

**THE ROLE OF MOBILE MONEY SERVICES IN ENHANCING FINANCIAL
INCLUSION IN UGANDA [1]**

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ABSTRACT

Financial Inclusion (FI) has become a key pillar of development policy in a number of countries around the world on account of the fact that exclusive development is not sustainable. The paper explored the role of Mobile Money Services (MMS) in enhancing financial inclusion. The study was motivated by the proliferation of mobile phones amongst low income earners, the prepaid billing system sensitive to users' incomes, embrace of ICT by government and the private sector that has enhanced e-commerce readiness of Uganda, as well as the launch of three Mobile Money Services in the country. A qualitative analysis of the web content of the three MMS providers was undertaken and focused on issues related to services provided; transaction charges; number of registered customers; number and volume of transactions; stakeholders; user interfaces and security; institutional relationships; policy and regulation; as well as appropriateness of the current business model(s). The findings indicate that while the MMS have enormous potential to enhance FI, it would require an open business model that involves all stakeholders to establish a truly national solution. Furthermore, the initial contribution of MMS to FI is in improving money transfer by lowering the transaction costs for small volumes. As a way forward, the regulatory authorities need to establish a legal framework that does not stifle innovation but ensures safety for customers' savings.

Key Words: Mobile Money Services (MMS); Financial Inclusion

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I INTRODUCTION

Financial Inclusion (FI) which is the process of ensuring access to appropriate financial products and services at an affordable cost to the underprivileged and low income groups (Ddumba-Sentamu, 2009) has become a key pillar of development policy in a number of developing countries. The driver of FI as a salient feature in development policy was the recognition by national and multinational bodies that exclusive development was not sustainable. For instance, the former United Nations (UN) Secretary General Kofi Annan observed on December 29, 2003 that

The stark reality is that most people in the world still lack access to sustainable financial services, whether it is saving, credit, or insurance. The great challenge before us is to address the constraints that exclude people from full participation in the financial sector ... together, we can and must build inclusive financial sectors that help people improve their lives.

Consequently, a number of monetary authorities and finance ministries across the world have sought to address this imbalance. Different approaches have been used across the globe because Financial Exclusion (FE) is a result of a myriad of factors ranging from attitude through to infrastructural limitations. Some of the approaches that have been used across the globe include microfinance arrangements; moral suasion to urge financial institutions to embrace commitment to FI; regulatory frameworks that require commercial banks to open up a rural branch for every x branches opened; and utilization of Information Communication Technology (ICT) to reduce costs associated with financial service delivery.

Innovations in ICT have revolutionised the financial sector resulting in novel delivery channels for financial products and services such as Automated Teller Machines (ATMs), cell phone banking, PC banking, and internet banking (Ahmad, 2006). These developments leveraged against ICT are termed as electronic banking (e-banking) which is a subcomponent of electronic commerce (e-commerce). E-banking has been very instrumental in improving the quality of

service individuals with bank accounts receive from their financial institutions as well as lowering the costs of transactions. For example an electronic withdrawal of cash across the ATM costs between 5 US cents to 25 US cents in a Ugandan commercial bank compared to over-the-counter withdrawals that cost between US\$ 1.00 to US\$ 2.00 per transaction. The individuals with bank accounts continue to enjoy the benefits associated with e-banking but the poorest of the poor who cannot open up bank accounts remain excluded. As a result, the lack of banking services has forced many people in the developing countries to rely on an often insecure cash-based economy. The desire by many developing countries' governments to increase access to financial services as a tool of enhancing savings mobilization to reduce poverty has seen a number of solutions emerge. Apart from the traditional solution of microfinance, use of mobile phones to access financial services has been proposed and adopted as a means of expanding financial services to the poorest of the poor.

The adoption of the mobile phone as a means of accessing financial services has been driven by the growing number of low income earners who own cellular phones, the pre-paid billing system sensitive to users' incomes and improving technology. The number of cellular phone subscribers in Uganda has risen from 3000 in December 1996 to 8,200,000 in December 2008 (Uganda Communication Commission, 2009; Mulira, 2009), representing a 26 percent coverage given Uganda's population of 32 million people. On the other hand, as at December 2009, the number of bank accounts in the country is estimated at slightly over 5 million representing a 16 percent penetration. The growth rate of mobile telephony in Uganda is exceptional given that it started in 1996 while commercial banking operations date back to the 1950's. In fact, over the past decade, far more people in Uganda have gained access to mobile phones than to banking services.

The exceptional growth of mobile telephony in Uganda provides an opportunity that can be harnessed to expand access of financial services to the under-served and un-served segments of the population. As Ndiwalana and Popov (2009) point out, mobile phone payments present a significant opportunity to integrate more users within Uganda's financial system at a reasonable

cost. With the liberalization of the telecommunications sector and the commitment to the Government of Uganda to e-government and overall utilization of ICT in fostering national development (Mulira, 2009), the onus is on the telecommunication companies and financial institutions to exploit the opportunity.

In this paper, the potential role that can be played by mobile money services (MMS) using cellular telephony to foster financial inclusion is explored. A thorough understanding of the role can help policy makers design appropriate policies to integrate the mobile payments (m-payments) into the national and regional integrated payment systems as well as devise mechanisms for reaching the under- and un-banked citizens. In addition, it opens up opportunities for government to minimize transaction expenditures, embezzlement, and fraud when paying large groups of civil servants like primary school teachers.

II STATEMENT OF THE PROBLEM AND RESEARCH ISSUES

Financial Inclusion which is a key component of social inclusion and consequently a necessary ingredient for fostering inclusive growth remains a major concern of government authorities and a major hindrance to economic development. While Uganda's financial sector has experienced a profound transformation since 2000, the financial industry remains shallow and a large proportion of Uganda's population remains unbanked. Generally, financial depth measured as a ratio of broad money (M2) to GDP is low. The ratio increased from 11.2 percent in 1995 to 20.7 percent in 2008 (WDI and GDF 2010). In addition, financial intermediation is low playing a limited role in the provision of funds for development finance and dominated by commercial banks (Mugume, 2008). Overall, the financial sector is still under developed and has a relatively low level of automation compared to Kenya and Tanzania.

Efforts by the Government of Uganda to integrate its citizens into the financial sector date back to the 1950's, when marketing cooperative societies were established. Over the years,

government efforts have evolved through credit and interest rate controls as well as provision of credit to specific sectors to the current status quo where the government provides a regulatory role while the private sector deals with the actual service provision. As a result, the country has 23 licensed commercial banks, 4 credit institutions, 3 Microfinance Deposit Taking Institutions (MDIs) (MFPED 2010), about 1,400 Micro-Finance Institutions (MFIs), 800 Savings & Cooperative Companies (SACCOs), 2 development banks, 4 investment banks, 29 insurance companies, and 135 forex bureaus. The financial system is divided into three (3) main components that is, the formal, semi-formal, and informal sectors. The respective inclusion rates for each of these sectors are 18 percent, 3 percent and 17 percent, while 62 percent of the population are un-served (Johnson and Nino-Zarazua, 2009).

Apart from the semi-formal and / or informal MFIs and SACCOs as well as other financial institutions not involved in retail banking, the customers of other formally regulated financial institutions have enhanced their access to financial services through ATMs, debit/credit cards, internet banking, PC banking, and Point of Sale (POS) mechanisms. In addition, they have also benefited from the modernisation of the national payment system that started in 1998 and has seen the introduction of Electronic Funds Transfer (EFT), Uganda National Interbank Settlement System (UNIS), and the Real Time Gross Settlement (RTGS) systems. The amounts of money and types of players involved in the current electronic payment system only serves the needs of the banked minority (Ndiwalana and Popov, 2009). Thus, the majority of people still lack a viable electronic payment system that can accommodate low transaction values at low costs but still provide the required convenience, security, and speed (Ndiwalana and Popov, 2009). Without a viable alternative, many Ugandans have sought recourse to unregulated informal groupings like gift circles, money lenders, and unscrupulous member owned MFIs that have swindled their meagre lifetime savings.

The advent of the cellular phone and the appropriate underlying technology that has enabled transmission of data as well as the launch of three (3) mobile money services provides these

unbanked Ugandans with an opportunity to be integrated into the financial sector. Hence this paper seeks to explore the potential mobile money services can play in enhancing financial inclusion in Uganda. Specifically, it addresses issues regarding services provided by the MMS, transaction charges, registered customers, number and volume of transactions, stakeholders, user interfaces and security, institutional relationships, policy and regulation, as well as appropriateness of the current business model(s).

