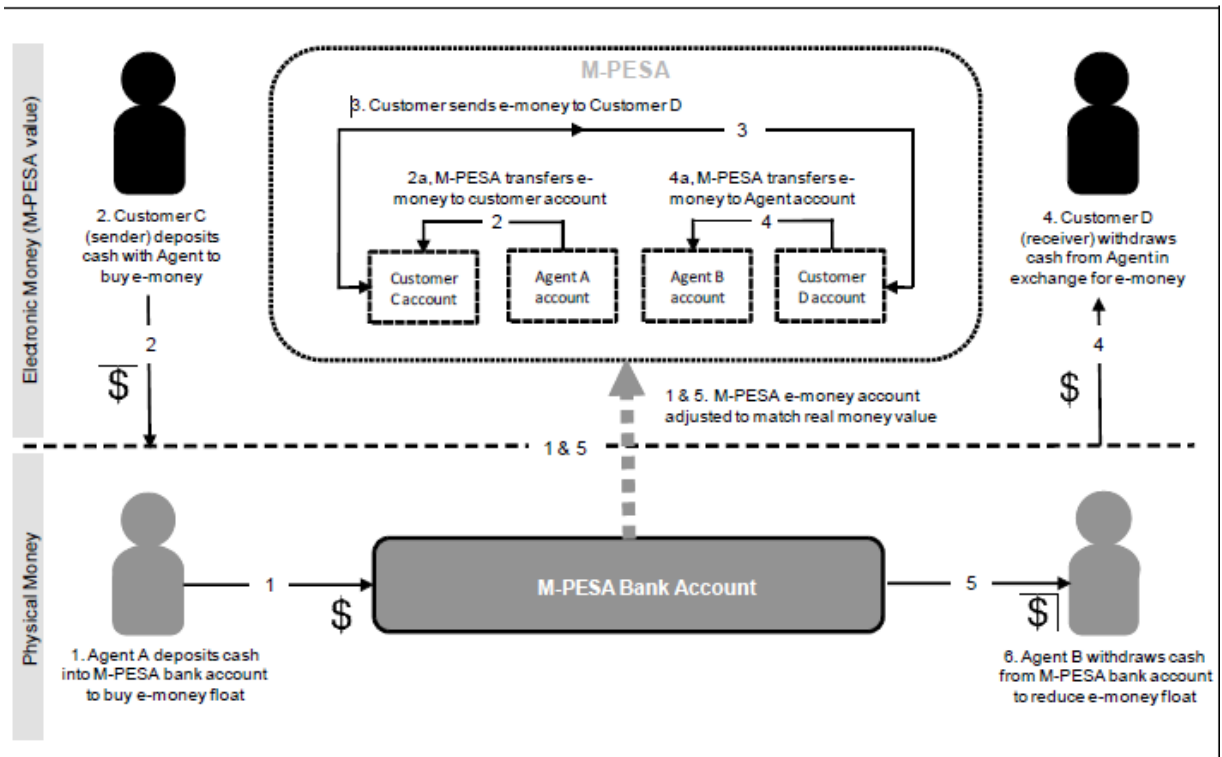
Figure 3.7.1: Workflow of M-PESA P2P Transaction in an Agent Network (IMF, 2012; Innovations, Winter-Spring edition 2007, page 75)

In a publication by IMF (2012), the widespread use of M-PESA has helped reduce transaction costs, and facilitated personal transactions. The same publication by IMF highlighted four key factors explaining M-PESA's success story-the dramatic expansion in the use of mobile phones, the inexpensive and flexible use of technology, favourable conditions for banks' penetration of new markets, and government policies.

M-PESA is a successful value proposition that has created an alternative payment network in Kenya, making it, in terms of sheer usage, one of the most advanced markets in the world. Kenya has the world's highest rate of P2P payments familiarity at 89 percent and a reported usage level of 70 percent (MasterCard, 2012).

3.7.2 Cambodia (WING)

In January 2009, Australia and New Zealand Banking Group Limited (ANZ)-one of the largest banks in the Asia-Pacific region launched WING, a mMoney service in Cambodia. ANZ launched WING for middle and low-income customers, the most of whom were previously unbanked. Only 5 percent of households in Cambodia had an account with a financial institution (Ghuliani, 2010).

In Cambodia, as in most emerging markets, it is not cost-effective to place bank branches or ATMs in rural areas, and it is impractical for people to travel to major cities such as Phnom Penh or Siem Reap to conduct financial transactions. Cambodia is largely a cash economy with about 500,000 of Cambodia's 14 million population having a bank account. However, an estimated three million Cambodians own mobile phone. Increasing migration from rural areas to the capital Phnom Penh, and many workers in the city regularly send money home to support family in rural areas (ANZ, 2010; Ghuliani, 2010).

As of July 2010, WING had more than 150,000 registered customers in Cambodia. The social impact of WING has been impressive. About two-thirds of previously unbanked customers were women. Research suggests that women tend to reinvest 90 percent of their savings in the health and education needs of their families, creating a virtuous cycle that leads to long-term prosperity. Generally, customers reported using 20 percent fewer informal financial services and 60 percent of WING's customers earn less than US$3 per day, while 30 percent earn less than US$1.50 per day-indicating that WING is meeting the needs of middle- to low-income people, its target customer base (Ghuliani, 2010).

WING was mooted to fill the large gap in formal banking services available in Cambodia. It was also meant to offer a cheaper, safer mechanism for movement of funds. However, the country also presented barriers to developing a mobile banking system. One of these was the low (though growing) level of cell phone usage. At the time WING was launched, only about 20 percent of Cambodia's population owned a cell phone (IFC, 2011b).

Three key features of WING provided easier access to the product: the operator-agnostic design, availability to non-customers, and low-cost transaction alternative. While WING offers a lower price than other money transfer practices in Cambodia, it still has difficulty in getting people to change their old habits (Ibid).

In November, 2011, WING was officially bought over from ANZ by a UK-based mobile communications outfit-Refresh Mobile. The brand name 'WING' according to Refresh Mobile would continually be used considering the impact WING has had on the hitherto unbanked Cambodian populace. WING remains one of the largest financial services provider and the foremost mMoney platform provider in Cambodia with an estimated customer-base of 350,000 users as at the end of 2011.

WING is delivering on its community goals with greater than 50 percent of customers unbanked while 48 percent are from outside Phnom Penh. WING has made significant changes to Cambodian rural dwellers small business activities, local cultural norms, social well-being, and financial management habits. The study identified the societal impacts of WING as a banking platform used to improve the livelihoods of the previously unbanked who were usually the poor in the Cambodian society (Watson, 2012; Fang, 2012).

Studies indicate that WING has the highest financial distribution footprint in Cambodia. It reported an average of 5 million transactions per month in 2011, rural dwellers accounted for 60 per cent of WING customers. WING is connected with all active MNOs in Cambodia and has 100 percent geographical coverage (ATN, 2012; Watson, 2012). Figure 3.7.2 shows the WCX network in the Kingdom of Cambodia.

Figure 3.7.2: WING WCX Network (Watson, 2012)

Ten per cent of WING's 400,000 customers would be classified as affluent or middle-class and some even kept a couple of thousand dollars on their WING account. Near-field communications (NFC) technology will be the next addition to WING's mobile platform for initiating smaller payments (Pellechi, 2012).

3.7.3 Pakistan (EASYPAISA)

Pakistan with a population estimate of 180 million people has only 12,700 bank branches with 16 million bank accounts. It is widely believed that 88 percent of the Pakistan population does not have access to formal financial services. This is particularly worrisome in rural areas, with only 2,500 banking branches servicing 105 million people. That is, an average of 42,000 Pakistanis per branch (Fundamo, 2012).

In 2009, Telenor Pakistan, one of Pakistan's largest mobile operators, partnered with Tameer Bank to launch EASYPAISA, the largest mMoney initiative in the country. EASYPAISA offered customers an affordable and secured financial services that could be easily accessible from a corner shop. Also, EASYPAISA customers can easily access services from their mobile phone account. EASYPAISA has grown from 2,500 to 16,000 agents throughout Pakistan. It has more access points than the entire banking sector combined (Kalsoom, 2012; Business recorder, 2012).

While EASYPAISA was uniquely designed to provide the poor access to finance, early adopters of branchless banking seem to be a mix of different income classes, since those customers usually understand the value of and use of mMoney, often resorting to it for convenience purposes. However, this does not mean that the intended low-income customers are not serviced (Kalsoom, 2011).

Pakistan was hit by devastating floods in July 2010. Using EASYPAISA made it possible for donations to be made to relief organizations. EAISYPAISA account holders made donations directly from their mobile wallets and anyone could walk into one of the agents to make donations. In March 2011, 1.3 million customers processed 1.9 million EASYPAISA transactions and $39.2 million in transaction flows. So far, 39 million transactions have been carried out through EASYPAISA, moving 805.5 million USD through the system since the service was launched in 2009. In a short time, EASYPAISA has become a household name

and is making it possible for millions of people to use mobile financial services (Kendall, 2011a; Business Recorder, 2012; Fundamo, 2012).

Assuming EASYPAISA follows a similar trajectory, we could anticipate that it will continually widen access to financial services for the unbanked population. This offers promising evidence that EasyPaisa could be an effective vehicle for increasing financial inclusion among Pakistan's poor and unbanked populations. The inclusion of the previously unbanked population in the conventional financial system is creating ample opportunities for people to save their money as well as an efficient payment system devoid of productivity loss (Kendall, 2011a; Business Recorder, 2012).

EASYPAISA and Pakistan-based Adamjee Life Insurance Company Limited, have partnered to launch a free life insurance coverage for EASYPAISA clients. The insurance product will help meet EASYPAISA's vision of financial inclusion for all. Also, EASYPAISA is in partnership with Employees Old-Aged Benefits (EOBI) to offer money transfer services to thousands of pensioners across Pakistan. This represents the first ever Government-to-Persons (G2P) payment system through branchless banking. The project will enable 300,000 pensioners to collect their pensions from easily accessible EASYPAISA outlets (Yasir, 2011; Newmann, 2012).

In a CGAP survey covering 327 EASYPAISA customers at 10 locations spread across both rural/semi-urban and urban population, about 41 percent live on less than $2.50 per day, while 69 percent live on less than $3.75 a day. Of the users surveyed, over 90 percent rated EASYPAISA as highly effective. Around 88 percent found the service easy to use; two-thirds of the respondents are repeat users; 65 percent use the service to send money home at least once a month. It also revealed that 45 percent of EASYPAISA users lack access to bank accounts, suggesting that EASYPAISA has already achieved relatively strong penetration amongst the poor and unbanked population (Kalsoom, 2011; Kendal, 2011a; Business Recorder, 2012). The income profile of the survey data is as shown in figure 3.7.3.
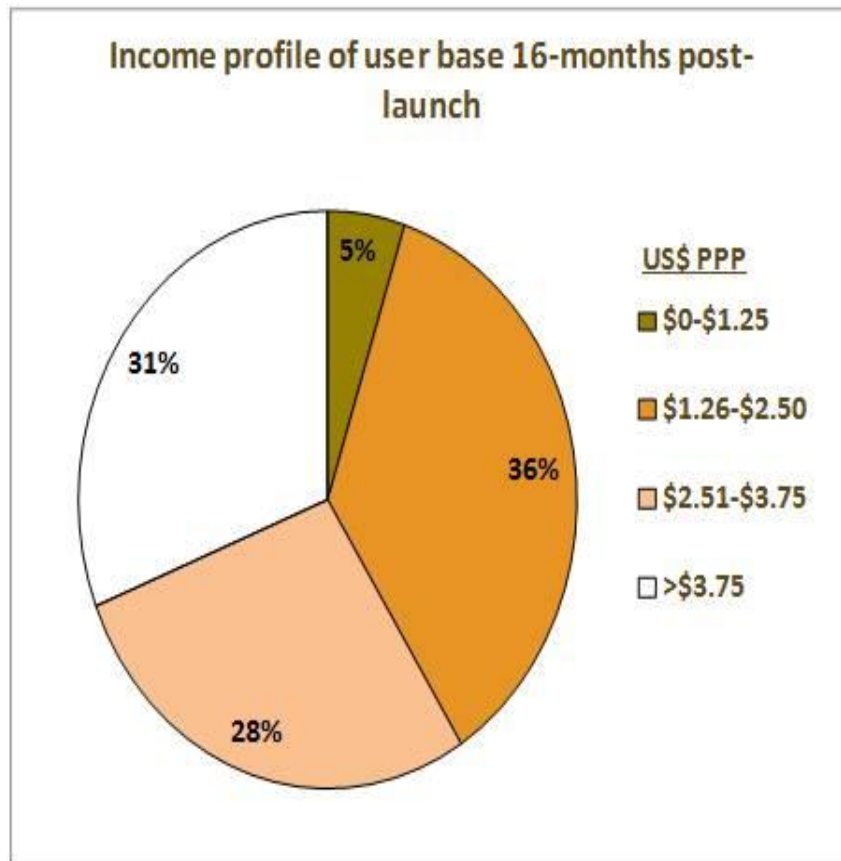
Figure 3.7.3: Income Profile of EASYPAISA's user base Survey (Kendall(2011b); Coffey International Development (2011))

The critical success factors of EASYPAISA include a market with a highly mobile penetration but yearning for financial inclusion, a proactive mobile operator, and an operator with a banking licence (Fundamo, 2012).

