

The adoption of "Transformational Mobile Banking" by the Unbanked: An Exploratory Field Study

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Abstract: Whereas the number of people using mobile phones grows tremendously across the developing world, the number of people having a bank account is still very low. A recent report shows that over half the population of the world is unbanked, a majority of which are rural dwellers in the developing world. The primary aim of this exploratory study is to examine whether or not m-banking services can be transformational. During the study, an extensive review of the literature on the unbanked and the adoption of m-banking services was conducted. This was followed by a focus group discussion which was conducted among the unbanked rural dwellers in Ghana. The current study concludes that the transformational potential of m-banking could be realised if beyond access, the other barriers to having a bank account, which include affordability, trust, convenience and documentation are addressed effectively in its deployment.

Key words: unbanked, m-banking services, mobile money, TAM, adoption, consumer behavior.

The unique attributes of mobile technologies such as ubiquity and convenience coupled with the rapid growth of mobile phone usage in the developing world has made the mobile phone the preferred choice for delivering financial services to the "unbanked". The unbanked are people without formal bank accounts who operate in a cash economy; they are limited in their ability to take loans, maintain savings, or make remote payments (MEDHI & RATAN, 2009). The unbanked are not part of any formal financial institution. A number of studies have linked the economic growth and social development of the developing economies to access to financial services by its rural and poor population (BECK, LEVINE & LOAYZA, 2000; BECK, DEMIRGUC-KUNT & LEVINE, 2004). Policy makers and developmental agencies have therefore been looking for measures that will increase access to financial services by the rural unbanked (IVATURY, 2008). One such solution that has been identified and introduced in some developing countries is m-banking services. However, the adoption and use of these services among the rural unbanked in the

emerging economies have not been consistent. The main interest of the present research is in consumer behavior towards m-banking services with particular attention to the unbanked.

In the present study, m-banking service is defined as "the type of execution of financial services [in] which the customer uses mobile communication techniques in conjunction with mobile devices" (BARATTI & MOHAMMANDI, 2009). M-banking frees users from spatial and temporal limitations and enables them to conduct remote payments. This provides great convenience to users. Although there have been an increasing number of studies on the adoption of m-banking, most current studies are limited to m-banking as an additive service, not a transformational service. Whereas m-banking is a complementary service for the urban banked consumer, it is a substitution service for the rural unbanked. Transformational m-banking is bringing financial services to the unbanked through mobile technologies (PORTEOUS, 2006). The unbanked population has unique characteristics that may affect adoption decisions. It is therefore necessary to assess how these unique characteristics affect their acceptance of the technology.

The main research question is how can m-banking be transformational? In other words, what key factors would influence the acceptance and use of m-banking by the rural unbanked in Africa? To answer these questions, the current research applies a qualitative approach, specifically, focus group discussion, to reveal the underlying intentions of the rural unbanked towards the use of m-banking services. Focus Groups provide an opportunity to capture the meanings that consumers give to different aspects of the reality they live in through group dynamics and interactions (JARVENPAA & LANG, 2005). Furthermore, the discussions sought an explanation as to why people are "unbanked" to extend knowledge of the motivational and inhibiting factors which contribute to being unbanked among the rural population.

The present study provides the findings of a preliminary study on the factors that influence the adoption of m-banking services by the rural unbanked population in Ghana. The unique contribution of this exploratory study is in identifying key factors that influence the unbanked's intentions to adopt and use m-banking services in a rural population. The paper begins with a literature review on the unbanked, m-banking and m-banking adoption, followed by a brief account of the methodology used in this study. The third section details the findings of the focus group discussions. A summary of managerial implications will follow and then the final conclusions.

