Operationability of Mobile Banking in Nigeria: An Evidence from Ebonyi State

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Abstract: It is evident that financial services industry has been undergoing a profound transformation in Nigeria. Rapid changes in the banking environment, increased competition by new players from non-banking sector, product innovations, globalization and technological advancement-all these have led to a market situation in which the battle for consumers is intense. We look at the prospect and challenges of mobile banking services in Nigeria using four selected' banks as case study, reviewed prior literatures on mobile banking, analyze the different factors that impact the market, and give direction for future research on this emerging field. A framework of four contingency and five competitive factors were proposed to facilitate the analysis.   Factors affecting mobile services in Nigeria such interoperability, unstable power supply, network problems etc. were identified. Finally, we recommended that non–bank led model of mobile banking be adopted by Nigeria banks to make the services transformational instead of additives as is currently being practiced.

Keywords: Mobile banking; Financial service; Product innovation; Globalization; Technology.

1. Introduction

It is evident that the financial services industry has been undergoing a profound transformation. Rapid changes in the banking environment, increased competition by new players from non-banking sector, product innovations, globalization and technological advancement- all these have led to a market situation in which the interest for customers is intense. As a consequence, banks have started to offer services through various delivery channels. In the name of increased customer satisfaction and efficiency they have developed innovative service products and offered a wide range of services. The delivery of multi-channel services forms apart of these efforts (Chen and Adams, 2005).

One step in achieving the goal of the banks is the provision of banking services through electronic delivery channels. Among the newest services to be offered is a wireless delivery channel with banking services being available via mobile phones or personal digital assistant (PDA). Clearly, mobile banking services form an important innovation in the banking sector (Carat, 2002). Mobile devices are the most promising way to reach the masses and create a tie-in among current customers anytime, anywhere, high rate of penetration and potential to grow.

Nigerian banks that are competing at this sector ought to look beyond operator's settings which might not be correct, delayed in arrival and might not come at all and not regularly updated. In order that customers need not visit local branches to download banking applications, over the air (OTA) settings should be made available online and some innovations can even come to play by banks deploying application machines in shopping malls and some strategic places where customers can visit and download mobile banking applications for a fee or free (Antovski and Gusev, 2003).

The development in mobile banking together with other financial innovations are constantly bringing new challenges to the financial theory and changing peoples' understanding of the financial system. The basic feature of the current mobile banking practice in Nigeria is that it is additive and nottransformational. The banks use mobile banking as an added channel to serve already existingcustomers. Majority of the mobile banking users are still elites concentrated in the urban areas. The unbanked mostly in the rural areas are still left out which gives concern as to how mobile banking can be used as a tool to extend financial services to Nigerians. The banks offering mobile banking services in Nigeria have to contend with the problems of insecurity, interoperability, unstable, power supply, unstable network services and high level of illiteracy among the banking population and customers' acceptance of mobile banking services (Lawrence and Lawrence, 2004).

Banks have to contend with the problem of interoperability because of the large number of mobile devices because these devices do not support the same application. Some support Java ME and others support SIM Application Toolkit, a WAP Browser, or only SMS. Security of financial transactions being executed from remote location and transmission of financial information over the air are the most complicated challenges that ought to addressed jointly by mobile application developers, wireless network service providers and bank IT department.

Another area of challenge faced the banks is that of scalability and reliability. The banks are faced with on how to scale-up the mobile banking infrastructure to handle the expected growth of the customer base. Application distribution has also been identified as one of the challenging areas due to the nature of the connectivity between banks and their customers. The banks will not expect their customers to visit anytime they want to upgrade their banking applications.

Besides, the existing business environment poses some challenges to the smooth operation of mobilebanking services in Nigeria. These operational challenges include among others, dominance of cash transactions in the economy, low level of awareness about mobile banking services.

The broad objective of this paper is to examine opportunities and challenges of mobile banking in Nigeria.

This study is significant because it would help to enlighten operators in the banking sector and other concerned individuals and organizations on the adoption of mobile banking. The study will identify operational and technical challenges facing mobile banking in Nigerian business environment and suggest ways by which they could be tackled. The banks and their customers will benefit from this research work because they will get to know that adoption of mobile banking services is convenient flexible speed of transaction, efficient and accessible among other benefits.

2. Review of Related Literature
2.1. Theoretical Framework

This paper adopts the Meta model theory as the framework for explaining the concept as shown in figure 1 below.