III LITERATURE REVIEW

3.1 Financial Inclusion

3.1.1 The Concept of Financial Inclusion

The exact conceptualisation and operationalisation of Financial Inclusion (FI) varies across the globe from country to country (Rahman, 2009). Irrespective of these variations, at its basic, FI means reaching out to the under-banked and un-banked citizens of a country with a view of providing them with appropriate, adequate, affordable, and timely financial services such as accounts, credit, and insurance amongst others. The term Financial Inclusion [FI] / Financial Exclusion [FE] was coined by geographers in 1993 who were concerned about limited physical access to banking services as a result of bank branch closures (Leyshon and Thrift, 1995). Analysis of literature reveals that the conceptualisation can be divided into two facets, that is, the narrow and broad approaches.

Narrowly, FI refers to the delivery of appropriate, timely, and adequate financial services at an affordable cost to the vast sections of under privileged and low income groups (Nagadevara, 2008; Sarma, 2008; Leeladhar, 2005). Implicitly, Mohan (2006) concurs and observes that FI signifies the access by certain segments of the society to appropriate, low-cost, fair and safe financial products and services from mainstream providers. Similarly, the United Nations (UN) define FI as easy access to safe savings, appropriately designed loans for poor and low-income households and for micro, small, and medium-sized enterprises, and suitable insurance and

payment services (United Nations, 2006). Financial Inclusion implies provision of affordable financial services such as access to payments and remittance facilities, savings, loans, and insurance services by the formal system to those who tend to be excluded (Nagadevara, 2008).

Broadly, the Scottish Government offers a comprehensive definition of FI when it refers to it as a process of individuals having access to appropriate financial products and services including having skills, knowledge, and understanding to use them (<http://www.scotland.gov.uk/Topics/People/Social-Inclusion/17413>). The totality of FI encompasses elements of the narrow definition as well as Financial Integrity and Financial Literacy / Education¹. Sarma (2007) concurs and defines FI as a process that ensures the ease of access, availability and usage of the formal financial system for all members of an economy. While defining the opposite of FI, that is, FE, Leyshon and Thrift (1995) as well as Sinclair (2001), further clarify on the need for a broad understanding and interpretation of FI/FE. Leyshon and Thrift (1995) define FE as referring to those processes that serve to prevent certain social groups and individuals from gaining access to the financial system. According to Sinclair (2001), financial exclusion means the inability to access necessary financial services in an appropriate form. He argues that exclusion can come about as a result of problems with access, conditions, prices, marketing or self exclusion in response to negative experiences or perceptions. Similarly, Carbo, Gardener, and Molyneux (2005) refer to FE as the inability (however occasioned) of some societal groups to access the financial system.

While there are varying definitions of FI, there are dimensions of FI that ought to provide a guide as to whether an individual/family/household is financially included or excluded. These dimensions include availability, access, usage, timeliness, and cost amongst others (Sarma,

¹ Financial Literacy / Education / Capability refers to the individual's ability to make informed judgements and effective decisions about the use and management of their money (http://en.wikipedia.org/wiki/Financial_Literacy_February_03, 2010). According to Subbarao (2009), Financial Literacy is a critical component in achieving FI. Financial Integrity alludes to the completeness of the financial system, that is, the perceived consistency of actions, values, methods, measures, principles, expectations and outcome. It is a holistic concept that individuals utilise to judge the completeness of systems in terms of those systems' ability to achieve their own goals efficiently and effectively (Developed from the Stanford Encyclopaedia of Philosophy).

2008). In addition, each of these dimensions could have a spectrum of gradations at which different individuals could be classified making the understanding and implementation of the concept challenging (European Commission, 2008).

3.1.2 Measurement of Financial Inclusion

While the importance of an inclusive financial system is widely recognized by policy makers, banks, and academic communities all over the world, the literature on FI lacks a comprehensive measure that can be used to assess the extent of FI across economies (Sarma, 2007 and 2008). The author observes that several indicators have used to indicate the extent of FI by different people. Some of the indicators used include the quantum of deposit accounts (current and savings) held as a ratio of the adult population (Leeladhar, 2005; Sarma, 2008); number of loan accounts as a proportion of the adult population (Samantaray, 2007); as well as number of bank branches per million people, number of ATMs per million people, amount of bank credit, and amount of bank deposit (Sarma, 2007).

Sarma (2007 and 2008) observes that indicators when used individually provide only partial information on the inclusiveness of the financial system of an economy. Consequently, the author advocates for a comprehensive measure of FI that incorporates information on several aspects (dimensions) of FI in a single number. He argues that a single digit measure allows for cross country comparison, trend analysis to assess a nation's progress of policy initiatives, and answering of academic questions such as correlations between economic development and FI.

In collaboration with the Indian Council for Research on International Economic Relations (ICRIER), Sarma (2007 and 2008) has developed a robust and comprehensive measure of FI that incorporates information on several dimensions of FI, is easy and simple to compute, and is comparable across countries. The measure known as an Index of Financial Inclusion (IFI) is similar to that used by UNDP for computation of some well established indices such as the

Human Development Index (HDI) and the Gender-related Development Index (GDI). The IFI incorporates three basic dimensions of FI in its computations namely depth², availability³, and usage⁴. Other indices include the Eurobarometer Survey 60.2 (European Commission 2008) and the Patrick Honohan's Index of access to finance (Agrawal, 2008). These indices are based on the dimension of access.

3.1.3 Benefits of Financial Inclusion

The importance of an inclusive financial system is widely recognized in the policy circles (Sarma, 2008) and FI/FE has emerged as a policy priority in many countries (Molyneux, 2007; Sarma, 2008). The recognition of the relevance of an inclusive financial system was driven by the discovery of the role of finance as one of the critical factors for growth and development (Agrawal, 2008). The recognition coupled with the fact that exclusive growth is not sustainable (Subbarao, 2009) has spurred a revolution in FI amongst academia, public policy makers, and researchers.

An inclusive financial system facilitates efficient allocation of productive resources and thus can potentially reduce the cost of capital (Sarma, 2008). Subbarao (2009) observes that FI provides an avenue for bringing the savings of the poor into the formal financial intermediation system and channel them into investment. In addition, the large numbers of low cost deposits offer commercial banks opportunities to reduce their dependence on bulk deposits and help them better manage both liquidity risks and asset liability mismatches.

² Depth is a dimension that measures how much the financial system has penetrated amongst its users. A proxy measure of this dimension is the number of accounts per 100 population.

³ Availability – an aspect that assesses the accessibility of the financial system to its users. The aspect is measured by proxies such as number of bank branches or number of ATMs per 1000 population.

⁴ Usage – a dimension that evaluates the extent to which the financial system is utilized. The size of the bank credit and bank deposits, relative to the GDP of a country is used as a measure of this dimension.

Financial Inclusion can help reduce the growth of informal sources of credit such as money lenders which are often found to be exploitative (Sarma, 2008). According to Subbarao (2009), FI protects the poor from the clutches of usurious money lenders. Agrawal (2008) observes that excluded people often rely on the informal sector to avail them with finance usually at exorbitant rates. This is a result of the financially excluded people having limited credit options. Consequently, a vicious cycle of high cost finance is established where an individual borrows at high costs and pays out a substantial portion of his/her income to money lenders.

Involvement in the financial system can significantly improve day-to-day management of finances (Sarma, 2008). In cashless economies like those of Western Europe and North America as well as those in transition, lack of access to a transaction bank account could mean the difference between indebtedness and thriving. Without an account individuals find it hard to handle personal obligations like payment of utility bills. Such individuals have to rely on an insecure cash based transactions that expose them to theft and uncertainty.

Apart from the individual benefits, FI confers advantages to financial institutions and the central bank. As highlighted by Subbarao (2009), the poor are bankable proposition that enable commercial banks to enjoy economies of scale, offer low cost deposits that facilitate less risky liquidity management than bulk deposits and provide opportunities for innovation in the development of products targeted for the poor market segment. On the other hand, inclusion of more people in the financial system increases the efficacy of monetary policy by enhancing the interest rate / money supply transmission mechanism depending on the monetary framework in use.

Overall, FI is a win-win opportunity (Subbarao, 2009) for all stakeholders. This is backed by several theoretical and empirical research studies that point to the critical role that improved access to finance has in promoting faster and equitable growth as well as reducing income inequality (Beck and Demirguc-Kunt, 2008; Honohan, 2004). This is because a well developed

financial system brings poor people into the mainstream of the economy and allows them to contribute more actively to their personal economic development (United Nations, 2006; Ramji, 2007).