A BCG study reviewed by Business Recorder (2012) and Hussain (2012), pointed out that 35 percent of the Pakistani adult population could be mobile financial services users by 2020, reducing the number of unbanked 20 percent by 2020 and increasing financial inclusion to 41 percent. This could ultimately fuel business activity which in turn could create additional one million jobs and a rise in GDP by 3 percent.

3.7.4 Philippines (SMART Money)

The emergence of the Philippines as an early pioneer in mobile financial remittances reflected the needs of overseas Filipino workers (OFWs) to send remittances home. OFWs sent home approximately US$18 billion in remittances in 2008 (approximately 11 percent of GDP). Many OFWs also came from provinces where formal financial infrastructure was limited and payments have been often cash based. The high SMS literacy rate of the Filipino mobile users (75 percent of the population are mobile phone subscribers and send a billion text messages daily) would make it a natural candidate for implementing mMoney.

mMoney was also seen as a means of reaching deeper into rural areas without costly investments in infrastructure, while reducing the cost of payment services. Out of 1,635 municipalities in the country, only 610 have banks and only 27 percent of Filipinos has access to formal financial channels (The Philippine Star, 2011; IMF, 2012).

In 2001, SMART Communications partnered with Banco de Oroa, a Filipino commercial bank, to launch "SMART Money". SMART Money remains the archetype mMoney service in the world. The service, which uses SIM Tool-Kit, enables customers to buy airtime, send and receive money domestically and internationally via mobile, and pay for goods using a prepaid card which is tied to a 16-digit mobile phone account. The cash can be withdrawn from the phone account at either an ATM or one of the many SMART encashment centres. (GSMA, 2009; Kim, 2011).

The spread of SMART Money's 'money-in, money-out' (MIMO) network played a key role in the adoption of the service. SMART Money has partnerships with the Philippines' top banks and ATM consortia, collaboration with local and international remittance companies and access to millions of MasterCard establishments. The transaction volume processed in 2009 amounted to 2 billion USD (CGAP, 2010; The Manila Times, 2012).

SMART Money has on avearge 79 percent more active, previously unbanked clients than the largest MFI in the same country has among its microcredit clients. In the Philippines, one in ten unbanked mMoney clients has already stored an average of US$31 in his or her mobile wallet. Clients report that this amounts to one-quarter of their household savings (Pickens, 2009).

In 2010, SMART Money was introduced to 48 island communities, mostly in the Visayas and Mindanao. These communities with a population of close to two million inhabitants, have limited or no access to banking services. Working with local MFIs, SMART Money made it possible for residents of these communities to send and receive funds through "money-in-money-out" (MIMO) encashment centres (Reyes, 2010).

There are over 8.5 million Filipinos using Smart Money. In 2010, SMART Money facilitated PHP 13.5 billion (USD 320 million) worth of transactions within remote communities that used to have limited or no access to financial services. SMART Money provides Filipinos anywhere in the archipelago with simple, secure, affordable and convenient means to send and receive cash, even without the availability of banks and ATMs in their communities. In 2011, SMART Money- the country's first and largest electronic wallet service posted a 133% surge in online transactions. The surge in online purchases indicates that SMART Money users see it as a convenient and safe online payment tool (The Philippian Star, 2011; Smart, 2012).

The experience of the Philippines has shown that the central bank can effectively support innovations in mobile technology to increase financial inclusion by working with MNOs, while developing prudential regulations. It shows that a good mix of market-led initiative and also an enabling regulatory framework could be an effective means of increasing access to financial services. The further expansion of mobile financial services has the potential to cut high costs of financial service delivery in areas of low population density with limited transport infrastructure (IMF, 2012). Figure 3.7.4 shows the usage of mMoney services by the unbanked in the Philippines.

Figure 3.7.4: The Philippines: Usage of mMoney Services by the Unbanked (Pickens, 2009).

4. ANALYTICAL PART

4.1 Macroeconomic Environment Dynamics of mMoney Market in Nigeria

In this section, the author is interested in analysing the Nigerian ecosystem most especially as it pertains to the mMoney market. The PEST Analysis which is an acronym for Political, Economic, Social and Technological factors, is a strategic tool that is useful in analysing the external business (macroeconomic) environment dynamics of any market or industry. The PEST Analysis would be used to understudy the ongoing trends in Nigeria as some of these factors (trends) might likely have either a direct or indirect impact(s) on the success or failure of the mMoney market in Nigeria. Figure 4.1 shows a framework of PEST Analysis of the Nigerian mMoney market.
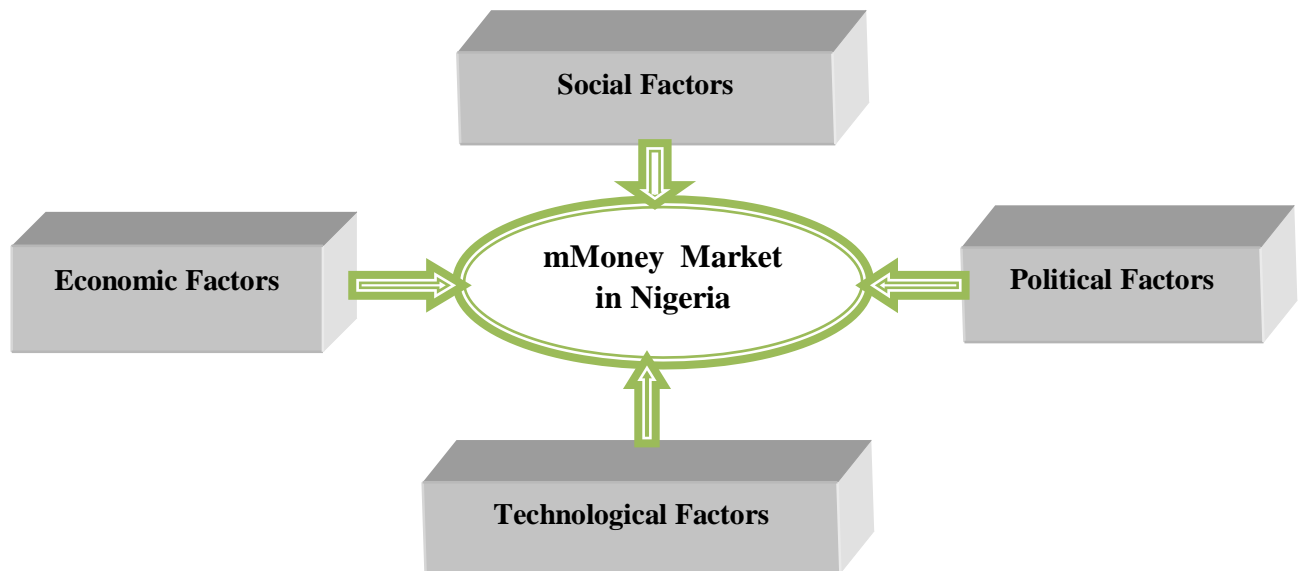
Figure 4.1: Framwework of PEST Analysis of the Nigerian mMoney Market
(Source: Author's Own Work)

4.1.1 Political Factors influencing mMoney

The Nigerian political landscape has been relatively stable since 1999 nevertheless government policies and economic reforms to creating an enabling business environment have made little progress due largely in part to policy inconsistencies, corruption, and bureaucratic bottlenecks.

Religious intolerance most notably the infamous Moslem sect-Boko Haram in Northern Nigeria as well as the kidnapping menace in the South-East and South-South geopolitical zones of Nigeria have had a negative toll on the political landscape.

It suffices to state that the menaces so far have not only led to colossal loss of lives and wanton destruction of properties worth millions of US dollars but also taking a toll on investment climate in the affected regions. Of course, the Nigerian government is making concrete efforts in contending with these menaces by way of stakeholders' engagements to finding a lasting solution to these security threats but so far little has been achieved.

In the World Bank's Doing Business Report of 183 economies, Nigeria's overall ranking was up from the 137 in 2011 to 133 in 2012. Nonetheless, Nigeria fared better when compared to the average ranking of 137 for sub-Saharan African countries (AfDB, et al. 2012).

There have been ongoing economic reforms in the country most especially as it applies to both the telecoms and financial sectors of the Nigerian economy. In 2009, the Central Bank of Nigeria (CBN) came up with a mobile payment framework, which is aimed at transiting the the largely cash-based economy to an electronic-driven cashless economy.

More so, the National Financial Inclusion Strategy as part of Nigeria Vision 2020 is solely aimed at making Nigeria one of the largest economies in 2020 by increasing access to finance to the BoP.

Unfortunately, it is rather worrisome that the country is yet to have any legislation bordering on electronic payments or cyber crimes. Sources indicate that the National Assembly is making frantic efforts in trying to harmonize all the bills on electronic transactions so as to come up with a robust legislation and in tandem address all grey areas associated with the conduct of electronic-based transactions as well as cyber crimes.

In March 2011, the Nigerian Communications Commission (NCC), commenced SIM card registration, which was aimed at having a national database of all SIM card users in the country. NCC has equally secured the approval and gazetting of the Quality of Service (QoS) Regulations of the Federal Ministry of Justice, which empowers the NCC to take some severe measures when MNOs are found wanting most especially in of quality of service (Okeke, 2012).

The move by the NCC to protect the rights of GSM subscribers by way of reimbursements enforced on defaulting operators in addition to the planned suit by some subscribers would go a long way in boosting the trend of consumerism in Nigeria (Halliru, 2012).

Despite the fact, that the Federal Government of Nigeria is constantly making efforts to creating an enabling business environment for both local and foreign investors, corruption and lack of accountability amongst public office holders both past and present remain the biggest bane of economic development. In a recent publication on corruption perceptions index by Transparency International, Nigeria ranked 143 out of 183 countries.

The Jonathan Goodluck-led administration as part of his 'transformative' agenda has promised to fight corruption and equally lead by an example as well as mobilize resources for the Nigerian anti-graft agencies - ICPC and EFCC. The government is equally promising to remove unnecessary tax burdens on newly startup companies, incentivise the ailing manufacturing industry, and boost agricultural production through subsidization of agricultural inputs.

4.1.2 Economic Factors influencing mMoney

Based on a 2011 estimate, the Nigeria's GDP was estimated at 273.042 billion US dollars. A publication by the National Bureau of Statistics (NBS), shows that the GDP growth rate accelerated from 6.17 percent in the first quarter of 2012 to 6.48 percent in the third quarter of 2012. The Nigerian economy is largely crude oil based, hence, international shocks on oil market prices have an adverse effect on the nation's foreign exchange earnings, albeit, the nation's budget is heavily financed by petrodollars.

The Nigerian economy is riddled with systemic inefficiencies and lacks transparency coupled with a harsh entrepreneurial environment. Over the past three years, Nigeria's economic freedom score has witnessed a steady fall from 56.8 in the 2010 index to 55.1 in the 2013 index, the Nigerian economy is assumed to be the 120th freest in the world.

The unemployment rate in Nigeria has been on the upswing. It rose from 5.3 percent in 2006 which incidentally was the all-time low since the history of Nigeria to 23.9 percent in 2011. The inflation rate in Nigeria was estimated at 11.70 percent in October of 2012 . Based on a 2011 estimate, the Naira exchanged for 153.9 to 1 USD. The commercial bank prime lending rate as of December, 2011 was 16.02 percent (CIA, 2012; The Heritage Foundation, 2012; Trading Economics, 2012). The Nigerian economy is expected to grow in real terms by at least 7 percent between 2013 and 2015 (see table 4.1.2).

Table 4.1.2: Historical and Projected Growth rates for GDP, Inflation and Trade (NBS, 2012)

Year	2007	2008	2009	2010	2011	2012f	2013f	2014f	2015f
GDP (%)	6.45	5.98	6.96	7.98	7.36	6.77	7.67	7.43	7.25
Trade (%)	5.08	16.88	-3	57.49	47.87	-6.5[1]	5.86	20.6	16.44
Inflation (%)	5.57	11.98	11.97	13.59	10.91	13.05	12.21	12.04	11.91

In a similar trend, analysis of contributions to GDP in the first half of 2012 indicated that there were declines in the contribution of the agricultural sector by 0.79 percentage points year on

year, as well as declines in the crude petroleum and natural gas sector by 1.17 percentage points. Some sectors which recorded positive increases of their share to GDP include telecommunication and post (1.39 percentage points), wholesale and retail (0.42 percentage points), building and construction (0.15 percentage points) (NBS, 2012).