Figure-1.Framework of factors impacting the mobile payment market
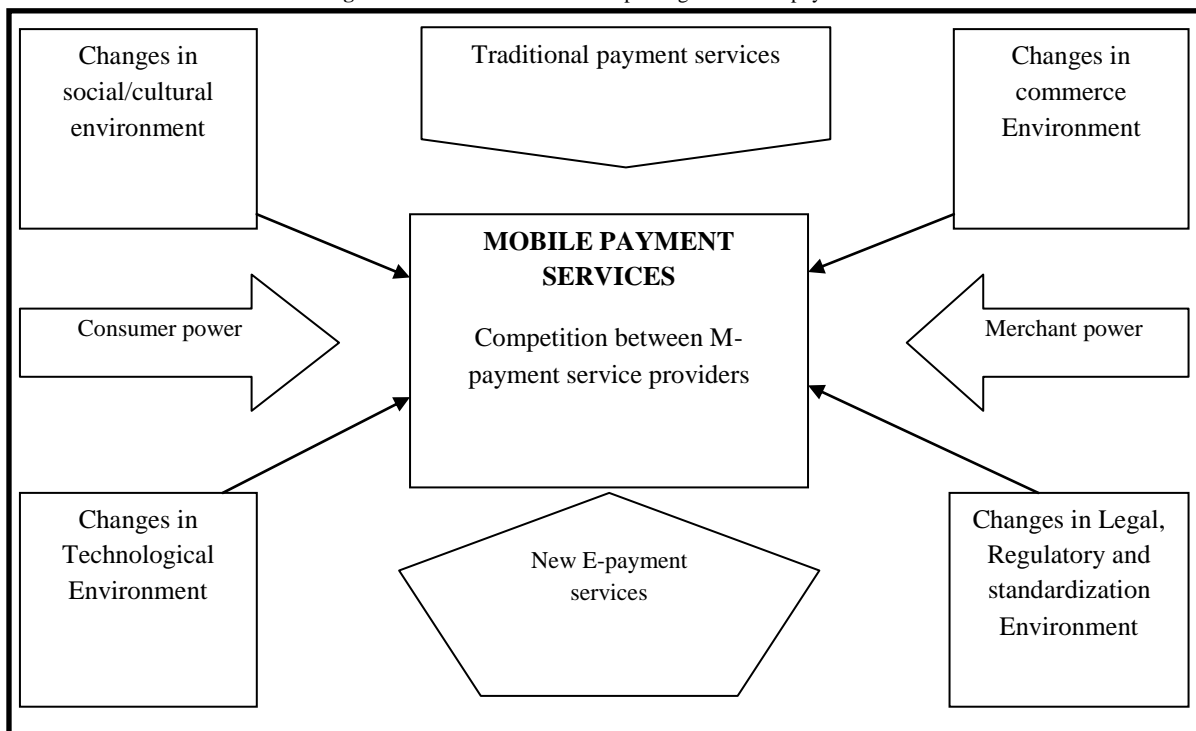
Source: Modified from (Dahlberg and Mallat (2002); Jayawardhena and Foley (2000))

2.2. Overview of Mobile Banking in Nigeria

Mobile banking in Nigeria started from the transaction based activities whereby bank customers are notified via short messaging service (SMS) when transactions are conducted on their accounts or via automated teller machine (ATM). This is one way event and only for informational purposes. Nigerian banks have increasingly embraced mobile banking in recent years. They use mobile banking platform to offer services such as SMS banking, person to person transfer, bill payments to power holding company of Nigeria (PHCN). Nigeria Telecommunication Limited (MITEL), Digital Satellite Television (DSTV), MYTV, etc and purchase of tickets for local and international flights. Mobile banking in Nigeria started in 2002 with the launch of flash me cash by the First Atlantic Bank (now Fin Bank Plc). Flash Me cash is a mobile payment solution that allows transfer and payment via mobile phones. Fin Bank also offers i-pay lifestyle service which is an internet payment solution that allows transfer and payment online. It also allows electronic retrieval of recharge vouchers online. As at 2006, Flash Me Cash commanded about 70% of active mobile usage in Nigeria (Fin Bank, Brochure 2008).

The Guaranty Trust Bank Plc offers GeNs and GT connect The GeNs keep customers abreast of transactions on their accounts, while the GT connect allows GTB customers to conduct virtually allbanking transactions anywhere and anytime.GTB won the best mobile bank award in 2008 at the Nigeria Telecom awards. GTB finished ahead of Fin Bank and Diamond Bank.