3.1.4 Consequences of Financial Exclusion

According to the European Commission (2008), FE is deeply interrelated with social exclusion: if the latter almost automatically leads to the former, FE belongs to a process that reinforces the risk to face social exclusion. The consequences of FE will vary depending on the nature and extent of services denied as well as the country concerned. According to Bayot (2007) and the European Commission (2008), the consequences of FE can be broadly divided into two namely, financial and social consequences. The classification into these dimensions is academic because the two facets are intricately linked. In addition, the FE consequences could be further broken down to relate them to the product/service being missed such as bank account, credit, and insurance (Kempson, Whyley, Caskey, and Collard, 2000).

The financial consequences of FE according to Bayot (2007), Mitton (2008), and European Commission (2008) include among other issues: exorbitant charges for use of the financial system when need arises; seeking credit from informal channels which are usually more expensive and use coercive techniques of debt collection; access to employment could be hindered as a number of employers use accounts to pay wages; clearing of cheques from third parties is complex and /or expensive; costly payment of utility bills; and vulnerability to financial crises in case of disasters like prolonged sickness.

The social consequences of FE include: inability to access or use banking services could have an impact on self esteem and lead to self isolation and deprivation of social connections and social relationships with friends and family (Gloukoviezoff, 2006); violent means of loan collection in informal providers could psychologically and physically hurt the persons involved (European

Commission, 2008); and exposure to loss of savings through theft (Kempson and Whyley, 1999; Kempson *et al.*, 2000).

Generally, the financial and social consequences of financial exclusion are closely interrelated. From existing literature, it is difficult to establish whether the relationship between financial and social exclusion is causal or correlational and whether the direction of the relationship is unidirectional or bi-directional. It is observable from the existing studies such as European Commission (2008), that the existence of FE could lead to social exclusion and that socially excluded communities are more likely to be financially excluded. Statistically, there has been a broad correlation between levels of FE and levels of affluence (measured by the GDP per capita) and inequality (measured by the Gini coefficient) (Kempson, 2006).

3.1.5 Barriers to Financial Exclusion

There are a number of models and schemes that classify the barriers to financial inclusion. One of the most commonly used schemes is that proposed by the European Commission (2008). According to this scheme, the barriers to FI also known as causes of FE are usually categorized into three main components namely, demand side factors, supply side factors, and societal factors⁵. The magnitude and importance of each of these factors vary from region to region as well as country to country. It is generally agreed in literature that FE is a function of many factors that are subject to change as the environment in which the individual/household/community lives changes. For instance, the European Commission (2008) cites the incidence of Sweden which had a high FI level that has been reduced with the introduction of internet banking. The reduction is on account of the failure of the adult population to quickly adopt to the new technology. Other studies carried out elsewhere such as Subbarao (2009) and Agrawal Reena (2008) in India, Rahman (2009) in Bangladesh, Buckland (2005) in Canada, as well as Corr and Coffey (2006) in Ireland identify causes of FE that are

⁵ Demand side factors focus on the potential customer, that is, individual, household, or community while supply side factors deal with the financial institutions. Societal factors focus on external environment developments (outside the individual or financial institution) such as political, economic, social, legal and /or geographical issues that prevent availability, access, and /or usage of financial services. Technically, financial exclusion and / or provision is a spectrum from fully inclusive through to marginally banked / under provided to complete exclusion.

similar to those captured by the EC (2008)'s 3-factor scheme/model. However, other classifications do exist. For example, the UK Financial Inclusion Centre (<http://www.inclusioncentre.org.uk> February 04, 2010) divide the causes of FE and under provision into four broad categories namely, i) environmental, market and societal, ii) income-related and person specific, iii) demand side factors, and iv) supply side factors.

3.1.6 Social Stratification and Financial Exclusion

Financial Inclusion is deeply interrelated with social exclusion⁶ (European Commission, 2008). The relation between FE and social exclusion is not the same in all societies because it depends on the level to which cash is used in an economy. In countries where cash usage is widely spread, FE may not stigmatise the affected individuals as it would in a cashless economy. Irrespective of the magnitude of the correlation between FE and social exclusion, it appears from literature that socially excluded individuals are more likely to suffer FE compared to counterparts who are fully integrated in society's institutions.

Social exclusion which could be facilitated by natural stratifications⁷ in society such as race, ethnicity, language, and religion amongst others is usually a precursor for FE due to limited economic means of individuals who are socially excluded. However, Barry (1998) points out that although there is a close association between economic stratification and the phenomenon of exclusion within a society, it seems clear that in principle social exclusion [and consequently FE] can occur between groups that are not significantly distinguished from one another.

⁶ Barry (1998) observes that it is worth distinguishing social exclusion from social isolation. Social isolation is a phenomenon of non-participation (of an individual or group) in a society's mainstream institutions, while social exclusion refers to a subset of cases in which social isolation occurs for reasons that are beyond the control of subjects involved.

⁷ These natural stratifications termed as non-class forms of division and identity by Anthias (2009) constitutes central elements of the stratification system of modern societies. As observed by Rahman (2009), these stratifications make homogeneity within the population a necessary precondition for FI as well as social inclusion.

As a result of the correlation between social and financial exclusion, it is common to find that individuals who are financially excluded are those at the fringes/margins of society. According to Samantaray (2010) in India, the groups that are excluded include among others marginal farmers, landless labour, oral lessees, self employed, unorganized sector, urban slum dwellers, migrants, ethnic minorities, socially excluded groups, senior citizens, and women. The European Commission (2008) study for a more economically developed European Union does not offer a different picture. While there are differences across the EU, the groups that are usually excluded include lone parents, single people, migrants, uneducated individuals, persons going through debt, resettlement programme, and those convicted of money laundering / fraudulent behaviour in the past.

While socially excluded groups are more prone to financial exclusion, there is no doubt that individuals fully integrated in society could shun the financial services system and its products. Conceptually, this would raise debate similar to that raised by Barry (1998) regarding financial isolation (staying out of the system out of free will) and financial exclusion (staying out of the system because of factors outside one's control). Like in the argument advanced for social isolation/exclusion by Barry (1998), financial isolation/exclusion should focus on failure of an individual/family/household/community to participate in the financial services system irrespective of the underlying factors.

3.1.7 Approaches of Extending the Scope of Financial Inclusion

According to Leeladhar (2005), the scope of FI can be expanded in two ways namely, (i) through state-driven intervention by way of statutory enactments such as the Community Re-investment Act in the United States and the statutory right to own an account in France, and (ii) through voluntary effort by the banking community itself for evolving various strategies to bring within the ambit of the banking sector the large stratum of society.

In a liberalized economy primarily driven by the private sector, the role of government in pushing FI is limited somewhat. While the government through the central bank may enforce

legislation like the Community Re-investment Act of the United States, it may not be able to force commercial banks to expand their branch network to rural areas. Consequently, in a liberalized economy government ought to employ tactics such as moral suasion to encourage commercial banks to promote FI.

There is an abundance of literature most especially from India that discusses methods that have been employed by the Reserve Bank of India (RBI) to enhance FI. Generally the methods employ moral suasion and incentives to encourage financial institutions in fostering FI. The methods include creation of Regional Rural Banks (RRBs) in 1975, no-frill accounts, usage of regional language in information dissemination, simple Know Your Customer (KYC) norms, financial education, easier credit facilities, utilization of rural intermediaries as bank partners, and use of Information Technology (IT) amongst others (Agrawal Amol, 2008; Samantaray, 2009; Subbarao, 2009). Other initiatives carried out by the Indian authorities include the creation of the State Bank of India in 1955; nationalization of commercial banks in 1969 and 1980; initiating the Lead Bank Scheme in 1970; introduction of Self Help Group (SHG) – Bank Linkage Programme in 1992; and formulating the Kisan Credit Card Scheme in 2001 (Agrawal Reena, 2009). In addition, the RBI has encouraged state governments to adopt Electronic Benefit Transfer (EBT); selection of a district in each state for a 100 percent FI drive; establishment of a financial literacy project that has incorporated finance in schools/institutional curricula; setting up a financial literacy – cum – counseling centre on a pilot trial run in every state; liberalization of branch and ATM expansion; and provision of incentives for public sector banks setting up branches in ‘unprofitable’ areas (Subbarao, 2009). Conceptually, the RBI as well as the general financial institutions fraternity is exploring the most feasible models for FI under Indian circumstances (Subbarao, 2009; Mendoza, 2009). Some of the models that are being assessed and piloted include the business facilitator and business correspondent model; the livelihood microfinance models⁸ such as PRADAN and MCM; as well as the microfinance only models

⁸ SKS and Samhita utilise the microfinance model where they concentrate exclusively on offering small loans to the financially excluded poor. Mechanisms for risk mitigation such as micro-insurance have been included in such models. MCM (Mahila Chetna Manch) has a similar concept to SKS but emphasis is placed on women’s dignity, empowerment, and participation. PRADAN (Professional Assistance for Development Action)’s model of Self Help Group (SHG) promotion focuses on the livelihood approach to microfinance by enhancing productivity in natural

such as SKS and Samhita (Mendoza, 2009). In all these models, a fully regulated financial institution takes the lead and does the core financial functions while other partners / stakeholders play a supportive role. However, the RBI is open to other models (Subbarao, 2009) like those used in the Philippines that involve a non-bank entity establishing a financial arm which is subject to the laws, rules, and regulations of the supervisor such as the G-Xchange / G-Cash (Ndiwalana and Popov, 2008; Encinas, 2009).