Nigeria indeed is a paradox of a wealthy nation with pauperized citizenry. In spite of the economic growth rate, about 68 percent of the Nigerian population lives below the poverty line of less than 1.25 US dollar per day (Purchasing Power Parity). Agriculture remains the largest contributor to the nation's GDP as well as the largest employer of labour given that a majority of Nigerians live in both rural and semi-urban areas.

Rising inflation and unemployment rates have not helped matters in Nigeria. The majority of of the unemployed is within the age range of 17- 44. A mass army of employable youths continually roams the roads and streets of the urban centres without jobs and this in a way has fuelled crime wave in urban centres as well as a high dependency ratio within the country.

So far, current government policies for curbing the high unemployment rate have recorded little or no success in terms of employment generation. In a similar fashion, the cost of doing business in Nigeria remains high due to inadequate with dilapidated infrastructure as well as endemic corruption and bribery most notably amongst serving public office holders.

More so, rising interest rate and instability in the exchange rate have had its negative impact on the private sector. Given the peculiarity of the Nigerian economy as highly import dependent, albeit as a nation, her chief export remains crude oil. The unpredictability in the exchange rate has not only led to imported inflation in the country but also capacity under-utilization since most companies can no longer produce at optimum capacity due to rising input prices.

Access to funding remains low due to high prime lending rate by commercial banks which stood on the average of 22 percent as of December, 2012. More so, loan requirements of

financial organisations are quite bureaucratic and unrealistic to meet up by SMEs and other micro-enterprises and which in tandem stifles private sector growth.

The Nigerian population is estimated at 170 million (as of July, 2012) with an active population of 97 million people, presents a huge marketing opportunity for private enterprises to tap into as long as the government is able to create an enabling environment for private enterprises to thrive as well as attract the inflow of FDIs. Higher and sustainable GDP growth rates as well as robust economic policy instruments to combat the two-digit inflation and unemployment rates could lead to increased private consumption and ultimately bring the much-needed real economic growth impact on the average Nigerian.

The service sector has been a major contributor of the country's economic growth, and most sub-sectors under this group posted a double-digit growth in 2011. In particular, the telecommunication sector recorded some 30% growth. This sector, together with the banking sector, has created a considerable amount of high-paying job positions, fuelling the expansion of the middle-income population in recent years (HKTD, 2012).

The government's priority seems to be shifting towards boosting the nation's Human Development Index (HDI) which is currently put at 0.459 by encouraging public-private partnership investments as well as donor agencies in these critical areas- health, education, employment generation, and provision of social infrastructure. Over time, the share of spending in these critical areas in the federal budget has been on the rise. The government is poised at pursuing a growth inclusive economic model which would bring succour to majority of Nigerians especially the BoP.

The present government has equally made giant strides in the provision of power supply and has unbundled the Power Holding Company of Nigeria (PHCN) to about 18 successor companies which are all privately managed. The rationale behind this is to ensure the nation enjoys relatively stable power supply as well as 'light-up' rural areas which were previously without electricity.

4.1.3 Social (Sociocultural) Factors influencing mMoney

Nigeria with a surface area of 924,000 square kilometres is the most populous country in sub-Saharan Africa with an estimated population of 170,123,740 million (CIA World Factbook , 2012). It is a country of diverse sociocultural settings and it is made up of more than 250 ethnic groups spread across 36 states and the Federal Capital Territory, Abuja. There are three core ethnic groups in Nigeria - Hausa, I(g)bo, and Yoruba. Aside the fact that English Language is the official language; Hausa, I(g)bo, Yoruba and Pidgin English are widely spoken across the length and breadth of Nigeria.

Age structure for 2012 indicates that 43.9 percent of the population is in the 0–14 age group, 53.1 percent of the population are 15-64, and 3 percent constitutes those aged 65 years and above. The demographic trend reflects not only a young population but also an active Nigerian population. The population growth in 2012 was estimated at 2.55 percent. The sex ratio at birth was 1.06 males per female in 2012. Moreover, of the total population, males make up 51 percent and females, 49 percent. The annual urbanization rate is put at 3.5 percent which is expected to stay at this level till 2015 (CIA World Factbook, 2012).

Nigerians are deeply religious minded as well as superstitious in their belief systems. In Nigeria, 50 percent of the population is Muslim, Christians constitute about 40 percent, and indigenous belief is 10 percent. Nigeria by the constitution is a secular state and guarantees freedom of worship for her citizenry.

As stated on UBEC website, "the Universal Basic Education (UBE) Programme was introduced in 1999 by the Federal Government of Nigeria as a reform programme aimed at providing greater access to, and ensuring quality of basic education throughout Nigeria" (UBEC, 2012). The UBE Programme core objective is to provide free education for both primary and junior secondary school levels. The Nigerian education system is formally divided into three levels - primary, secondary, and tertiary levels.

In Nigeria, there is huge variation in adult literacy rates amongst the federating states - Lagos 80.5 percent (literacy in English) 87.7 percent (literacy in any language) and Yobe 24.2 (literacy in English) and 48.9 (literacy in any Language). Other states where literacy rates are very low, particularly in English include: Jigawa 26.1 percent, Kano 27.8 percent, Katsina 27.5 percent, and Zamfara 26.2 percent (Daily Trust, 2012). 57.9 percent of the adult Nigerian population is able to write and speak in English Language.

The Nigerian minimum wage is roughly about 120 USD monthly but this is not applicable to the private sector. Although, both consumer expenditure and annual disposable income rose from 147,043.2 million USD and 140,316.9 million USD respectively in 2011 to 148,276.6 million USD and 142,074.8 million USD respectively in 2012, the share of the poorest quintile in national income or consumption represents 4.4 percent between 2000 to 2011 (Euromonitor, 2012).

According to NBS (2012b), "the North-West and North-East geopolitical zones recorded the highest poverty rates in the country with 77.7% and 76.3% respectively in a 2010 harmonised Nigerian living standard survey". Incidence of poverty by Nigerian geopolitical zones using different poverty measures in percentage is as shown in Appendix D.

The Nigerian society is a male chauvinistic society. The male sex wields a lot of power both in the public domain and at home. As traditions and customs demand, power and responsibility tend to be clearly differentiated along generational lines. Given the fact that Nigeria is more of a collective society than individualistic, Nigerians are quite attached to their extended families, age groups and their local communities.

Nigerians have more explicit confidence in family institutions compared to formal and organized institutions. Nigerians are strongly influenced by family and friends as well as religious, community, and opinion leaders. The Nigerian local media as well as western media perhaps due to globalization have equally played key roles in influencing the mindset of millions of Nigerians.

The emergence of social networking platforms such as Facebook, Twitter, Flickr, Linkedln, Nanaija, Nairaland, and LAGbook have all had tremendous impacts within the Nigerian community by strengthening family ties and relationships as well as building new ones. A majority of the Nigerian youths have become addicted to these social media sites because they see it as a platform for socializing and making new friends both at home and abroad.

There is an upward trend in mobility as well as Internet usage in Nigeria. An average working class citizen in Nigeria has at least two mobile phones which could either be attributed to poor network coverage or perhaps a means to show off. That Nigeria is quite a materialistic society is an understatement! A typical Nigerian youth is 'BlackBerry phone crazy'. Recent statistics indicate that the BlackBerry phone is the most used and popular Smartphone in Nigeria.

The buzzword in mobile communication amongst Nigerian youths appears to be 'PING'- a means through which a BlackBerry phone user communicates with another BlackBerry phone user via BlackBerry instant messaging service (BBMS), which is usually a free service as long as there is availability of Internet service. More so, it appears that in Nigeria, a chunk of the population who surf the Internet on a regular basis do so using the mobile phone. It is equally a common trend in Nigeria to send airtime - recharge cards (mobile vouchers) as gift items to loved ones and associates via SMS. The recharge cards are usually converted into discounted cash equivalents.

Nigerians habitually enjoy doing business transactions in cash and would easily prefer to be paid in cash no matter the volume of transaction rather than in cheque or electronic means, this could be largely attributed to trust deficit amongst other institutional factors. An average Nigerian perhaps due to his (her) impatience ('sharp-sharp') nature, hardly trusts anyone not even the financial institutions when it comes to financial dealings.

By and large, Nigerians are brand conscious consumers even though they are quite sensitive about pricing. Once, Nigerians are able to identify with a good brand, they ultimately build loyalty along that brand name and would go the extra mile of coaxing their loved ones and others to use the same brand name .

When there is consistent service failures on the part of a service provider, no matter the degree of loyalty it has built amongst Nigerian customers, the same customers would purposefully bad-mouth the service provider by going the extra mile of dissuading others from using the same service provider. This shows that Nigerians are not only brand-sensitive but also expect service providers to be much more proactive and customer-centric.

4.1.4 Technological Factors influencing mMoney

August, 2001 marked a watershed in the socioeconomic landscape of Nigeria. This marked the beginning of the GSM revolution in Nigeria. Prior to this period, the telephone was seen as the exclusive preserve of the rich in the Nigerian society. The Nigerian telecoms sector has witnessed tremendous growth over time. The number of active subscriber base rose from 400,0000 in 2001 to over 100 million in 2012. The compound annual growth rate (CAGR) between 2005 and 2011 stood at 38.6 percent.

Going by the current trends in the Nigerian telecoms market within the past one decade, the country is unarguably one of the fastest growing telecoms markets in the globe and this is a reflection of the huge opportunities available in the Nigerian economy considering the network effects of mobile communications.

In a survey conducted by InMobi (2012), Nigeria, like many other emerging markets, remains highly mobile centric. 87 percent of the respondents stated that they expect to make purchases via their mobile phones within the next 12 months. The survey "revealed that for many consumers, mobile devices are the vastly preferred channel for the purposes of communication, entertainment, obtaining information and, even, online shopping."

Specifically, the Nigerian telecoms sector seems to be gaining traction on a monthly basis. The Nigerian teledensity was 80.85 percent in December 2012, up from 78.82 percent in November 2012. Private investments in the telecoms sector between 2006 and 2010 are estimated at 14,384.1 million USD.

In a similar trend, the apex regulatory body in the Nigerian telecoms sector-NCC would commence Mobile Number Portability (MNP) in the first quarter of 2013. The MNP is the process that enables mobile telephone users to retain their mobile telephone numbers when switching from MNO to another. MNP equally provides an effective means of checking anti-competitive behaviour of some mobile operators as addressing the poor quality of service (The Guardian Nigeria, 2012).

While mobile technology has witnessed exponential growth in terms of usage in Nigeria, the same cannot be truly said of Internet and PC penetrations in Nigeria. Though the number of Internet users in Nigeria rose from 23.98 million in 2008 to 51.62 million in 2012 (Euromonitor, 2012), the broadband speed is still relatively slow when compared to what is obtainable in advanced economies.

Nigeria was ranked at the 112th position with a scorecard of 3.2 out of the 7-point maximum scale in the global Networked Readiness Index (NRI). The index provides a veritable tool for assessing technology competitiveness based on ubiquity, usability, affordability, reliability, speed, and skill amongst other factors.

In the 2012 survey conducted by EFInA on access to financial services in Nigeria, 93.7 percent of adults who have a bank product conduct their transactions in a bank branch while transactions through ATM, mobile phone, Internet, and POS were 60.2 percent, 2.4 percent, 0.9 percent, and 0.8 percent respectively.

In a bid to leverage the usage of electronic channels for financial transactions, the nation's apex bank-CBN has made plans to increase ATM and POS terminal penetration from its current state of 11.8 units per 100,000 adults and 13.3 terminals per 100,000 adults respectively to 88.5 ATMs per 100,000 adults and 442.6 POS terminals per 100,000 adults in 2015.

In a survey conducted by NBS in 2011 on the distribution of ownership and access to ICT devices amongst Nigerian household, radio and mobile phone are the most widely used devices. What is even much more worrisome from the survey report is the sharp digital divide between rural residents and urban residents. The rural dwellers had 58.5 percent access to mobile phone compared to their compatriots in the urban areas with 84 percent access. For PC access, the urban population had 12.6 percent while it was 2.4 percent in rural areas. Similarly, access to Internet services was 11.6 percent in urban areas while it was 1.6 percent in rural areas. The distribution of ownership and access to ICT is as shown in Appendix E.