Interswitch Company launched Glo Fast in 2003. The prepaid debit card allows users who do not have bank accounts to perform electronic transactions through Glo mobile network. Besides the GloFast, First Bank Plc also offers another M-banking product called First Mobile to its account holders. First Mobile is a network of independent phone solution that provides financial services using the mobile and a prepaid card.

Intercontinental Bank Plc offers mobile banking services called i-mobile and i-cash. The i-mobile uses available phone that is General Packet Radio Services (GPRS) enabled. The i-cash is an electronic funds transfer done through the use of mobile phone to a beneficiary who can collect the money from any of the bank's 250 branches.

2.3. Mobile Banking Models

Mobile banking models can be classified into three categories according to the State Bank of Pakistan (2002). These are (1) Bank-focused, (2) Bank-led and (3) non-bank led models. In bank focused models, banks use phones or other mobile device to provide banking services to existing and prospective customers. It is a modest extension of conventional branch-based banking.

In bank-led models, customers' accounts rest with the bank and non-bank serves as [he delivery channel.. Bank-led models promise the potential to substantially increase the financial services outreach by using a different delivery channel. It uses a different trade partner having experience and target market distinct from the traditional banks and may be significantly cheaper than bank-based alternatives. Examples are the mobile money offered by MTN and the Standard Bank of South Africa, the Glo Fast offered by the First Bank of Nigeria and Globacom.

In non-bank-led models, banks do not come into the picture; instead the non-bank' telecommunication companies perform all the functions. Each of these models has its associated risks. These risks can be classified as agent-related and e-money risks. Agent-related risk arises from substantial outsourcing of customer contact to retail agents, who may be operating in a hard to reach or dangerous areas, lack physical security systems and specially trained personnel. When retail agents are used to provide banking services, banking risk as well as consumer protection and compliance with anti money laundering and counterfeiting (AML/CFT) and know your customer (KYC) requirements are endangered. E-money risks are typical to non-bank led models and relate to imprudent management of repayable deposits collected from customers by non-bank entities that arc not subjected to prudential regulation and supervision. Bank focused model can be used within existing regulatory framework and many banks have already started using it to a varied extent. Agent-related risks can be mitigated by making banks fully liable for actions of their agents and by giving regulator power to review agent's record of bank related transactions:

2.4. Mobile Banking Approaches

Several approaches exist for mobile banking. For instance, Porteous (2006) distinguishes between additive and transformational approaches to mobile banking. Additive approaches are those in which the mobile phone is merely another channel to an existing bank account. They target at existing bank customers. Transformational approaches are those in which the financial product linked to the use of the phone is targeted at the unbanked, who are largely low income people.

Mobile banking, offerings ought to be in some measures transformational. It has the potential of being transformational if

i. it uses existing mobile communication infrastructure which already reaches the unbanked.

ii. It is driven by new players, such as telecommunication companies, with different target market from traditional banks.

iii. It harnesses the power of new distribution networks for cash transactions, such as airtime merchant beyond the conventional market POS or ATM network of bank and

iv. It is cheaper than conventional banking

The extent to which m-banking will be transformational in a company will depend in large measure on whether the environment include among other things:

- Customers should be adequately protected against the fraud and abuse in the in-banking environment.
- Inter-operability should be encouraged, through ensuring that providers can access payment platforms and mat consumers are able to switch financial providers.
- Customers should be able to deposit and withdraw cash through agents al remote points outside of bank branches.
- Adequate provision ought to be made for the issuance of e-money by appropriately capitalized and supervised entitled which are not necessarily banks.

3. Discussion, Conclusion and Recommendation

3.1. Discussion

The spread of mobile phone across the world is one of the most remarkable technology stones of the past decade. For users in the developing world, the appeal of these m-banking/m-payments systems may be less about convenience and more about accessibility and affordability. An exploration is underway between banks mobile operators, hardware and software providers, regulation agencies donors and users to determine the shape of m-banking/m-payments services in the developing world.

There is no universal form of m-banking rather, purposes and structures vary from country to country. The systems offer a variety of financial functions, including micro payments to merchants, bill-payments to utilities person lo person transfers between individuals, and long distance remittances.

A framework with four contingency and five competitive factors was proposed and used to categorize the literature review. This is to give directions for future research in the emerging field.

The contingency factors in our framework represent external factors that are largely beyond the influence of the mobile payment market players. Based on the findings, we propose the following three directions for research concentrating on each of the contingency factors.