In Bangladesh, Rahman (2009) highlights a number of mechanisms that have been employed to promote FI. These include formation of mutually owned cooperative societies, establishment of microfinance institutions (MFIs), refinance programmes / schemes for environmentally friendly investments as well as Small Medium Enterprises (SMEs), agricultural credit program, and extension of loans to landless sharecroppers through providing a refinance line for banks that are involved with them. In addition, the Bank of Bangladesh (BB) uses moral suasion to urge banks and financial institutions to embrace specific commitment to FI as a Corporate Social Responsibility (CSR) obligation. Furthermore, in issuing new branch licenses to banks, BB follows a policy of requiring at least one in every five new branches to be in rural areas. In order to encourage money remitters and recipients to be part of the financial system, BB is in the process of implementing the Remittance and Payments Partnerships (RPP) project with support from DFID (Department of Foreign and International Development). On the other hand, the Government of Bangladesh has encouraged FI through provision of lending resources to MFIs, promotion of women empowerment in SMEs and other productive activities; inclusion of crop insurance in the food policy agenda as a longer term measure towards mitigating risk in agricultural production as well as granting of loans to rural poor for construction of their basic shelter.

resources and promoting home-based microenterprises through SHGs. By encouraging formation of SHGs, their training, inculcating a savings culture, establishment of linkages to government poverty alleviation programs, and linkage to banks after 6 months of savings enhances financial inclusion.

Rahman (2009) points out that the approaches employed in Bangladesh [as well as India] can be replicated in Uganda with appropriate adaptations to local circumstances. Ddumba-Sentamu (2009) concurs but observes that aspects of infrastructure, financial education, regulation, cost efficiency, and comprehensive research would be necessary to implement the replication.

According to Leeladhar (2005), addressing FI will require a holistic approach on the part of the banks in creating awareness about financial products, education, and advice on money management, debt counseling, savings, and affordable credit. With a large clientele characterized by low levels of literacy and a wide variety of customised banking needs, leveraging technology can be a very valuable tool in providing access to banking products in remote areas. The required outreach into remote areas with low operational costs is only possible with the use of appropriate technology (Rangarajan, 2008; Kochhar, 2009). The author observes that technology has to be leveraged to create channels beyond branch network to reach the unbanked and to extend to them banking services similar to those dispersed from branches.

A number of technological initiatives for FI are already under experimentation in a number of countries across the globe. Some of the initiatives include:- (i) ATMs with operating instructions in a vernacular language facilitating the access for the poor people with low reading ability; (ii) ATMs with voice recognition for the illiterates for transactions relating to savings, credit, and payment services; (iii) biometrically enabled ATMs to bring more illiterate people into the banking fold; (iv) mobile teller / lower cost ATMs in remote areas; (v) kiosk banking using the internet facility (International Network of Alternative Financial Institutions – India, 2009). In Africa, the leveraging of technology to enhance FI has seen the mobile phone elevated from merely a tool for communication to a source of new income opportunities for the marginalized social segments in society (Ndiwalana and Popov, 2008).

3.1.8 International Experience in promoting Financial Inclusion

The size of the financially excluded population in the world is enormous: according to the United Nations, approximately three billion people around the globe lack access to formal financial services – such as bank account, credit, insurance, a safe place to keep savings and a secure and efficient means to receive social benefit payments – through a registered financial institution (Chibba, 2008a, 2008b; UN 2007 cited in Chibba, 2009). Chibba (2009) observes that the problem of FE is universal. Consequently, Agrawal Reena (2009) and Leeladhar (2005) point out the possible value that could be obtained from exploring international experience in tackling the problem of FE. Leeladhar (2005) postulates that the more developed the society is, the greater the thrust on empowerment of the common person and low income groups. Indeed a review of literature reveals that the approaches to FI used by developed countries (USA, UK, and Australia), developing countries (China, Brazil, South Africa, and India), and Less Developed Countries [LDCs] (Botswana and Kenya) vary significantly.

Internationally, the concept of FI has been hinged on the larger developmental paradigm of inclusive development and / or social inclusion. Chibba (2009) points out that FI within the broader context of inclusive development is viewed as an important means to tackle poverty and inequality, and to address the Millennium Development Goals (MDGs). Financial Inclusion offers incremental and complementary solutions to tackle poverty, to promote inclusive development, and to address the MDGs.

Chibba (2008b) suggests that in order to appropriately tackle FE, efforts ought to be focused on four pillars: private (financial and non-financial) sector development; financial literacy; microfinance; and public sector support. A survey of the literature suggests that different nations have had an emphasis on one or two pillars. For example Uganda's focus though not yet constituted into an FI package emphasizes private sector development and microfinance. The Indian government through the Reserve Bank of India has focused on public sector support to direct the activities in the three other pillars. Like the practice, literature indicates that there is a

scanty treatment of the key pillars (Chibba, 2009). Nevertheless, there are a number of FI efforts in the international arena.

Chibba (2009) provides a thorough treatise of what the multilateral and bilateral organizations as well as major donor nations have undertaken to promote FI. Apart from stakeholder workshops/conferences, these organizations have scaled up their FI efforts by taking concrete action through organizational changes and policy research, and through finance and technical assistance to developing countries. For example the publication of the World Bank of 2008 entitled *Finance for All* is a clear shift towards FI.

In Australia, Howell and Wilson (2005) observe that there is no complete disengagement of the population from the financial services system but rather an exclusion from mainstream market products and / or services. Thus, the focus of the Australian authorities is how to regulate the fringe markets as well as the informal / community organizations sector to offer financial services to the poor at appropriate low cost, fair, and safe standards.

The FI task force in the UK⁹ has identified three priority areas for the purpose of FI namely, access to banking, affordable credit, and free face-to-face money advice (Leeladhar, 2005; Agrawal Reena, 2009). Programmes such as the FI fund, basic no-frills bank accounts, legislations, and basic financial literacy have been implemented as way to achieve the priority areas.

The Indian approach to FI appears to have similarities with the UK methodology. However, it has been modified by the Reserve Bank of India to suit their conditions. From the works of

⁹ A further treatise of the UK approach can be found in New Policy Institute (2007), Financial Inclusion task force website <http://www.financialinclusion-taskforce.org.uk/>

Kochhar (2009), Subbarao (2009), Jayasheela, Dinesha and Hans Basil (2009), Agrawal Reena (2009), Gopinath (2006), Leeladhar (2005), Agrawal Amol (2008), Rangarajan (2008) and Mendoza (2009), the basic tenets of the Indian approach to FI include no-frills account, easier credit facility, simpler KYC norms, utilization of ICT such as smart cards and linkage to mobile devices, adoption of Electronic Benefit Transfer (EBT) by banks as well as 100 percent FI drive.

In South Africa, the financial sector consensus model undertaken after the fall of apartheid coupled with the Black Economic Empowerment (BEE)¹⁰ program are inclusive of the poor and could enable the country meet both its FI targets as well as the poverty reduction MDG by 2015 (Chibba, 2009). Conversely, Namibia appears to be over banked (Ikhide, 2000) given the large network of commercial bank branches (5 commercial banks with 127 branches) and small size of the population (2 million people) implying an average of 15,750 persons per branch.

Botswana has managed to reduce its financially excluded from 96 percent in the 1960's to slightly over 50 percent (Chamberlain and Walker, 2005) on account of its prudent management of natural resources and consistently good fiscal policy coupled with a long period of economic growth driven by mineral resource development as well as responsible public sector policies and programs (Chibba, 2009). Chibba (2009) suggests that further progress in the FI drive is being hindered because of (i) large informal sector accounting for one-third of the economy, (ii) poor attitude of individuals and SMEs towards saving, spending, and borrowing, (iii) poor access to formal credit, (iv) minimal presence of financial institutions in the rural areas, (v) market concentration, (vi) weak enabling environment for private business, and (vii) poor governance in areas in areas such as monetary policy, land ownership, public sector agency governance, government procurement, and the legal / regulatory framework for FI. The author observes that irrespective of these limitations, Botswana has the pre-requisites to adopt the South African financial sector consensus model. These pre-requisites include stable and good governmental

¹⁰ There are several critiques about the South African approach such as Andreasson (2006) and Ponte, Roberts, and Van Sittet (2007).

leadership, track record of using a consensus driven approach, existence of research about FI, and capacity of government to provide an enabling environment.