The survey report (p. 18) went further to state that "*ICTs are continuously evolving and, in many cases, a single device (mobile phone) could perform the function of all others, obviating the need to own multiple devices. Furthermore, considering the poor electricity supply situation in the country coupled with national poverty levels, PC and internet access are still relatively expensive in most parts of the country, hence the low levels of access and ownership.*"

In Nigeria, R&D is abysmally low and given the import-dependent nature of the Nigerian economy, the Nigerian public and private sectors rely heavily on foreign technologies for survival. Although, the Nigerian government has been consistently harping on local content as a way of encouraging innovation amongst indigenous industries, yet government's spending on R&D remains low. The expenditure on R&D as a percentage of the Nigerian GDP was estimated to be 0.22 percent in 2007.

Overall, mobile communication is gaining increasing usage in Nigeria. This presents prospects for growth in the area of mobile commerce and the Nigerian economy as a whole. However, there is a great need for firms and other business stakeholders to look more inwardly critically on value creation most especially as it applies to using mobile phones to serving the Nigerian critical mass.

4.2 mMoney Adoption Barriers, Challenges and Consumer Behaviour in the Nigerian Society

The analysis of this section is based on stakeholders' perspectives bearing in mind that adoption barriers, challenges and consumer behaviour provide the yardstick to assess the progress, anticipated impacts, and sustainability of mMoney in Nigeria. The author of this thesis is not oblivious of the fact that due to the Nigerian macroeconomic environment dynamics, the facts herein stated on the research work is not an exclusive list but for the purpose of academic work, some of the major factors would be highlighted and briefly discussed.

4.2.1 Trust

According to Tobin (n.d.), "trust is defined as a measure of the consumer's level of assurance that the service will be provided with minimum possible hindrance." Perceived trust is widely believed to have influence on consumers' behavioural intentions. Trust in this research work does not only involve assurance of the system but also the measures that have been put in place to combat fraud and theft incidences considering the Nigerian context. The Nigerian business environment suffers from trust deficit and this has rubbed off negatively on the financial sector as well as the MNOs.

Nigerian banks in recent years have suffered from near collapse that it took the intervention of CBN to inject public funds into some of the ailing banks and about three of the banks were nationalized in the process not forgetting the fact that more than 30 percent of the Nigerian Microfinance Banks (MFBs) folded up in 2010. All these events have dampened customers' confidence in the financial sector. The MNOs suffer a similar fate due to service delivery hiatus; pockets of thousands of mobile subscribers have at least two active lines due to mistrust of MNOs services and this is largely attributed to poor QoS. It does not portend well for the high uptake of mMoney amongst the unbanked since the core of any financial service delivery is built on customers' trust.

The Nigerian financial system has a well documented history of how players in the financial sector have not only engaged in unethical practices but also misappropriated depositors' funds.

Depositors have suffered untold hardships resulting from their loss of money. There is no gainsaying the fact that this has lowered depositors' confidence in the Nigerian financial institutions even though the Nigerian financial system is beginning to show signs of good corporate governance. It is rather obvious that both the financial sector and MNOs suffer reputational crises and as such many people who have heard about mMoney are still hesitant about using this innovative banking service. A few views on trust as expressed by respondents based on the author's survey are itemized below:

Respondent A - "*mobile money is a good service that if deployed it will help mostly the villagers to easily receive money from their relatives in the city. But this project's success will rely on how far it can be trusted by the users*"

Respondent B – "*lack of trust is one of the major issues faced by customers in regards to mobile money services*"

Respondent C- "i*t is an issue of trust among the unbanked, especially very many of this category of people are already used to the traditional Esusu system/Ajo (in different forms) of savings…*"

Respondent D - "e*liminate fraud and confusion in the industry*"

4.2.2 Perceived Risk (Security Concern)

Situating perceived risk with mMoney transactions, perceived risk may be defined as consumers' belief that using mMoney would most likely expose them to certain dangers which might have an adverse effect on their finances and privacy.

Consumers' desire to minimize risk supersedes their willingness to maximize utility and thus their subjective risk perception strongly determines their behaviour. This is especially true for

the adoption of innovations, as consumers lack experience with the new product and find themselves in a situation of high risk (Bauer et al, 2005; Tobbin, n.d.).

Risks within the context of this research include operational risks (some agents might run away with depositors' funds, liquidity crisis, transactional errors), and consumer privacy (data security). The regulatory body is equally worried about proactive measures to put in place to check money laundering and terrorism financing by using tiered KYC. Some of the deep concerns expressed by respondents from the author's survey are as follows:

Respondent A- "*it saves time but not less risky. A lot of people know about this product but are scared to use it because of security of transaction issues*"

Respondent B– "i*f you lose your mobile phone or if your SIM is blocked, you will lose access to your money as well*"

Respondent C- "w*ho is to be held responsible if I lose my money?*"

Respondent D–"*regulatory authorities should work on the transaction security and safety of funds*"

4.2.3 Awareness, Affordability, and Accessibility (The 3As)

For the purpose of this research, the author is of the view that the 3As ought to be in sequential order for mMoney to have its anticipated impact in Nigeria, nay other emerging markets. So far, the awareness campaigns by MMOs seem to be targeted at only popular Nigerian cities thereby neglecting a chunk of the underserved banking populace in the rural areas.

More so, it appears that only few MMOs are engaged in aggressive awareness campaigns and some of these campaigns have not been well tailored to the right audience. Many Nigerians living outside the major cities are yet to be conversant with mMoney service. A survey by EFInA (2012) shows that 66.2 percent of the Nigerian adult population is not familiar with mMoney and only 20.6 percent can explain what mMoney is all about. Some of the views as expressed by respondents based on the author's own survey are given below:

Respondent A- *"people don't still know much about mobile money"*

Respondent B- *".... make it more understandable to Nigerians"*

Respondent C-*"awareness is still low but I believe with time, especially with more sensitization from regulatory bodies like the CBN, the adoption rate will greatly improve"*

Respondent D-*"more enlightenment to the unbanked and underbanked on the need to key into our ever changing world of technology"*

Respondent E – *"a lot still needs to be done to create awareness as a lot of customers do not yet know about mobile money service"*

Affordability or pricing of the mMoney service is another key factor which might hamper the adoption rate given that the target group or the supposedly users of this service are the BoPs, and who ultimately are "very very" price sensitive.

The BoP market is much more inclined to the purchase of goods in comparison with service offerings. Selling banking services mixed with technology to the BoP demands an evolving pricing strategy that is perceived by the people to be the cheapest alternative otherwise the anticipated volumes of transactions in this (BoP) market would never be achieved and as such no sustainability for such a product offering given the peculiarity of the BoP market.

The author is not oblivious of the fact that what consumer A deems to be expensive might be deemed to be inexpensive to consumer B, and as such pricing is more of a perception but this assertion is not entirely true for the BoP segment given that they have little or no resources to make buying choices. Some of the respondents' views on affordability are stated below (Author's Survey):

Respondent A-*"surcharges are still considered too high by users"*

Respondent B- *"make banking cheap....."*

Respondent C – *"zero interest charge would make it more appealing"*

Respondent D- *"the cost should be encouraging"*

Many Nigerians have also claimed that they hardly see any mMoney agent within their vicinity or workplace. Even author's interactions with some Nigerians in semi-urban areas attest to the fact that mMoney agents are hardly deployed in these areas let alone rural areas.

Recent statistics as of December, 2012 has it that the number of mMoney agents deployed by MMOs to serve the Nigerian unbanked and underserved banking populace was less than 5,000 agents. This statistic is very worrisome and it shows that MMOs are yet to really make any meaningful impact as far as financial inclusion is concerned because without the presence of a large number of agent networks spread across the Nigerian federation most notably in rural and semi-urban areas, mMoney cannot be said to be a true success story in Nigeria. Some of the views expressed by respondents based on the author's survey are stated below:

Respondent A –"*make it more accessible*"

Respondent B -"*mobile banking agent must be on every street in the country*"

Respondent C- "*availability of the mobile money agents at the nooks and cranny of the nation. I will consider this service very helpful to the aged and the village dwellers if they can easily find the agents around*"

Respondent D- "*mobile money deployments in rural areas*"

4.2.4 Support Structures and Infrastructure Deficit

As of March, 2013, Nigeria as a country was yet to have an eCommerce Act or legislations bothering on electronic related transactions and cyber crimes even though the bills have long been tabled before the Nigerian legislative body. Though the CBN has some regulations guiding electronic transactions but experts believe these are not comprehensive enough considering electronic transactions' dynamics and cyber crimes. More so, dispute resolutions in Nigeria are quite cumbersome. The Nigerian Judicial system has a history of a backlog of court cases and justice is usually delayed and even at times the wishes of the common man are not materialized due to the protracted and elongated nature of court cases in Nigeria. This in a way erodes the confidence of ordinary Nigerians in the judicial system.

Inadequate communications infrastructure with poor quality of service (QoS) delivery by MNOs has not equally helped matters. Likewise, service downtimes by operators which could be due to power cuts or technology failures are quite common in the country. Incessant power outages are very rampart in Nigeria. For firms to avoid service interruptions, they would have to purchase diesel-powered generators so as to keep their businesses running. Even some villages in Nigeria are yet to be connected to the national grid and these villages live in perpetual darkness.

Even where there are existing road networks in place, most of these road networks are begging for rehabilitation since the roads have turned into death traps. Bad roads and inadequate power supply have cut off so many local communities from a beehive of economic activities in Nigeria, the same can be truly said of SMEs that have gone bankrupt due to the infrastructure deficit in Nigeria.

The lack of support structures and infrastructure in so many ways have impeded the growth of MMOs. To corroborate the author's assertions, listed below are some of the views as expressed by respondents (Author's Survey):

Respondent A-*"support structures and infrastructure must be in place"*

Respondent B-*"network fluctuations and failure, Infrastructural challenges"*

Respondent C-*"technology issues (Unavailability of network in some rural areas."*

Respondent D- *"resolving all networks and infrastructural challenges"*

Respondent E-*"infrastructural problems (power supply and internet connectivity) need to be firstly resolved"*

4.2.5 Education (Financial and Information Technology Literacy)

High literacy level is a sine qua non for any meaningful development in any nation given that we live in a globalised knowledge-based community. Many literate adult Nigerians still find it difficult to adapt themselves to modern technology though this trend seems to be changing

amongst the younger generation yet the younger generation lacks basic financial management skills.

Despite the fact that so many rural dwellers have access to the mobile phones, they hardly could use it on their own without the help of a third party and this attitude is risky when it comes to mMoney transactions because they could as well expose their PINs and passwords to fraudulent individuals.

Likewise, a majority of the poor who are uneducated see no value why they should save their money in formal banking channels. Some of the views as expressed by respondents in the author's survey are listed below:

Respondent A-*" educating the populace on the benefits of mobile money"*

Respondent B –*"low literacy level (Potential users need to be more enlightened)"*

Respondent C - "low level of literacy i.e. high illiteracy especially in the north"

Respondent D-*"high illiteracy rate is one of the mobile money development challenges in Nigeria"*

Respondent E *-"information technology illiteracy level is still very high…."*

Similarly, in the survey carried out by EFInA, about 51 percent of the adult Nigerian population is yet to be fully acquainted with the usage of POS Machine, ATM, Credit card, Insurance, Savings account, and mMoney.

5. RESEARCH FINDINGS AND DISCUSSION

A total of 137 questionnaires was received from the sample survey. The respondents were randomly selected from the two most popular Nigerian cities (Lagos and Abuja) to make up the sample survey. Nearly about 90 percent of the questionnaire was based on hand-delivery to respondents while about 10 percent constituted online delivery. 10 of the 137 questionnaires were semi-structured interview questions for mMoney service providers.

The collected data was analysed using statistical software (in this case, MS Excel) in a bid to come up with descriptive statistics, and which would be readily used to summarize the outcome of the survey data. Inferences were drawn from the survey data statistics. The research findings were equally put into the industry (market) perspectives using the Porter's 5 Forces Model.