1: Social and cultural factors are important determinants for the use of different payment instruments, diffusion of wireless communication, and online shopping behavior (Bohle and Krueger, 2001; Lawrence *et al.*, 2005a; Mahmood *et al.*, 2004; Sundqvist *et al.*, 2002). These factors include, but are not limited to, economic conditions within the country, payment culture, and culture's disposition lo trust. As social/cultural factors are scarcely studied in mobile payment context, important directions for future studies include exploring how these factors influence the development and adoption of mobile payments, and how they can be managed to facilitate m-payments diffusion. Multi-cultural comparisons of payment cultures and preferences are also needed.

2: The commercial environment of mobile payment market has so far been unstructured with lots °of proprietary solutions competing with each other. Latest research suggests, however, that more cooperation and stronger partnerships are needed to facilitate the market development (Lawrence *et al.*, 2005b; Zmijewska and Lawrence, 2005). More research is needed, however, lo identify the specific needs that electronic and mobile environments have for payment services and lo examine cooperation strategies that enable sustainable service development for these markets.

3: Changes and innovations in the technological environment have driven the development of mobile payments so far. This area is also extensively examined by academic literature (Antovski and Gusev, 2003; Karnouskos *et al.*, 2004a; Lawrence *et al.*, 2005a). Yet many of the technological m-payment innovations have failed to attract customers or support profitable business models. Future research on the area could take a more holistic approach to technology development, and examine how and which technologies could better enhance customer experience or facilitate cooperation and cost-effective business models in mobile payment market. A comprehensive view is needed as the marketing of payment services may fail due to overly technical orientation.

The competitive factors in our framework describe the different players and their relative power in influencing the development of mobile payment market. Based on the findings, we outline four broad propositions for research concentrating on the competitive factors.

1: The factors affecting consumer adoption of mobile payments have been addressed by prior literature (Dahlberg and Mallat, 2002; Dahlberg *et al.*, 2003a). Our review suggests, however, that consumer influence on the development of new mobile payment services contributes to their success and may currently be insufficient. Potential direction to future research is therefore to examine how and to what extent consumers should be included in mobile payments development.

2: One of the critical issues for mobile payments success is their position compared with traditional, established payment solutions. At present, mobile payments are competitive for purchases of mobile content and items like vending and ticketing, but the traditional payment services still dominate the volume sales. Future research should study the development trends of different payment services mid identify opportunities for mobile payments. One interesting question is whether the value of payment services would be increased by integrating the current chip-based card systems into mobile devices. It is noteworthy that the technology basis as well as the vendors of financial smart-cards (chip-based credit etc. cards) and chip-based mobile telecom SIM cards are the same.

3: The role and opportunities of mobile payments in contrast with other new e-payment services are not extensively discussed in literature. This is surprising, considering the important facilitating role that payment services have in electronic and mobile commerce. More research is thus needed lodetermine what types of payment services are needed in the future and how the traditional and new payment services should be integrated to form a seamless overall financial infrastructure for customers.

4: One factor contributing to the low success of mobile payments is the fragmental market with several small and non-standard solutions. Mobile payment service providers are still looking for their roles and most of them aim for a central position in the value chain. As new payment technologies continue to combine features from both financial arid telecom industry, a central aim for future research is to identify the key competencies, natural roles, business models, and strategies that different players could have in the m-payment value chain.

3.2. Conclusion

The paper examined the potential prospects and challenges of mobile banking in Nigeria. Nigerian banks have increasingly embraced mobile banking of late, and no well-meaning bank that wants to remain competitive can afford to be left behind by the mobile banking train. Mobile banking has challenged banks to struggle to retain their existing customer's base while simultaneously trying to acquire new ones.

One of the greatest opportunities mobile banking offers in Nigeria is its potential for extending financial service outreach to the unbanked in remote communities. It is also a channel banks can useto provide efficient convenient and cost-effective financial services to their customers. The major challenges are regulatory, security and inter-operable issues. The paper reveals that the current mobile banking services offered in Nigeria is additive and not

transformational. Banks use it as an added channel to serve their already existing customers without making conscious efforts lo use the mobile banking platform to extend banking services to the unbanked.

3.3. Recommendations

The following recommendations are made so as to make mobile banking in Nigeria transformational:

- Non-bank led models that promise the potential of being transformational should be encouraged by the regulatory authorities
- Customers should be adequately protected by banks against fraud and abuse in the mobile banking environment.
- There should be cross-industry collaborations so that mobile banking solution can be offered on common technology standard.
- Customers should be able to deposit and withdraw cash through agents at remote points outside of bank branches.

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