In the United States of America (USA), a civil rights law – Community Reinvestment Act (CRA) prohibits discrimination by banks against low and moderate income neighbourhoods (Agrawal Reena, 2009). The CRA imposes an affirmative and continuing obligation on banks to serve the needs for credit and banking services of all the communities in which they are chartered. The actions of states such as New York are dealt with at length in Agrawal Reena (2009) as well as Leeladhar (2005).

Out of the three billion financially excluded individuals in the world, two billion are to be found in the developing countries (Chibba, 2009). For example, only about 4 percent of the population has a bank account in Africa (United Nations Capital Development Fund [UNCDF], 2006), while in Latin America 65 percent of the population comprises the unbanked (World Bank, 2007). With such statistics, there is a need for a comprehensive treatment of the problem with a view of providing policy makers, planners, and programmers a clear cut guideline for tackling FE. Chibba (2009)'s four key pillars¹¹ strengthened using the five models provide a thorough conceptualization of how to handle FE.

With the rising awareness of the poor about their aspirations and rights (Subbarao, 2009), policy makers can no longer hold back on FI. As a critical factor in growth and development, several scholars have likened access to finance in the global economy to human blood in human beings. This importance associated with access to finance is because of its global priority on the international development agenda, its linkages to social exclusion, capacity to impact large communities, and its potential to stimulate personal development.

¹¹ In tackling FE, focus should be placed on four pillars namely private (financial and non-financial) sector development, financial literacy, microfinance, and public sector support. These four key pillars can be strengthened through the exploitation of five models namely i) financial sector consensus, ii) public sector leadership, iii) private sector development, iv) civil society/non-profit sector, and v) catalytic model.

3.1.9 Status of Financial Inclusion in Uganda

When compared to the 1970's and 1980's, the Ugandan financial system has undergone several reforms that have had positive implications for the economy. The chronology of these reforms and the broader Economic Reform Program (ERP) adopted by government in the last two decades since 1987 have been a subject of various papers such as Selassie (2008), Mugume (2008), Kuteesa, Tumusiime-Mutebile, Whitworth, and Williamson (2009), as well as Kihangire (2009). Even though financial deepening measured by the growth of broad money to GDP has taken place, the financial sector has remained relatively shallow (Mugume, 2008). The ratio increased from 11.2 percent in 1995 to 20.7 percent in 2008 (World Development Indicators [WDI] and Global Development Finance [GDF], 2010). Mugume (2008) points out that the system is dominated by the commercial banks while other financial intermediaries are limited in number, small in size, and relatively ineffective. Furthermore, there is only one bank branch per 180,000 people in Uganda compared to an average of 7000 people per branch in the Common Market for East and Southern Africa (COMESA) countries (Kasekende and Opondo, 2003). The authors observe that most of the Ugandan commercial bank branches are concentrated in the urban centres.

Irrespective of these shortcomings, there have been a number of efforts undertaken by either Bank of Uganda (BOU) or Government of Uganda (GOU) to enhance FI. These include:-

- Establishment and running of credit programmes such as Rural Farmers' Scheme (RFS), *Entandikwa*, Youth Entrepreneurship Scheme, and *Bonnabagawale* (Okurut, Banga and Mukungu, 2004);
- Establishment of Microfinance Institutions (MFIs) such as PRIDE Uganda Limited;
- Liberalisation of the financial services sector; and
- Though primarily intended to ease the burden of and costs incurred in transportation of currency from commercial banks to currency centres in a cash dominated economy, the raising of the portion of vault cash that is an eligible reserve asset from 30 percent to 50

percent for commercial banks with ten or more branches outside Kampala (Musinguzi and Katarikawe, 2003) encourages banks to invest outside the city and thus contributes to FI.

In addition to public sector initiatives, there have been a number of private sector initiatives that have been undertaken and have improved FI immensely. For example the liberalisation of the public transportation and postal services has enabled a number of private bus companies to establish courier services that take money upcountry. Furthermore, the forex bureaus and international money remittance companies like Western Union and Money Gram have been instrumental in money transfer and remittances.

As a result of these efforts, there has been an improvement in the proportion of individuals accessing the financial services sector compared to the pre-liberalisation period. However, a lot remains to be done given a high proportion of individuals who remain un-served (62 percent) according to Johnson and Nino-Zarazua (2009). The authors observe that for those who are served, 18.1 percent utilise the formal sector, 3.1 percent access through the semi-formal, and 16.6 percent use the informal sector. Johnson and Nino-Zarazua (2007) point out that there are regional differences in the patterns of use as well as the product being utilised (account ownership, credit access, and/or savings). The current status of FI in Uganda appears to be mainly on account of lack of institutional diversity. The banking sector in Uganda is dominated by commercial banks who hold 80 percent of the assets (Mugume, 2008) while other intermediaries like MFIs, MDIs, as well as Credit and Finance companies are usually small in size. Furthermore, the persistent high interest rates has stifled access to credit and forced individuals to seek loans from informal money lenders at exorbitant costs.

3.2 Mobile Commerce

3.2.1 The Ugandan Mobile Phone Market

While 62 percent of Ugandans remain financially excluded (Johnson and Nino-Zarazua, 2007), many of them (8.2 million) are part of the large proportion (27.3 percent) of the 30 million Ugandans that own cellular phones (Mulira, 2009). With a banking services penetration of 16 percent, and cellular phone ownership of 27.3 percent, it appears that far more people in Uganda have gained access to mobile phones than to banking services. In addition to ownership, mobile phones have become trusted and accepted by a large section of society as a means of exchanging information verbally as well as short messages (sms). The acceptance of the mobile phone as a trusted communication tool coupled with the wide coverage of 8.2 million people out of a potential base of 14.0 million people (Wakama, 2007) as well as advances in technology opens up immense possibilities for Uganda in areas of education, finance, and medicine amongst others.

The mobile phone market in Uganda has a number of operators namely, MTN, Uganda Telecom, Zain, Warid, Orange as well as HITS Telecom that was licensed in 2007 but is yet to start operations. The first three companies share the biggest proportion of the market. The competition in the market is intense. This intense competition has forced the operators to become highly innovative through designing appropriate sales promotion campaigns, unique services, and / or products. Among these unique services is the mobile money service currently run by three telecommunication companies in collaboration with licensed financial institutions. These include MTN mobile money, Zap money transfer, and M-Sente by MTN Uganda, Zain Uganda, and Uganda Telecom, respectively.

3.2.2 The Concept of Mobile Commerce

The days when cellular phones were only used for placing and receiving voice calls and text messages are gone (Muyinda, Lubega, Lynch, and Van der Weide, 2010). The authors argue that the convergence of mobile telephony with the internet has added value to mobile phones. The convergence has caused a paradigm shift by replacing the prefix 'e' with 'm' in many terms such as e-commerce which has created 'm-commerce' (Traxler, 2007). Yang (2005) defined m-commerce as monetary transactions conducted and facilitated via mobile networks.

Indeed mobile commerce presents unlimited possibilities for a continent such as Africa whose inhabitants have limited access to desktop computers and internet to exploit the traditional form of e-commerce. Mobile phones have become necessary and vital instruments for creating and exchanging information for small businesses in Africa (Ndiwalana and Popov, 2008). However, the question many stakeholders wish answered is how does the significant enthusiasm about the growing adoption of mobile phones in the developing world translate into tangible benefits in the areas of finance access, education, and / or medicine?

The extent to which mobile commerce can be utilised to enhance FI has been a focus of various studies such as Chakrabartry (2009), Ndiwalana and Popov (2008) as well as Morawczynski and Pickens (2009). Based on these studies, the potential roles for mobile commerce using mobile phones in FI are immense. While mobile phones can play a role in several aspects of FI, their most important contribution appears to be the potential to provide an alternative viable electronic payment system that can accommodate low transaction values of money, sustain high transaction volumes at low costs, as well as providing the required convenience, security, and speed (Ndiwalana and Popov, 2008). Mobile phones would bring the unbanked and under-served potential clients and integrate them into the existing payment system.

3.2.3 Payment Systems in Uganda

According to Elizabeth Littlefield, the CEO of the Consultative Group to Assist the Poor (CGAP) (Expanding Horizons, 2008), mobile phones offer the possibility of revolutionising the traditional labour intensive banking model into a more agile, robust, and cost effective mechanism capable of delivering small transactions that the low income groups usually deal with. The implication is that the architecture of local financial markets should be re-modelled to meet the diverse financial needs of the low income groups such as transferring funds and borrowing as well as making deposits in a safe convenient place. She predicts that payment systems of mobile money services will develop first before deposit and credit services because it is much simpler to send messages with payment instructions than it is to dispense and store cash.