5.1 Demographic Profile of Survey Data

As earlier stated, 127 questionnaires were received from both consumers and non-consumers of mMoney service while a total of 10 questionnaires was received from mMoney service providers. From the survey data, 60 percent (76) of the respondents were male while 40 percent (51) constituted the female gender, and this is as depicted in figure 5.1.1.
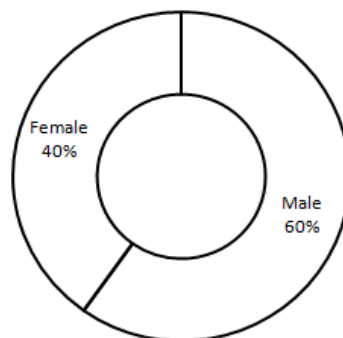

Figure 5.1.1: Gender Distribution (Source: Field Survey)

The age distribution of respondents is as shown in figure 5.1.2. A higher proportion (60) of the respondents was found to belong to those whose ages were between 25-35 years. This in a way is evident of the youthful population in Nigeria. Twenty-eight (28) respondents were aged 36-45 years, seventeen (17) of the respondents were aged 17-24, thirteen were aged 46-55 years and nine (9) were aged 56 years.
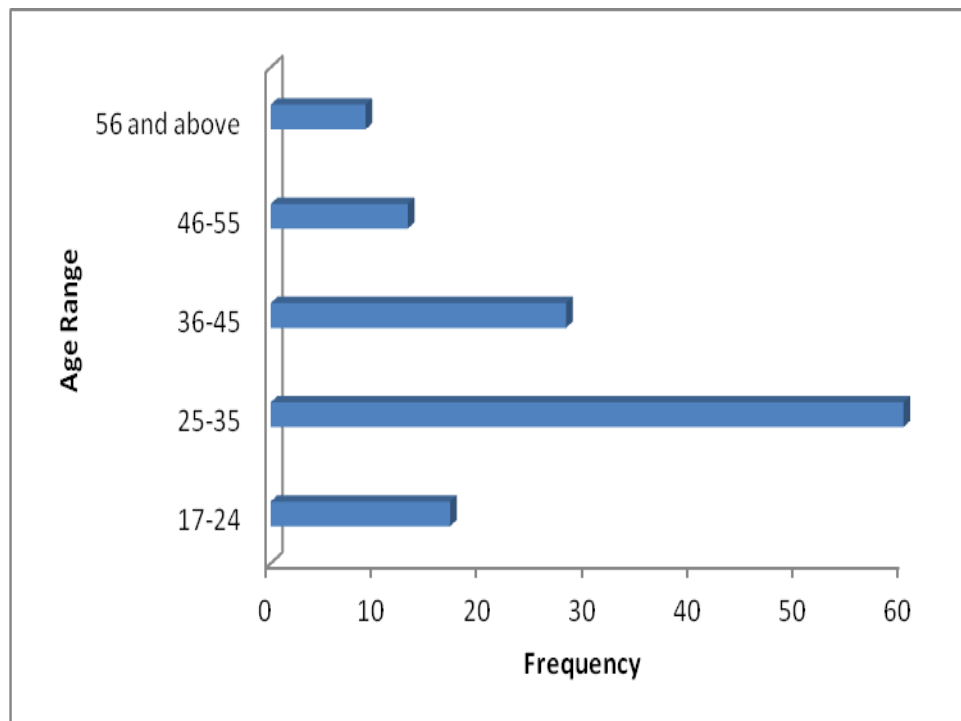

Figure 5.1.2: Age Distribution (Source: Field Survey)

The occupational status of respondents is as shown in figure 5.1.3. A higher proportion (40 percent) of the respondents are employees of both the public (government) and private sectors while 34 percent is self employed persons. Students constituted 17 percent, pensioners (retirees) made up 6 percent, 2 percent of respondents were unemployed while roughly about 1 percent constituted others who are most likely to be full-time housewives or unpaid apprentices. What is pertinent to state here is that the survey data did reflect the fact that most working class citizens of Nigeria work within the public and private sector.
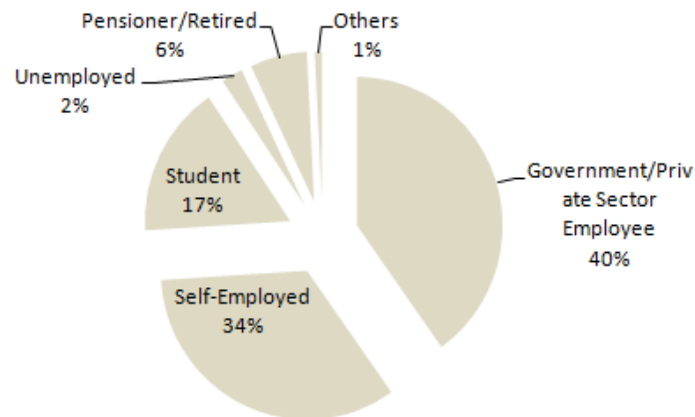
Figure 5.1.3: Occupational Status (Source: Field Survey)

5.2 Analysis of Mobile Phone Usage and Airtime Quasi- Barter System

From the sample survey, it is evident that many Nigerians have access to mobile phone and it is commonly used for communication and business purposes. Ninety-one (91) percent of the respondents indicated they own a mobile phone while 9 percent indicated that they do not own a mobile phone but this does necessarily mean this group of respondents without a mobile phone do not have access to it. Figure 5.2.1 shows the ownership/usage of mobile phone amongst respondents.
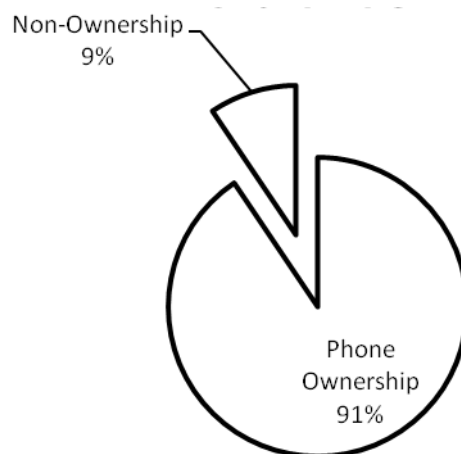
Figure 5.2.1: Mobile Phone Ownership/Usage (Source: Field Survey)

Similarly, 106 of the respondents indicated that they have either sent or received airtime (recharge card) from their loved ones and business associates (kindly see figure 5.2.2). What is pertinent to note here is that many of these 'cardless' airtime transactions are usually converted into cash by airtime recipients. The airtime recipient usually would not only have to look for an individual (or airtime seller) who is interested in purchasing the item but also be willing to sell at a much discounted price compared to the original value of the airtime.

Sometimes, it equally involves exchanging a bigger airtime denomination for both discounted money and lower airtime denomination exchange at the same time. Such deals are usually brokered with airtime seller. This value exchange has a semblance of barter system, the only difference is that ultimately 'discounted' money gets involved.
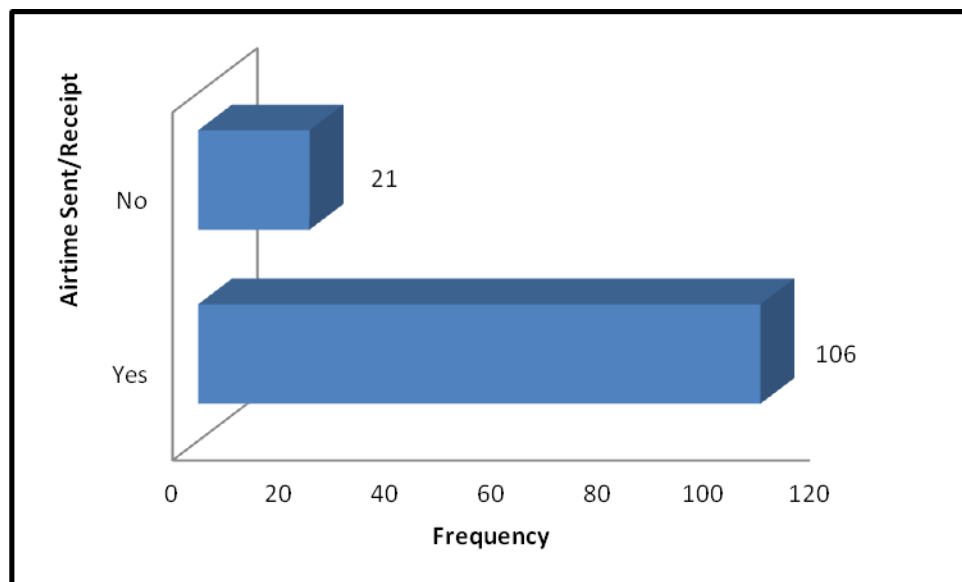

Figure 5.2.2: Airtime Sent/Receipt on Handset (Source: Field Survey)

5.3 Agent Visibility and Level of Awareness of mMoney

When respondents were asked if they have seen any mMoney agent office or shop within their workplace or residential homes, 44 percent indicated to have seen mMoney agents within their locality, 36 percent were unsure about the availability of these agents within their locality

while 20 percent stated to have not seen any mMoney agent within their locality. Figure 5.3.1 captures the responses from respondents. Even though this survey is not a countrywide survey but it is a pointer that MMOs have little or no presence in most communities albeit going by the responses of those who claimed not to have seen mMoney agents as well as those who were unsure about the presence of mMoney agents in their locality. In all, 56 percent of respondents were slightly on the negative side on mMoney visibility in their communities.
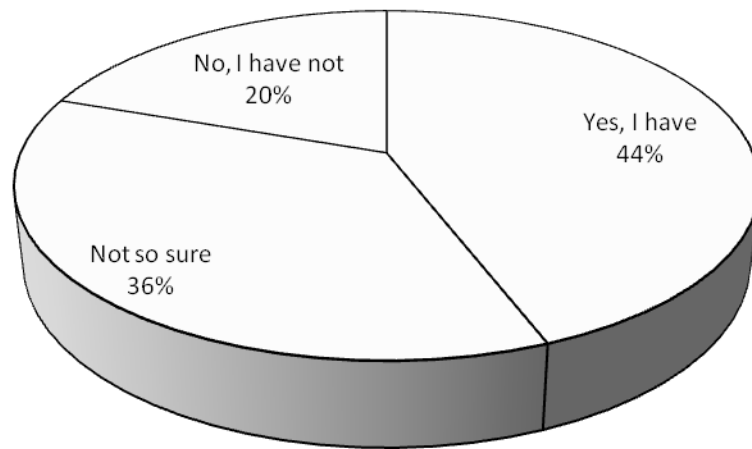
Figure 5.3.1: mMoney Agent Visibility (Source: Field Survey)

More so, from the survey data and as shown in figure 5.3.2, 85 percent of the respondents were said to be aware of mMoney while 15 percent indicated that they are unaware of mMoney. A majority of the respondents claimed to have heard about mMoney via these media – TV/Radio, Billboard, INTERNET/Social Media Sites, and Word of Mouth. It is pertinent to state here that being aware of mMoney does not necessarily connote that respondents fully understand the workings of mMoney. More so, there is always the distinction between creating awareness of a new service offering and not passing the right message across to the right audience using the right medium (media). This is one key area, MMOs ought to focus on, to facilitate not only awareness creation but also content-driven information to the targeted consumers in Nigeria.
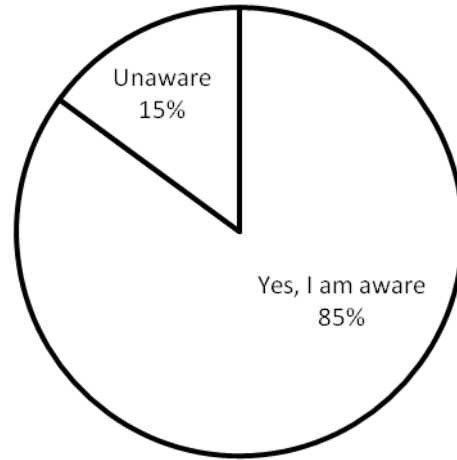
Figure 5.3.2: mMoney Awareness (Source: Field Survey)

5.4 Actual Usage and Respondents Preference of mMoney Service

Despite the fact that about 85 percent respondents are aware of mMoney, the usage statistics are abysmally low when compared to the level of awareness. Figure 5.4.1 shows that 73 percent of the respondents do not use mMoney while only about 27 percent use mMoney service. This shows a disconnect between the respondents' level of awareness and mMoney usage. Such a disconnect might be that ongoing awareness campaigns lack the proper message to convince Nigerians from using it despite the attendant benefits of mMoney.
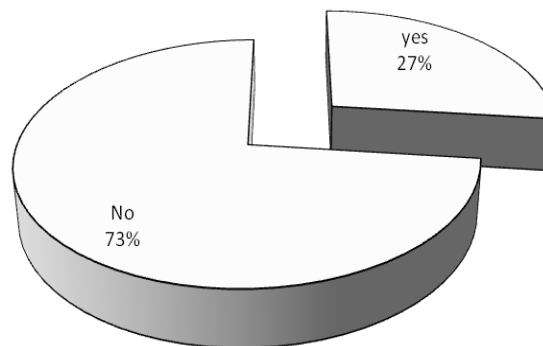

Figure 5.4.1: mMoney Usage (Source: Field Survey)

As shown in figure 5.4.2, when respondents were asked to indicate which was or would be their most preferred mMoney service; 39 percent opted for Bill payments, 28 percent showed preference for sending/receiving money while 18 percent indicated they would prefer using it to top up their mobile phones (airtime purchase). Similarly, 7 percent opted for merchant payments, 5 percent showed preference for salary/pensions/scholarship payments while 3 percent preferred to use it as a savings account. In all, this shows the market potentials of mMoney service in Nigeria.
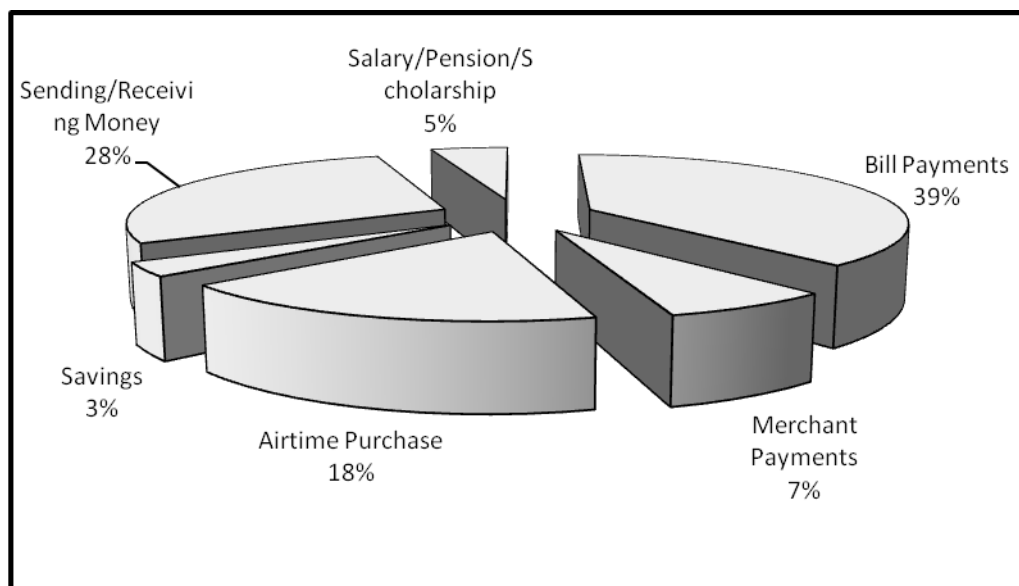

Figure 5.4.2: Respondents most Preferred mMoney Service (Source: Field Survey)

5.5 Reasons for Usage/Intending Usage of mMoney

Figure 5.5 highlights that 32 percent of the respondents adduced that money is a convenient means of banking (saves time), 28 percent indicated that it is less risky when compared to carrying cash around, 21 percent stated that it is a faster delivery method of banking while 16 percent agreed that when compared to other banking channels, it is a cheaper means of banking.

The remaining 3 percent of the respondents did state that mMoney is much more secured than informal banking channels such as ESUSU (savings collector), traditional thrift cooperatives, safekeeping of funds at homes, and cash sent via bus driver or someone else.
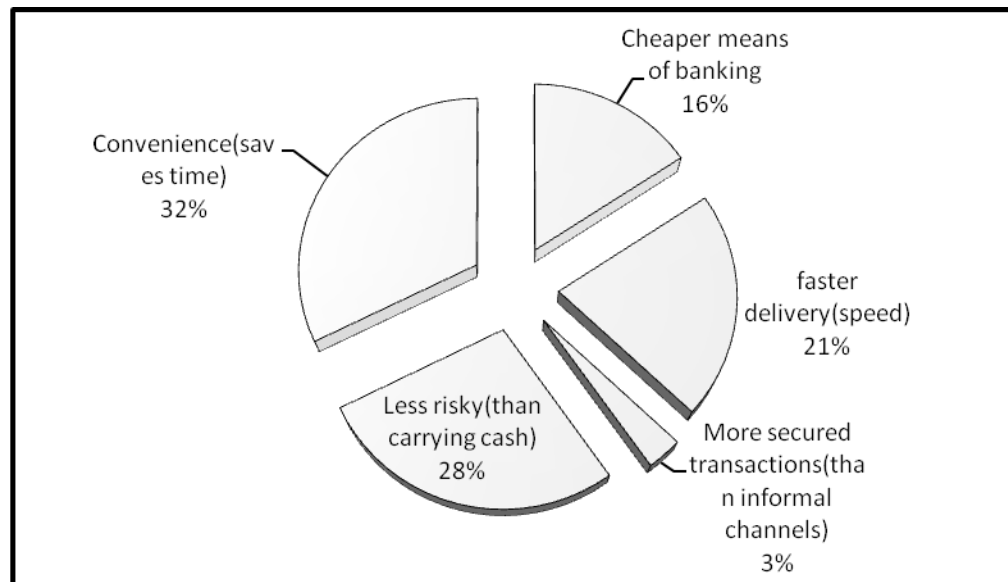

Figure 5.5: Reasons for Usage/Intending Usage of mMoney (Source: Field Survey)

5.6 mMoney Development Challenges (mMoney Service Providers' View Points)

Nearly all the 10 service providers stated that infrastructure (power supply, roads, and communication networks) remains the greatest challenge of mMoney development in Nigeria. Mobile network fluctuations was readily stated as part of the infrastructure challenges. Also, some providers stated that illiteracy level and inadequate public awareness amongst other factors might impede the progress of mMoney in Nigeria. Three of the service providers did state that consumers' lack of trust is a key challenge they have to contend with on a daily basis. Two of the operators were of the opinion that consumers believe the tariff rate being currently charged for mMoney service is on the high side. One of the service providers attributed the 'high' tariffs borne by consumers to the high tariffs imposed on them by MNOs.

5.7 Analysis of Factors Influencing Consumers Adoption of mMoney

Table 5.7 provides a compact summary of factors which have the strongest likelihood of influencing consumers' adoption of mMoney in Nigeria.

Table 5.7: Factors Influencing Consumers Adoption of mMoney

Which factors do you think are the most important in the Adoption of mMoney?	Most Important	Significantly Important	Moderately Important	Somewhat (Slightly) Important	Least Important
Perceived Trust (Fraud/Theft)	87%	7%	3%	2%	1%
Perceived Risks/Security Concern	51%	42%	2%	3%	2%
Phone Network / Technology Failure	54%	34%	8%	2%	2%
Perceived Usefulness	54%	21%	19%	6%	-
Perceived Cost	36%	36%	15%	8%	5%
Accessibility/Convenience	36%	46%	10%	6%	2%
Perceived Ease of Use/Customer Service	50%	31%	11%	2%	6%

Source: Field Survey

From the above table, it is evident that perceived trust (fraud/theft) appears to be the most dominant factor consumers would consider when it comes to the adoption of mMoney. This buttressed the author's earlier claim about the trust deficit in Nigeria most notably in the financial system.

By and large, the trust deficit in any system, mostly as it relates to an innovative platform such as mMoney is negatively correlated to the adoption (uptake) of such an innovative service.

Other major factors as highlighted by respondents were perceived risks/security concern, phone network/technology failure, perceived usefulness, and perceived ease of use/customer service. Respondents equally noted that perceived cost and accessibility/convenience are the least important factors to consider when it comes to the adoption of mMoney.

When respondents were asked if they would be interested in using mMoney services if they could get assurances from the concerned regulatory government agencies (CBN and NCC), about 96 percent of the respondents did express willingness to use mMoney if they could get further assurances from CBN and NCC about the safety of the system. Three (3) percent of the respondents would rather not use mMoney irrespective of assurance from the regulatory agencies while one (1) percent was yet to decide (kindly see figure 5.7).
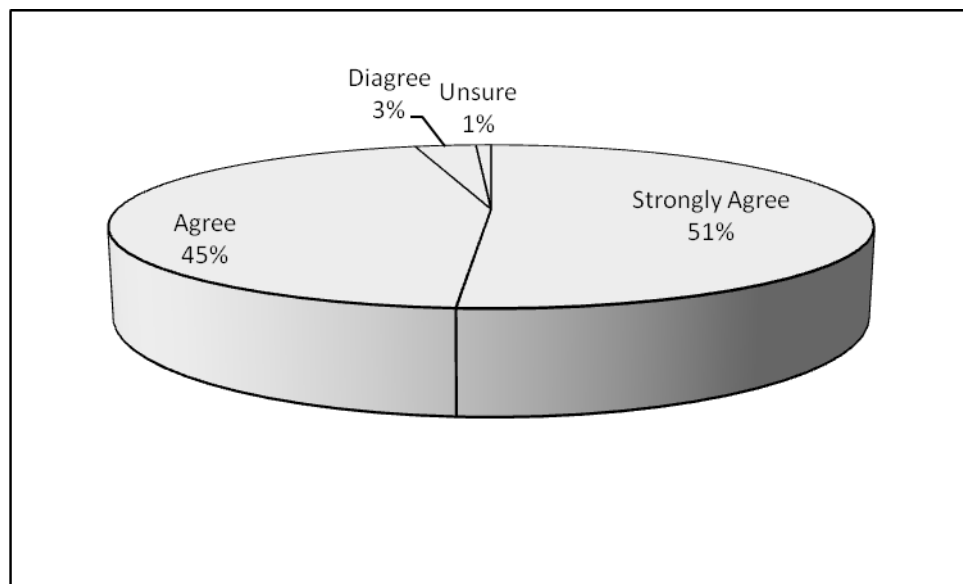

Figure 5.7: Intent to use mMoney Based on Assurance from CBN&NCC (Source: Field Survey)

5.8 Key Findings about the Level of Competition in the mMoney Ecosystem

In this section, the author is interested in the adaptation of Porter's 5 Forces Model to his research findings on the present level of competition within the Nigerian mMoney ecosystem. It is equally pertinent to point out that mMoney is relatively a "new market" in Nigeria with inherent challenges as well as exceedingly huge potentials for all stakeholders to benefit from.

5.8.1 Bargaining Power of Consumers

Nigerian consumers are usually price sensitive, mMoney users are no exception to this and are generally uncomfortable with MMOs that charge high transaction fees. This group of consumers (users and merchants) would readily switch to any other service provider that is believed to charge the lowest transaction fees and with emphasis on secured transactions as well. Also, given the alternatives available to consumers, they could easily switch to other channels once they are unhappy about mMoney service delivery. Likewise, the cost of switching from one MMO to another is relatively low. Merchants (fast food outlets, supermarkets, hypermarkets, stores, transit organisations, etc.) equally have a big influence on the usage of money. More so, due to product homogeneity (largely undifferentiated and standardized service offering), consumers can easily switch once they are dissatisfied with any MMO. So far, a large proportion of the few customers who have used this service is satisfied with using mMoney, and this is as shown in figure 5.8.1.
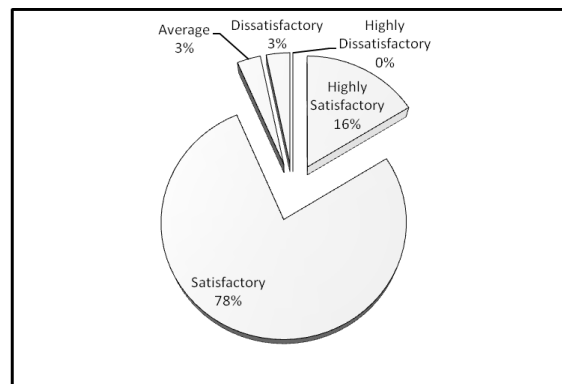

Figure 5.8.1: Satisfactory Level Derived from using mMoney Service (Source: Field Survey)

Nevertheless, for any firm to thrive in this market, it would most likely adopt a low-cost strategy as well as the need to develop a strong brand equity which is entirely focused on exceeding consumers' expectations otherwise consumers would easily switch to alternative channels or rival MMOs with better customer service delivery and pricing incentives for their customers. Lack of perceived value by customers has not equally helped the mMoney market in Nigeria. By and large, the bargaining power of consumers is on the high side.

5.8.2 Bargaining Power of Suppliers

Given the exclusion of MNOs by the CBN from being one of the MMOs, this in a way adds extra layer of cost to the mMoney scheme in Nigeria. MNOs are primarily the active carriers of mMoney transactions given that they provide the communication infrastructure needed to not only enable financial transactions but also secure such transactions. Other active suppliers are technology vendors and agents. There is no doubting the fact that agency network holds the ace to the success of mMoney in Nigeria and other emerging markets. The cost of switching from one MNO to another by MMOs would be a detrimental strategic option by any MMO who wants to stay in business for a very long time to come. Besides, such an option would be perceived as a disincentive to potential mMoney consumers. For business continuity, MMOs would have to fully rely on the services of MNOs, technology vendors, and agents for their survivability within the Nigerian financial ecosystem. Given the various scenarios that are presently at work in the mMoney market segment, the bargaining power of suppliers is definitely on the high side, and this in a way affects the profitability of MMOs considering the fact that the mMoney market is a relatively low margin market and one which is aimed at attracting the BoPs into the formal financial ecosystem.