In order to deliver mobile transactions to the low income groups, the structural constraints that inhibit banks from providing low cost services across wider geographic areas (Williams and Torma, 2008) must be overcome. Williams and Torma (2008) argue that to overcome these barriers, private sector players have to introduce innovative business models. These models aim at integrating all stakeholders such as financial institutions, telecommunication companies, telephone manufacturers, solution providers, and retailers/merchants. For these models / platforms to be successful, coordination between policy makers and regulators in telecommunication and financial services industry should be encouraged. Consequently, there are two major issues that need to be tackled if mobile transactions are to become a reality in any country namely, establishment of appropriate policy / regulation and integrating the m-transactions into the nation's payment system. Progress has been achieved on both elements in Uganda. The MAP platform has been introduced though out of the three mobile money services in the country, only M-Sente is utilising it so far. Irrespective of this slow uptake by mobile money transfer services, the MAP platform has established strategic partnerships with the UPDF Savings and Cooperative Organisation (*Wazalendo*) and the Post Bank Uganda Limited.

Regarding the matter of regulation, the central bank has put in place guidelines to be followed prior to the licensing of a mobile money service. These guidelines point out the need for a partnership between a telecommunication company and a financial institution before start up. The essence of the partnership is to ensure that Bank of Uganda can protect the monetary value of the m-transactions through appropriate regulation of the financial institution. While the current arrangement limits the models available for m-transactions, it ensures that the central bank does not lose control of the financial services sector. Such a scenario would arise if telecommunications companies were to offer m-transactions alone. Since they are controlled by the Uganda Communications Commission (UCC), BOU would not enforce supervisory oversight on their businesses.

Prior to 1998, the Ugandan payment system was dominated by cheques and cash. In 1998, Bank of Uganda created the National Payments System Secretariat (NPSS) that embarked on the modernisation of the country's payment system (Ndiwalana and Popov, 2008; Akampurira, 2006). The modernisation process has resulted into the introduction of the electronic cheque clearing system, electronic funds transfer (EFT) and the Real Time Gross Settlement / Uganda National Interbank Settlement (RTGS/UNIS) (Tumusiime-Mutebile, 2007). These systems have greatly enhanced the speed, convenience, reliability, and security of the payments (Akampurira, 2006). However, the systems were not designed to accommodate low transaction values of money and sustain high transaction volumes at low costs (Ndiwalana and Popov, 2008). The authors argue that mobile phone payments could address the gap adequately.

3.2.4 Potential for Mobile Payments Success in Uganda

Payments, settlements, and reporting systems in developing economies are in many cases more effective, more real-time, and modern than what is available in first world countries. The reason for this is that these systems could be implemented without consideration for old, entrenched systems. Hence, the integration of mobile payments into Uganda's system should be relatively easy given that the modernisation drive started in 1998. Furthermore, mobile payments systems

have obvious and numerous inherent benefits that could be harnessed by their integration into Uganda National Interbank Settlement System (UNISS). Therefore, there is great potential for the mobile payments in Uganda on account of the following factors:-

i) Mobile telephony network coverage in Uganda is over 80 percent of the population (Ndiwalana and Popov, 2008) sprawling from urban centres across the small villages in the country side. In addition, out of the potential 14 million cellular phone customers (Wakama, 2007), only 8.2 million have been covered by the current telecommunication operators (Mulira, 2009). Thus the possibilities for growth and expansion for service providers are immense. These possibilities have been enhanced by the adoption and utilisation of third generation (3G) technologies by the telecommunication companies that have enabled users to transfer better quality data. Ndiwalana and Popov (2008) point out that the infrastructural investment may be needed in areas of Point of Sales (POS) systems and the integration of the mobile payments into the electronic clearing house system run by the Bank of Uganda. Furthermore, Duncombe (2009) observes that there is a high degree of industry investment in new m-payment services in Sub Saharan Africa (SSA).

ii) According to Duncombe (2009), mobile phones have considerable potential in providing a new and rapidly developing technological means to facilitate monetary payments and transfers. The ability is on account of the cellular phone user's capacity to enter, display, process, store, and transmit information concerning payments as well as the ability of the phone to store, convert, and transfer monetary value (Morawczynski and Pickens, 2009).

iii) Culture of utilising mobile telephones as a means of storing and transfer of monetary value. Informally, many individuals have been transferring phone credit among mobile phone users via variants of Me2U service run by the various telecommunication companies (Ndiwalana and Popov, 2008; Duncombe, 2009). The authors point out that through informal agents the recipients of phone credit can cash in the value of the credit.

In a nutshell, the potential for m-payments in Uganda is immense and is driven by both market push (supply) and market pull (demand) factors (Duncombe, 2009). The underlying drivers

supporting this rapid growth include among other things the large (and growing) gap between bank penetration and mobile penetration; relatively low usage of credit cards; availability of mobile phones; and existence of latent demand for monetary value transfer.

Irrespective of these drivers, there are constraints that could limit the roll out of the product to a wide range of clients namely, i) financial illiteracy of potential users, ii) costs of access, and iii) organisational factors such as the trust needed for customers to pass over their money to agents (Duncombe, 2009). In addition, the regulatory framework (Ndiwalana and Popov, 2008) could prove to be a major stumbling block with regulators worrying about issues to terrorism, money laundering, and safety of clients' deposits in their mobile wallets.

IV METHODOLOGY

Out of the five (5) operational mobile telecommunication companies in Uganda, three (3) have launched and implemented mobile money services namely MTN, ZAIN, and UTL. The respective names in order of launch of the schemes are MTN Mobile Money Transfer, Zap, and M-Sente. To study how the various services operate, content regarding the mobile money service on their websites was scrutinized. In addition, informal discussions were conducted with some of the mobile money agents around Kampala Central Business District. Since the study was exploratory in nature, descriptive statistics were used to present the findings.

V FINDINGS AND DISCUSSION

The paper set out to explore the role of Mobile Money Services (MMS) can play in enhancing FI in Uganda. Mobile money is an integral and important part of mobile commerce. The term mobile commerce covers a wide range of applications that facilitate the exchange of information regarding goods and services and the financial transactions therein using a mobile device such as a cellular phone and Personal Digital Assistant (PDA) among others. The mobile device used in Uganda is the cellular phone. The mobile phone companies have been instrumental in facilitating the establishment of mobile money services in Uganda through launching the various mobile

money schemes in the country. According to Ernst and Young (2010), the definition of the term mobile money varies across the industry as it covers a wide scope of overlapping applications that allow electronic money transactions over a mobile phone (or other mobile device). It should be noted that the launch of the various mobile money schemes simply consolidated the role of cellular phones in commerce because information delivery across the cell phones had been in place for a while ever since the mobile companies put in place the Short Messaging Service (SMS). For instance, in the early 2000's, the International Institute of Tropical Agriculture (IITA) ran a project known as IITA/FOODNET agricultural market price information system. The project's role was to inform farmers about the prevailing market prices of their produce in major markets to prevent middlemen from offering them very low prices at the farm gate. Furthermore, the transfer of monetary value in the form of phone credit had been carried out using mechanisms such as 'Me2U'. The contribution of the MMS has been to formalise the transfer of monetary value and introduce a wide range of other services that users can pay for using their mobile phones.

5.1 Services provided by the Mobile Money Services

The services provided by the MMS include deposit of funds (cash in), withdraw of funds (cash out), purchase of airtime, money transfer (customer-to-customer and customer-to-business), mobile accounts enquiry, and bills payment. The MMS services thus far are in the categories of payment and remittance services. These categories are useful for moving cash around the economy but not bringing more individuals into the formal banking system. This finding is consistent with the observations of the CEO of CGAP Elizabeth Littlefield who observed that payment systems will develop first in the MMS before deposit and credit schemes. While the provision of services in the two categories minimises the dangers associated with carrying cash, it does not necessarily guarantee access to formal banking services. For instance, a mobile money account statement may not be able to be used in lieu of a bank statement because the issuer of the statement is the mobile telecommunications operator whose primary role is not provision of financial services.