5.8.3 Threat of Substitutes

Despite the fact that a majority of Nigerian adults do not have a formal bank account, quite a majority still make use of informal banking channels for safekeeping of their monies and other valuables. The Nigerian society as well is largely a cash-based society. Generally, Nigerians prefer cash-based transactions and habitually move around with hundreds and thousands of

Naira in their pockets or wallets. More so, the country lacks supporting infrastructure for non-cash based transactions, this could be one of the primary reasons while most Nigerians prefer to keep cash in their pockets compared to keeping it in a physical or 'virtual' bank account. Lately, there has been a surge in the use of debit cards for ATM transactions by banking consumers. MFIs are beginning to spring up in relatively semi-urban areas and a few villages. There has been a relative surge in patronage of MFI services mostly as a result of access to credit facilities by the relatively Nigerian poor. It is pertinent to state that most Nigerians patronize MFIs in a bid to have access to credit facilities since MFIs requirements and procedures are less cumbersome than conventional commercial banks.

By and large, consumers can easily switch to other alternative channels which some of them even deem as much more secured and affordable than mMoney. Hence, threat of substitutes to the nascent Nigerian mMoney ecosystem is obviously very high.

5.8.4 Threat of New Entrants

Already, there exists a legal barrier to entry because any potential firm who wants to join the fray of mMoney service would have to secure an approval licence from the Nigerian apex bank–CBN. More so, CBN demands such a prospective firm to carry out a pilot project mMoney scheme in some selected localities before moving onto the mainstream mMoney service delivery. This shows that there is a learning curve to be followed by all potential players. Another important element in this market has to do with building distribution channels (agency network) considering the target market, successful MMOs would need to have clusters of agents spread all over the Nigerian federation to enable it to have a significant footprint within the market, and this as well requires a huge capital outlay. Securing funding by both potential and existing MMOs with particular note to firms with an agnostic-led business model has proved to be a serious bottleneck. All these and more would most likely impede new firms from joining the market. By and large, the threat of new entrants is relatively low. More so, the mMoney market segment might not be so attractive to potential firms because it is a marginal market.

5.8.5 Competitive Rivalry amongst Firms

Despite the fact there are at least 15 MMOs in Nigeria, competition amongst firms is relatively low. So far, the focus of the competitive strategy has been the promotion of their respective brand names of the major Nigerian cities. It is equally worrisome that nearly all the existing MMOs lack presence in most of the rural areas. Presently, mMoney uptake by consumers is relatively low, partly because nearly all the MMOs are still battling it hard to understanding the transaction dynamics of the BoP segment.

Pagatech (Paga), eTranzact (PocketMoni), GT Bank Mobile Money, and STANBIC IBTC Mobile Money appear to be the leading MMOs in Nigeria going by brand equity, though, with relatively low market share. FBN Mobile Money, UBA/Afripay, Zenith Bank/eazyMoney, and Tease Mobile Money seem to have upped the ante of late in terms of publicity drive.

By and large, intra-rivalry between existing players in the Nigerian mMoney market remains very low as at date. The Nigerian mMoney market is still very much a fragmented market. Figure 5.8.2, shows the level of competition within the Nigerian mMoney Ecosystem.
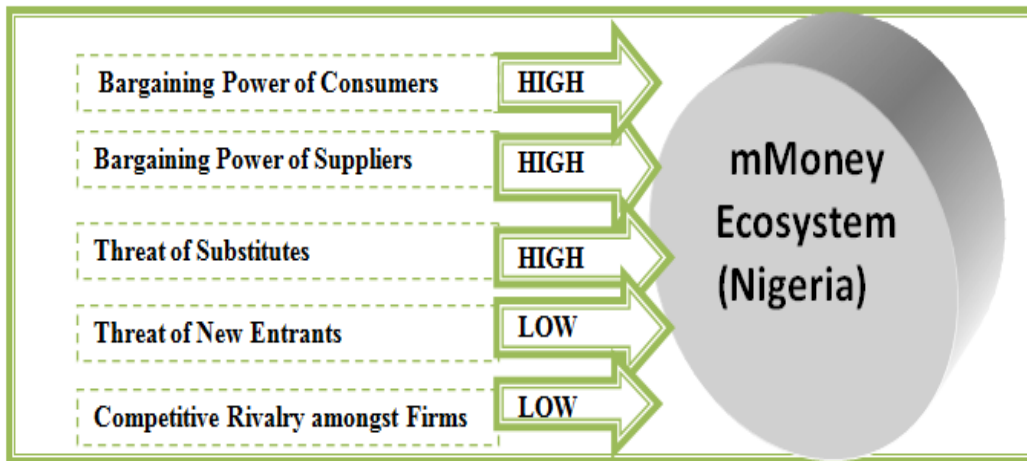

Figure 5.8.2: Porter's 5 Forces Model of the Nigerian mMoney Ecosystem (Source: Author's Own Adaptation

6. CONCLUSION

The ubiquity of mobile phone offers the possibility of offering financial services to those at the Base of the Pyramid (BoP) that are either underbanked or unbanked.

mMoney could be viewed as a transformational mBanking approach which seeks to open alternative financial channels for the critical mass in emerging markets most especially those who have been hitherto excluded from the mainstream financial system.

Although, the adoption of mMoney in Nigeria is still in its embryonic stage coupled with its inherent challenges and risks as highlighted in the research work; its potentials are immensely huge judging from the phenomenal growth and usage of mobile phone subscription in Nigeria as well as the need to engage the informal sector through innovative financial inclusion.

The author is optimistic about the future of mMoney in Nigeria since it presents a promising opportunity to achieve commercial cum socioeconomic benefits for all stakeholders.

Maximising mMoney promises in Nigeria requires the mMoney ecosystem stakeholders to get it right in the following key areas – consumer protection, localised awareness campaigns, competitive pricing, financial/IT literacy, distribution/incentivisation of agent network, provision/upgrade of infrastructure, and collaboration amongst all stakeholders.

Also, emerging uses of mMoney amongst the Nigerian population demographics must equally be taken into cognizance by MMOs. Access to credit facilities is much more appealing to the BoP and MoP (Medium of the Pyramid) segments compared to safe keeping of idle funds in savings' accounts. This is one area MMOs would have to explore if they hope to stay in business and enjoy unalloyed patronage from these two segments– BoP and MoP.

The government has equally got a huge role to play not only in terms of regulations but also as an enabler of this innovating banking service. For an example, the author would expect that governmental institutions support G2C payment initiatives such as payments of pensions, scholarships, and other social benefits to Nigerians via the mMoney platform. This at least would not only go a long way in assuring potential consumers of the safety of mMoney but also increasing the network effects as well as encouraging the Nigerian public to use mMoney.

Finally, mMoney is highly unlikely to be a panacea for financial exclusion in emerging markets. But in Nigeria, just as mMoney through M-PESA has proven to be a veritable means of engaging the BoP in the Kenyan economy; it could indeed increase financial access amongst the critical mass of the Nigerian society and this would invariably stimulate economic activities within the Nigerian domestic economy.

6.1 Limitations and Need for Further Research

The author of this thesis is not oblivious of the fact that this research work is limited in at least two ways. Firstly, the sample size used is relatively small compared to the Nigerian population. Secondly, the author would have loved to be on the ground in Nigeria to get first hand information from mMoney users and other Nigerians but this was not the case due to cost implications. By and large, all these limitations have not in any watered down the quality and contribution of this research work to the global knowledge-based society.

The author would expect that a further research be carried out on this topic though with a larger sample size to either ascertain or disprove some of the assumptions and observations stated in this research work.

The role of MNOs in the Nigerian mMoney ecosystem most especially as it relates to tariff structure and QoS should equally be looked into. A study that focuses on existing users of mMoney in Nigeria and their transaction dynamics would go a long way in measuring the impact analysis of mMoney usage in Nigeria.

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APPENDICES

Appendix A: List of Acronyms

3As: Awareness, Affordability, and Accessibility

AfDB: African Development Bank

ATM: Automated Teller Machine

BBMS: BlackBerry instant Messaging Service

BCG: Boston Consulting Group

BoP: Base (Bottom) of the Pyramid

CAGR: Compound Annual Growth Rate

CBN: Central Bank of Nigeria

CGAP: Consultative Group for Assisting the Poor

DFIs: Development Finance Institutions

DMB: Deposit Money Bank

DOI: Diffusion of Innovation

eBanking: Electronic Banking

eCommerce: Electronic Commerce

EFCC: Economic and Financial Crimes Commission

EFInA: Enhancing Financial Innovation & Access

e-legislation: Electronic Legislation

EOBI: Employees Old-Aged Benefits

FDIs: Foreign Direct Investments

FI: Financial Inclusion

G2C: Government- to- Citizenry

G2P: Government-to-Persons

GDP: Gross Domestic Product

GPRS: General Packet Radio Service

GSM: Global System for Mobile Communications

GSMA: Global System for Mobile Communications Association

HDI: Human Development Index

ICPC: Independent Corrupt Practices and Other Related Offences Commission

ICT: Information and Communication Technology

IFC: International Finance Corporation

IMF: International Monetary Fund

ITU: International Telecommunications Union

IVR: Interactive Voice Response

KYC: Know Your Customer

mBanking: Mobile Banking

MFBs: Microfinance Banks

MFIs: Micro Financial Institutions

MFS: Mobile Financial Services

MIMO: Money-in-Money-out

mMoney: Mobile Money

MMOs: Mobile Money Operators

MNOs: Mobile Network Operators

MNP: Mobile Number Portability

MoP: Middle of the Pyramid

NBS: National Bureau of Statistics

NCC: Nigerian Communications Commission

NFC: Near Field Communication

NRI: Networked Readiness Index

OFWs: Overseas Filipino Workers

OTA: Over-the- Air

P2P: Person- to- Person

PCs: Personal Computers

PEST Analysis: Political, Environmental, Social and Technological factors Analysis

PHCN: Power Holding Company of Nigeria

PIN: Personal Identification Number

POS: Point of Sales

PPP: Purchasing Power Parity

QoS: Quality of Service

R&D: Research and Development

SIM: Subscriber Identity Module

SMEs: Small and Medium Enterprises

SMS: Short Message Service

SSA: Sub-Saharan Africa

STK: SIM Toolkit

TAM :Technology Acceptance Model

TVs: Televisions

UBE: Universal Basic Education

UBEC: Universal and Basic Education Commission

UNCTAD: United Nations Conference on Trade and Development

USD: United States Dollar

USSD: Unstructured Supplementary Service Data

UTAUT: Unified Theory of Acceptance and Use of Technology

WAP: Wireless Application Protocol

WCX: Wing Cash eXpress

Appendix B: Overview of mBanking Adoption Factors

FACTORS	BRIEF EXPLANATION
Perceived credibility	Perceived credibility is defined as the extent to which a person believes that the use of mobile banking will have no security or privacy threats. (Luarn & Lin, 2005; Wang, et al., 2003)
Perceived ease of use / Complexity	Perceived ease of use refers to the degree to which a person believes that using a particularly system would be free of effort (F. D. Davis, 1989) Complexity refers to the degree to which an innovation is considered relatively difficult to understand and use (Taylor & Todd, 1995)
Perceived financial cost	Perceived financial cost is defined as the extent to which a person believes that using mobile banking will cost money (Luarn & Lin, 2005)
Perceived risk	The perceived sense of risk concerning disclosure of personal and financial information (Tan & Teo,2000)
Perceived self-efficacy	An individual's self-confidence in his or her ability to perform a behaviour (Taylor & Todd, 1995)
Perceived usefulness	Perceived usefulness is defined here as the degree to which a person believes that using a particular system would enhance his or her job performance (F. D. Davis, 1989)
Privacy	The extent to which the prospective user is concerned about the following privacy aspects relevant to m-payment (L. D. Chen, 2006)
Relative benefits/advantage	Relative benefits are realized when a new service offers greater value to customers than the existing ones in such ways as improvements in economic benefits, personal image, convenience and satisfaction (Rogers, 1995; Taylor & Todd, 1995)
Security	The extent to which the prospective user is concerned about the authentication, confidentiality, Non-Repudiation and data integrity relevant to m-payment (L. D. Chen, 2006)
Situational normality	Situational normality is referred to ''how normal or customary the situation appears to be" (Baier, 1986; Gefen et al., 2003a; Lewis & Weigert, 1985)
Speed of transaction	The extent to which the prospective user perceives that m-payment improves the speed of transaction (L. D. Chen, 2006)
Structural assurance	Structural assurances refer to ''safety nets such as legal resource, guarantees, and regulations existed in a specific context" (Gefen et al., 2003a; McKnight et al., 1998; Shapiro, 1987)
Subjective norm / Social influence	Social influence is defined as ''a person's perception that most people who are import to him think he should or should not perform the behavior in question" (Fishbein & Ajzen, 1975)
System quality	System quality is defined as the degree to which individuals perceive that the system is satisfying, in terms of transfer speed and reliability (Kleijnen, et al., 2004)