In addition to the services indicated, mechanisms are being put in place to expand the range of services being provided. For instance, Muhumuza (2010) observes that about 350 schools in Uganda had registered with ZAIN Uganda Limited to transfer school fees using ZAP by May 2010. These endeavours are useful for enhancing use of cashless means of payment in the economy; their impact on FI would be felt once these innovative products / services create a more meaningful convergence between the financial services sector and the telecommunications operators. The current dispensation in Uganda where telecommunication operators utilize commercial banks to open company / agent's accounts as a liquidity / fraud risk buffer to customers' money in their mobile wallets / phones does not appear to necessarily encourage more individuals to open bank accounts, utilize banking products, or credit facilities. The financial institutions and the regulatory authority must not allow innovative forces to compromise customers' safety and trust because these lynch pins / cornerstones of electronic payment systems. For instance, the M-KESHO account that allows M-PESA users in Kenya to transact with their commercial bank accounts in Equity Bank took 3 years of pilot testing before its launch in May 2010 as a means of ensuring safety (Lumiti, 2010).

5.2 Transaction Charges

Information available in the public domain such as telecommunications company websites indicates that there are differences in the charges of the three mobile money service providers. While this could be attributed to competition as all three MMS providers are private in nature, there is an element of competitive advantage / capability factored into the pricing. For instance MTN Mobile Money Service does not charge customers for depositing funds (cash in) while ZAP charges for the same service based on the amount of money deposited. In addition, an element of risk appears to be a consideration in the design of the pricing of various charges. For example ZAP charges a slightly higher amount for withdrawing funds (cash out) compared to depositing funds (cash in).

Generally, the rates for services are relatively lower for low volume transactions when compared to those charged by commercial banks or any other money transfer operator but increase significantly as the transaction volumes rise. In a commercial bank, withdrawing Shs. 10,000,000 (US\$ 5000) across the counter could cost Shs. 2000 (US\$ 1) to Shs. 5000 (US\$ 2.5) while MMS charges Shs. 55,300 (US\$ 27.8) for cashing out Shs. 4,000,000 (US\$ 2000) to Shs. 10,000,000 (US\$ 5000). The high charges for high volume transactions could be on account of diseconomies of scale. Since large volumes are normally few, they incur a high cost whenever they are executed. The pricing strategy is consistent with the suggestions of Ndiwalana and Popov (2008) who argue that MMS should bridge the gap in Uganda's payment system since the UNISS was designed for large transactions of high volume that are usually expensive.

The implication of the pricing strategy for FI is that telecommunication operators must find a balance between breaking even / making a profit and charging relatively lower transaction costs compared to the traditional money remittance and payment systems. Without such an approach, the clients are likely to perceive MMS as any other money remittance business say the post office or international remittance companies like Money Gram and Western Union.

5.3 Number of registered customers

The telecommunications companies operating MMS are not obliged by law to file the number of clients using their service with either Bank of Uganda (BOU) or the Uganda Communications Commission (UCC). Thus, the statistics available is based on press releases by various telecommunication operators. While such statistics provide an insight into the performance of the MMS, its authenticity and accuracy could be limited by the fact that most private companies utilize such press releases as marketing tools.

According to a press release of MTN dated May 10, 2010, the service launched in March 2009 had registered 1,000,000 users by May 2010. This statistic compares with the uptake of M-PESA in Kenya which by August 2009 had registered nearly 7,000,000 users since its inception in March 2007 (Morawczynski and Pickens, 2009). The MTN press release notes that about 60

percent of the transfer recipients are located in rural areas. This has implication for FI in Uganda because the bulk of the 62 percent of the un-banked Ugandans are located in rural areas.

There are publicly available statistics concerning the clientele size of the other two MMS in the country. However, it can be argued that given the fact that MTN has the biggest proportion of the market share and it was the first mover in the MMS business in Uganda, the possibility of the two other MMS providers having more clients is minimal. Hence, it can be postulated that the highest number of clients per MMS providers thus far is 1,000,000 users.

5.4 Number and Volume of Transactions

Individually, the maximum number of transactions for either depositing or withdrawing cash for ZAP is 50 per day with a maximum transfer amount per transaction of Shs. 1,000,000 (US\$ 500). The implication is that a user can deposit or withdraw up to Shs. 50,000,000 (US\$ 25,000) per day. On average, there are 70,000 transactions that go through the MTN Mobile Money Service per day with a turnover of Shs. 3.1 billion (US\$ 1.5 million) and an average amount per transaction of Shs. 60,000 (US\$ 30) to Shs. 150,000 (US\$ 75). The minimum amount of money one can transfer per day is Shs. 5,000 (US\$ 2.5) for MTN Mobile Money while no lower bound is set for ZAP. Information concerning volumes and number of transactions is not readily available for M-Sente possibly on account of its recent launch.

Irrespective of the limits set by telecommunication companies, the major determinant of how much and how often a customer sends money is the price structure. The price structure is designed in such a way that it is cheaper for a registered user to send money or execute other transactions. This price structure is similar to that employed by M-PESA in Kenya (Morawczynski and Pickens, 2009).

5.5 Stakeholders

The focus of the MMS established in Uganda is the telecommunications operator(s) that initiated the businesses. The roles of the commercial banks are secondary in nature. *Table 1* shows the stakeholders involved in the various MMS in the country.

Table 1: Stakeholders in the various MMS in Uganda

Name of MMS	Mobile Operator	Commercial Bank	Electronic Platform
MTN	MTN Uganda Ltd	Stanbic Bank	-
ZAP	ZAIN	Standard Chartered Bank	-
M-Sente	Uganda Telecom	DFCU Bank	MAP Switch

The business models in Uganda follow the Smart Money of Smart Communications of the Philippines where a telecommunication company collaborates with a commercial bank to offer MMS (Ndiwalana and Popov, 2008). The authors point out that this arrangement allows each partner to focus on an area where they have distinctive competences and consequently comparative advantage. In Uganda, this business model is dominated by the mobile operators that do most of the marketing as well as opening up and maintaining accounts for the subscribers who choose to register for the MMS. Such an arrangement does little in as far as encouraging FI is concerned because clients view the telecommunications company opened accounts as conduits for moving money from one point to another not as bank accounts that can be used to store monetary value in the medium to the long term. Thus, there is a need to ensure that commercial banks take a lead in opening up these accounts such that each mobile account is actually backed up by a bank account in the medium to long term. In the current arrangement, these accounts are merely conduits for money transfer and have managed to reduce the cost of small volume transfers when compared to traditional money remittance providers such as Postal Services, Western Union, Money Gram, and Courier Services of various bus companies in the country.

The opening of accounts by the telecommunications operators does not require any money nor does a client have to maintain a minimum balance on the account. Like bank accounts, there are efforts by mobile operators through their MMS agents to ensure that the Know Your Customer (KYC) guidelines are adhered to avoid exposure to risk due to information asymmetry. As a result of the KYC guidelines, agents may require all or any of the following information and documentation prior to opening up an account:- (i) full name; (ii) physical address; (iii) date of birth; (iv) gender; (v) mobile number (which serves as the account number as well); (vi) identity card (voter's card, military ID, and passport etc); and (vii) source of income amongst others.

The relationship between the agents and mobile operators exposes customers to financial loss without appropriate insurance and / or coverage save for the initial deposit of Shs. 1,000,000 (US\$ 5000) placed in a bank account by the agent upon applying for permission to run an outlet of the MMS. The terms and conditions of use stipulate that the mobile operator would not be liable to the customers for any losses suffered on account of the agent. Given the responsibilities of agents, this aspect of customer safety ought to be addressed if the MMS are to become reliable mechanisms of storing and transferring monetary value. The roles of agents include:- (i) registration of mobile money clients; (ii) depositing cash into registered customers' accounts; and (iii) processing of cash withdrawals for both registered and non-registered clients.

Country wide, the number of agents registered by the MMS providers range from 400 to 1200 per company. The requirements for registration as an agent vary across the telecommunications companies. The basic necessities for operating an MMS outlet are:- (a) certificate of registration / incorporation; (b) copies of memorandum and articles of association; (c) completed agent agreement; (d) list of outlets; (e) deposit of at least Shs. 1,000,000 (US\$ 500) per outlet in a specified partner commercial bank; and (f) maintenance of a cash float of Shs. 1,000,000 (US\$ 500) per outlet. In addition, there are basic office requirements such as personnel for handling day-to-day operations, photocopying machines for duplicating the identity cards of customers, furniture, telephone, and e-mail contacts.

According to Morawczynski and Pickens (2009), the M-PESA mobile money service in Kenya faces risks such as cash shortage in rural areas as well as theft of cash from the agents. Such problems are not yet documented in Uganda. Nonetheless, these are highly likely to occur in the country. As a means of risk mitigation and / or control, mechanisms should be put in place to beef up security at the premises of agents. Installation of safes in the short to medium term could help minimize the risk of cash theft. In the long term, the solution lies in leveraging ICT such that mobile money can be used at the Point of Sale (POS). The implication is that merchants would have to invest in the hardware and software necessary to establish POS. With the existence of the financial infrastructure for debit/credit cards and mobile money in countries such as the Philippines and Turkey, such an endeavour would not be technologically demanding to set up in Uganda apart from the high initial costs required for the equipment. The other risk posed by the MMS is the money laundering and financing of terrorism (ML/FT). This ML/FT risk is always present even in traditional financial systems. However, adherence to KYC guidelines recommended by BOU ought to minimize this challenge.