| Technology anxiety	An individual's tendency to be uneasy, apprehensive, or fearful about the current or future use of a technology (C.-P. Lee, Warkentin, & Choi, 2004)
Trialability	The extent to which users would like an opportunity to experiment with the innovation prior to committing to its usage (Agarwal & Prasad, 1997)
Trust/Initial Trust	Trust is a psychological expectation that a trusted party will not behave opportunistically (Bunduchi, 2005; Rousseau, Sitkin, Burt, & Camerer, 1998). People's initial trust reflects their willingness to take risks in order to fulfill their needs (K. Kim & Prabhakar, 2004).
Awareness	Customers must be made fully aware of the features, benefits, and operation of eBanking, and this would help them develop confidence in using the new services (Laforet and Li,2005)
Accessibility	Easy to reach, approach or obtain
Attitude towards MFS	The degree to which using a technology is positively or negatively valued by an individual (F. D. Davis, 1989; L. D. Davis, et al., 1989)
Banking needs	The variety of banking products and services required by an individual (Tan & Teo, 2000)
Compatibility	The degree to which an innovation is viewed as being consistent with the existing values of users (Agrawal & Prasad, 1997)
Convenience	The extent to which the prospective user perceives that mPayment increases convenience in the payment process (L. D. Chen, 2006)
Expressiveness	Expressiveness defined as the degree to which a user perceives a mobile service as suitable for expressing his or her emotions and social or personal identity (Goeke & Pousttchi, 2010)
Facilitating conditions	The extent of technology and other external support (e.g. government support) in the environment (Tan & Teo, 2000)
Firm reputation / Familiarity with the bank	A firm's reputation reflects its reliability in business engagements. It increases customers' recognition, plays a role in forming their initial confidence and helps to maintain their confidence in future transactions (K. Kim & Prabhakar, 2004)
Innovativeness	Inclination of an individual to try out any new information systems (C. Kim, Mirusmonov, & Lee, 2010)
Interpersonal relationship	Interpersonal relationship refers to the strength of personal bonds that develop between customers and their service provider (Cheong, Park, & Hwang, 2004)
Mobile experience	Prior experience of using a similar class or type of technology (Tan & Teo, 2000)
Mobility	Mobility refers to the system being available anytime, anywhere (Agnieszka Zmijewska, 2005)
Network externalities	Payment systems exhibit network externalities as the value of a payment system to a single user increases when more users begin to use it (Niina Mallat, 2006)

Source: Dass and Pal, 2011- adapted from various sources

Appendix C: Incidence of Poverty by Geopolitical Zones using different poverty measures

Zone	Food Poor	Absolute Poor	Relative Poor	Dollar Per Day
North Central	38.6	59.5	67.5	59.7
North East	51.5	69.0	76.3	69.1
North West	51.8	70.0	77.7	70.4
South East	41.0	58.7	67.0	59.2
South-South	35.5	55.9	63.8	56.1
South west	25.4	49.8	59.1	50.1

Source: NBS, Harmonised Living Standard Survey (HNLS) of 2010

Appendix D: Distribution of ownership and access to ICT

	Radio	TV	Mobile Phone	PC	Internet
Access Only	52.3	31.5	33.5	3.6	3.1
Owned	30.6	13.3	30.4	0.9	0.5
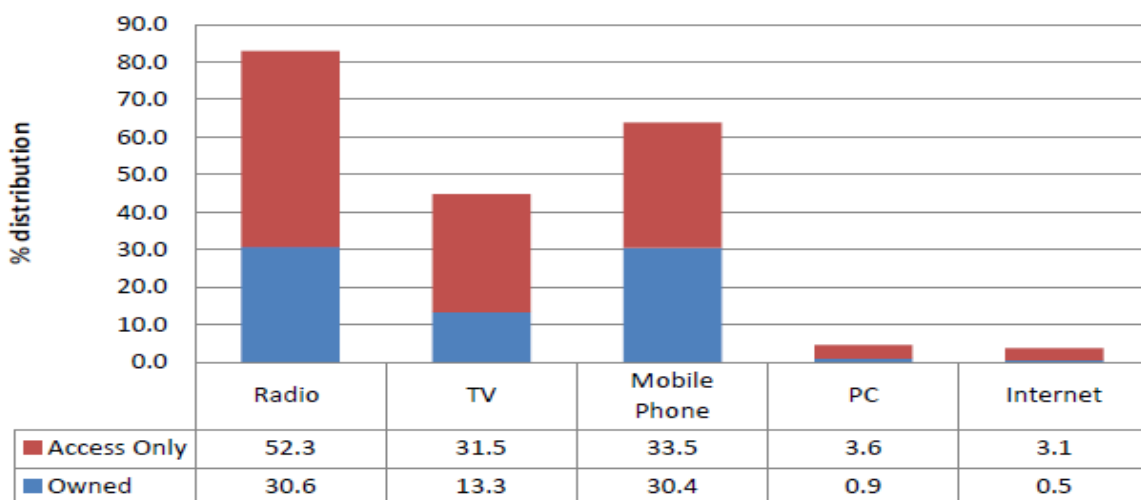
Source: NBS, 2011

Appendix E: Questionnaire (Individual Respondents)

Kindly fill appropriately. Your information would be treated in strict confidence. More so, this is purely for academic research. Your opinion counts! Kindly feel free to express yourself!!
Thank you!!!
* Required

1. Which category below includes your age? *
   - ○ 17-24
   - ○ 25-35
   - ○ 36-45
   - ○ 46-55
   - ○ 56 and above

2. Gender *
   - ☐ Male
   - ☐ Female

3. Which of the following best describes your current occupational status? *
   - ○ Government/Private Sector Employee
   - ○ Self-Employed
   - ○ Student
   - ○ Unemployed
   - ○ Pensioner/Retired
   - ○ Others

4. Do you have a mobile phone? *
   - ○ Yes
   - ○ No

5. Do you have a bank account? *
   - ○ Yes
   - ○ No

6. If 'NO' to the previous question. Would you like to open a bank account using your mobile phone?

☐ Yes

☐ Maybe

☐ No

7.Which two activities do you normally do most with your handset(mobile phone)?

○ Making/receiving calls and SMS

○ Making/receiving calls and Web(INTERNET) browsing

○ Making/receiving calls and Others

○ SMS and Web(INTERNET) browsing

○ SMS and Others

8. Where do you usually keep your savings? *Please tick only one option

○ Bank

○ House

○ Cooperatives/ESUSU

○ Give to someone else for safekeeping

○ Others

○ I don't save

9. What is the average time, it takes to get to the nearest bank branch from your house or place of work? *

○ 1-15mins

○ 16-35mins

○ 36-59mins

○ I hour or more

10. Have you ever sent or receive airtime(recharge card) on your handset? *

○ Yes

○ No

11. How do you usually send or receive money from others? *

☐ Cash (sent via bus or someone else)

☐ Bank

☐ Mobile Money Transfer

☐ Others

12. If you were to send money to someone in the village, how would you send it? *Please be sure to tick any option that currently applies

☐ Cash (sent via bus or someone else)

☐ Bank

☐ Mobile Money Transfer

☐ Travel to the village myself

☐ Others

13. Are you aware of mobile money? *some mobile money operators include Pagatech,EcoCash,GTMobile Money,UBA/U-Mo,eTranzact,Fortis Mobile Money,etc

○ Yes

○ No

14. If 'Yes' to the previous question, through which medium? How did u hear about mobile money? You can tick more than one option.

☐ Word of Mouth

☐ TV/Radio

☐ Billboard

☐ INTERNET/Social Media Sites

☐ Newspapers/Magazines

☐ Community Meetings

☐ Others

15. Have you ever used or do you currently use any mobile money service? using your mobile phone for money transfer, buying of airtime ,paying of utility bills, savings, merchant payments, etc

○ Yes

○ No

16. If 'Yes', please state which mobile money service(s) you have used.-money transfer, buying of airtime, paying of utility bills(DSTV,PHCN,WATER BOARD, etc), savings,

merchant payments, etc

17. With reference to the previous question, how would you rate the service(s) so far? Otherwise, skip to the next question. Did you enjoy the mobile money service(s)?

○ Highly Satisfactory

○ Satisfactory

○ Average

○ Dissatisfactory

◉ Highly Dissatisfactory

18. Have you ever seen any mobile money agent office/shop within your neighbourhood or place of work? *

○ Yes, I have

○ Not so sure

○ No, I have not

19. Would you use (or try more) mobile money service(s) if you could get enough information about it? *

○ Yes

○ Maybe

○ No, I would not

20. What financial transactions would you consider conducting most using your mobile phone? * Please choose only the most important option to you

○ sending/receiving money

○ savings

○ bill payments

○ salary/pension/scholarship payments

○ airtime(recharge card) purchase

○ merchant payments(payments for goods)

21. What informs(or would inform) your decisions to use your phone for sending/receiving money;savings;billpayemts;salary/pension/scholarship;airtime;merchant payments. Do you think it saves time(convenience),less risky(than carrying cash),more secured transactions, faster delivery(speed),cheaper means of banking, etc? Please state your answer(s)below

22. Which factors do you think are the most important in the adoption of MOBILE MONEY? *Rank the following choices (1 - Most Important to 5 - Least Important) according to your concerns when using mobile money services

	1	2	3	4	5
Perceived Trust(Fraud/Theft)	○	○	○	○	○
Perceived Risk/Security Concern	○	○	○	○	○
Phone Network/Technology Failure	○	○	○	○	○
Perceived Usefulness	○	○	○	○	○
Perceived Cost	○	○	○	○	○
Accessibility/Convenience	○	○	○	○	○
Perceived Ease of Use/Customer Service	○	○	○	○	○

23. Which of the following authentication(security) methods for mobile money would u prefer? *You are free to tick your choice(s)
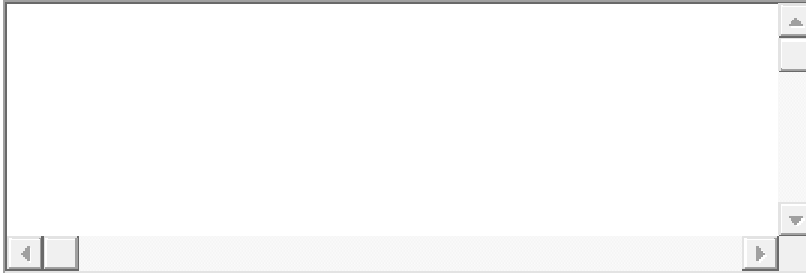
☐ Basic login (Enter only Account PIN)

☐ Biometric (Use device that scan finger print before access)

☐ Two-factor authentication (Using extra token for generating password)

☐ Others:

24. I would be interested in using mobile money services if I get assurances from CBN and NCC? *I want the government to assure me of this service

○ Strongly Agree
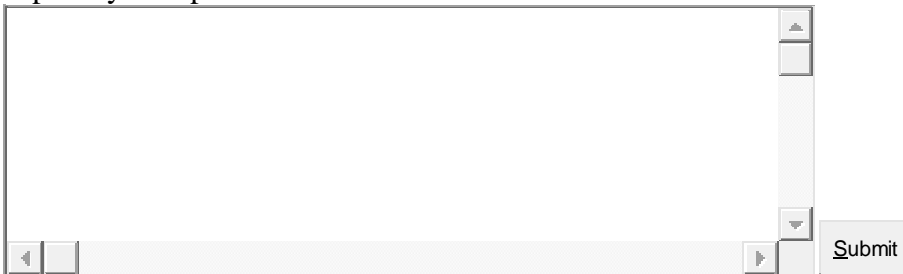
○ Agree

○ Disagree

○ Strongly Disagree

○ Unsure

25. What do you think that can be done to make Mobile Money appeal more to Nigerians most especially the unbanked and underbanked? *unbanked-those who do not have bank accounts; the underbanked-those who have limited access to banking maybe due to distance and other factors

26. In your own opinion, what do you think can be done to improve access to financial services for the unbanked and underbanked? *kindly express your opinions

27. In your own opinion, what is/ are the likely impact(s) of mobile money in Nigeria? *kindly express your opinions

Submit

Appendix F: Semi structured interview questions (Mobile Money Service Providers)

1. What qualifies a customer to use mobile money services?

2. What means does your organisation use to create awareness?

3. What is your view about the current adoption rate of mobile money services by customers?

4. What are the current challenges/issues being faced by your organisation about the adoption rate of mobile money?

5. What are the mobile money development challenges in Nigeria?

6. What do you think can contribute to the widespread adoption of mobile money?

7. What are the major issues faced by the customers in regards to mobile money services?