Apart from the M-Sente MMS, the other two services, that is, ZAP and MTN Mobile Money are not in collaboration with a global financial infrastructure provider such as MAP switch. The global financial infrastructure's role is to provide a connection amongst other stakeholders. With a switch like that of MAP, other telecommunication companies as well as commercial banks can be incorporated in the MMS without necessarily creating new arrangements. Such an arrangement would allow more individuals to benefit from the MMS.

5.6 User Interfaces and Security

All the three MMS rely on Short Messaging System (SMS) to deliver the service to their clients. By following the prompts of the mobile operator's menu, a client can craft a message for a given transaction. For security purposes all the MMS providers rely on the use of Personal Identification Numbers (PINs) for transaction authentication. In addition, the physical of the cellular phone which is the customer's responsibility must be undertaken. In case of cellular

phone loss, the client ought to file a police case and report to the mobile operator to block the SIM card immediately.

A lot remains to be done to enhance the security of client transactions. For instance, the integration of the mobile money account with a commercial bank account to enable the holder withdraw money from an ATM machine would greatly reduce the reliance on the agents for all money withdrawals, minimize cash shortages, and reduce the risk exposure for the agent. Furthermore, there is a need for all stakeholders to undertake a thorough review of the biometric identification systems employed in India and cellular phone security measures used in Turkey with an intention of adapting them to Ugandan circumstances.

5.7 Institutional Relationships

According to Ndiwalana and Popov (2008), a well designed MMS has the potential to benefit all interested stakeholders. There is a need to have an integrated open system where the roles of each stakeholder are clearly spelt out. The current arrangement in Uganda is skewed in favour of mobile operators who undertake marketing, customer care, mobile account opening and regulation as well as the ultimate clientele safety. Consequently, a substantial portion of the proceeds accrue to the mobile operators in the shape of user fees. Financial Institutions on the other hand get to increase their deposits through maintenance of the telecommunication company accounts, in addition to those of the outlets run by agents.

The maintenance of mobile money accounts by telecommunication companies prevents the holders from directly accessing the financial system. As a result the benefits that could accrue from the increasing number of individuals accessing the formal financial system such as lowering interest rates on account of increased clientele (market size) are stifled. The mechanisms of transforming the mobile money accounts into bank accounts should be the focus of the regulatory agencies (BOU and UCC) if MMS solutions are to impact FE.

The economic potential provided by MMS to the various stakeholders such as merchants, agents, cellular phone kiosk owners, mobile operators, and financial institutions is immense. In order to harness the potential, collaborative arrangements ought to be undertaken that allow an open system that can be accessed by both commercial banks and mobile operators more easily. Apart from encouraging more subscribers to join the MMS, collaborative arrangements would allow for standardization of product / service offerings, better coverage, and efficiency. The current business models in Uganda do not encourage synergy and may not be in position to achieve the economic potential.

5.8 Policy and Regulation

Successful MMS require multiple stakeholders with varying interests to work together in all areas. Currently, there is no clear cut regulatory framework governing MMS. The stakeholders that need to cooperate include BOU, UCC, Uganda Bankers Association, and Private Sector Foundation amongst others. These strategic alliances would be aimed at streamlining various laws and regulations that relate to financial institutions, mobile operators, electronic commerce, and contracting. The overall aim would be to synchronize the requisite laws and regulations to enable successful implementation of MMS in the Ugandan context.

5.9 Appropriateness of the Current Business Model

According to Grail Research (2010), there are three business models for m-payment (MMS) that have merged based on the type of organization that plays the role of issuer, acquirer, and payment network. *Table 2* summarizes the types of models.

Table 2: Key Business Models employed in MMS

Business Model	Role of Acquirer	Payment Network	Role of Issuer
Operator-Centric	Mobile Operator	Mobile Operator	Mobile Operator
Financial Institution – Centric	Financial Institution	Financial Institution	Financial Institution
Collaboration	Mobile Operator or Financial Institution	Financial Institution	Mobile Operator or Financial Institution

Source: Grail Research 2010

In Uganda, all the three MMS are operator-centric. The challenge presented for FI for such a model is that it locks out other telecommunication companies. The implication is that subscribers of the other networks may not be in position to exploit such a service. As Ndiwalana and Popov (2008) propose, there is a need to establish open business models that accommodate multiple stakeholders and create a truly nationwide solution.

VI CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

Generally, most studies undertaken regarding MMS have employed qualitative research designs such as ethnographic and case study approaches because of the paucity of quantitative data on these services. This limits the potential for generalization across different settings. Irrespective of this shortcoming, studies done elsewhere such as Morawczynski and Pickens (2009), Grail Research (2010), Jenkins (2008), McMurray (2009), Amin, Baba and Muhammad (2009), Duncombe (2009) as well as Ernst and Young (2009) point to the vital role MMS can play in improving the flow of resources in emerging economies of Africa, Asia, and Latin America. This potential lies in the ability that MMS have to allow money to flow electronically rather physically, thereby eliminating or reducing the spatial and temporal barriers to money transfer (Morawczynski and Pickens, 2009). The potential of MMS is also exhibited in the diversity of

countries that have a functional service such as South Africa, Kenya, Brazil, Pakistan, India, Philippines, Nigeria, and South Korea amongst others.

The primary aim of the study was to explore the role Mobile Money Services could play in enhancing FI in Uganda. The findings indicate that MMS provide critical services to both the banked and un-banked population of Uganda. These services are important for enhancing FI most especially to the un-banked who are locked out of the formal banking system. However, the operator centric business model used by all the MMS providers thus far limits the creation of the ideal open system that could facilitate participation of various stakeholders. Furthermore, the transaction charges increase with the increase in the amount of money moved across the MMS. This direct relationship between transaction charges and amount of money remitted would limit the MMS to relatively smaller values which is crucial for bringing those individuals who cannot be served by the high value – high volume national payment system (UNISS). Irrespective of the milestones achieved thus far, challenges related to the security of the MMS services as well as regulations still remain. In addition, the mobile money accounts do not necessarily increase the number of bank account holders in the country making their contribution to FI limited to improving payments and money remittance. Otherwise, for the un-banked population, mobile money accounts cannot enable them access other crucial banking services such as credit.

6.2 Recommendations

Uganda's financial sector reforms have been pivotal in its consistent economic growth rate for the past 20 years. Institutional reforms without integrating the people who utilize these organizations may not necessarily transform the economic conditions of the nation sustainably. Hence there is a need to devise mechanisms to bring as many people as possible into the formal financial sector. Mobile Money Services (MMS) is one of the approaches that can be used as the study as shown. There have been milestones achieved by these MMS in the two years of existence but a lot needs to be done. Consequently, the recommendations put forward for the improvement of the role of MMS in FI include:-

- i) There is a need to establish an open business model that allows all stakeholders to participate more freely and competitively.
- ii) Stakeholders need to work collaboratively in the review of the appropriate biometric identification system that could enhance the existing PIN security system.
- iii) There is a need for enhancing the role of financial institutions in the opening of mobile accounts. The involvement of financial institutions more closely would allow the expertise they possess in KYC guidelines implementation to be exploited to ensure that challenges associated with Money Laundering / Financing of Terrorism are kept to a minimum. Furthermore, it would introduce the clientele to the financial institutions and open up the possibilities of these clients opening up bank accounts or upgrading mobile accounts into bank accounts.
- iv) Bank of Uganda, Uganda Communications Commission and Uganda Bankers' Association should work together to establish an appropriate regulatory framework. This working partnership should take a holistic re-evaluation of all potential laws governing transactions in the financial sector as well as the communications sector. The laws could also provide reporting mechanisms for MMS so as the regulatory bodies could collect useful data administratively to enhance research in the field to foster development.

6.3 Future Research

Financial Inclusion has received a lot of focus in recent policy discussions due to the recognition by development experts that exclusive development is not sustainable. Thus, there is a need for a thorough understanding of FI in Uganda. As a way forward from this exploratory paper, the following research areas are worth studying further. These are: - i) Efficacy of the three business models under Ugandan circumstances; ii) State of Financial Inclusion in Uganda through a thorough investigation of all financial service providers in the informal sector; iii) Impact of current regulatory framework on FI; and iv) Cost benefit analysis of the available biometric and / or security systems.

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