■ Literature review

The unbanked

Earlier research has identified the number of adults without access to banking services as being 2.5 billion, more than a third of the world's population (CHAIA *et al.*, 2009). The total number of mobile phone owners without access to banking services is estimated to be 1.7 billion at the end of 2012 (BESHOURI & GRAVRÅK, 2010). Research suggests that these individuals are located in both the developed and developing world and that there are millions of Americans who rely on high-cost currency exchanges and pawn shops to conduct everyday transactions like cheque cashing, making payments and taking out short term loans (LYONS & SCHERPF, 2004). Although, there are some poor households without access to banks in the developed world, the situation is precarious in the developing world, particularly in Africa. In a series of studies conducted by FinMark Trust exploring individuals' usage of and attitude towards financial services in African countries, it was observed that in many African countries, less than one in five people have access to a formal bank account (FinMark Trust, 2009). However, in these countries, there is an increase in informal financial services in the form of community-based financial support groups and associations. For example, individuals within a community contribute savings to a pooled account, lend a portion to members and periodically share the proceeds (savings plus interest on loans). An individual (usually well respected in the community) is appointed as a treasurer who stores and disburses the funds. Loans are taken for various reasons including trading, funeral arrangements and payment of school fees for children. In terms of money transfer and payment transactions, the rural/poor households depend on bus drivers, relatives/friends and long distance travel (AKER & MBITI, 2010).

The term unbanked can be defined as "people without formal bank accounts who operate in a cash economy; they are limited in their ability to take out loans, maintain savings, or make remote payments" (MEDHI & RATAN, 2009). However, they may take a loan from local loan sharks or maintain savings informally. For example, in a study of the economic impact of M-PESA in Kenya, JACK & SURI (2009) found that a large percentage (about 80%) of households studied save money at home "under the mattress". The literature indicates that people are unbanked for many reasons including: levels of financial knowledge on banking systems and

expectation of having a bank account, past negative banking experience, lack of appropriate documentation needed to open a bank account, financial constraints and unstable living situations (LYONS & SCHERPF, 2004). However, limited access and poverty are the most common factors in the literature to explain the unbanked. Firstly, the cost of managing branch offices in remote areas in the developing countries is said to exceed any revenues derived from the low volume of banking transactions. Hence, bank branches are limited to urban dwellers leaving most of the rural areas underserved. Policymakers, financial regulators and development agencies such as the World Bank have been looking for diverse ways to increase financial access to the unbanked especially in the rural areas (Bankable Frontier Associates, 2010). The introduction of microfinance institutions, correspondence banks in Brazil, Mzansi accounts in South Africa and numerous branchless banking policies are some of the initiatives that have emerged targeting the unbanked. Secondly, the poor are more likely to be unbanked and bank usage is likely to be low in poor communities. This is corroborated by the findings of Finscope (2007), that most unbanked have no formal earnings, rely on farm income, or live on 'welfare' from friends and family.

The importance of studying the unbanked can be seen in the results of studies that relate access to financial services to the economic and social development of economies (BECK, DEMIRGUC-KUNT, & LEVINE, 2005; BURGESS & PANDE, 2005; BRUHN & LOVE, 2009). Several authors have found a link between access to financial services and economic growth or poverty alleviation. Although, collectively the unbanked are regarded as poor, there is a substantial number of unbanked people in a cash economy who are reasonably wealthy. By remaining unbanked, the wealth and transactions conducted by these people are informal. Access to a bank has the potential to bring these transactions to the formal economy. For example, BURGESS & PANDE (2005) found that the expansion of bank branches in rural India had a significant impact through alleviating poverty. Furthermore, in a study of the economic impact of the opening of Banco Azteca in Mexico, the results showed a 7% increase in income in the areas where the branches were opened with an overall 1.4% increase in employment (BRUHN & LOVE, 2009).

M-banking background

The anywhere anytime and convenience characteristics of mobile technologies provide an unprecedented potential solution to the financial access problem faced by the emerging economies. The term m-banking is defined as "banking transactions using mobile devices such as cellphones, PDAs (Personal Digital Assistants), smart phones and other devices (except for laptops)" (LEE & CHUNG, 2009). Most m-banking implementations have a banking application installed on users' SIM cards. Once signed up, an electronic account is created which enables the user to deposit money into it, withdraw money from it, or transfer money from their account to other users (TOBBIN, 2010). The transformational potential of m-banking is the result of its ability to remove the most prevalent barrier to banking - access.

For the developed world, most of what is termed as m-banking is an extension of existing banking services to existing customers of the banks. The mobile phone is only used as another channel to an existing bank account (PORTEOUS, 2006). PORTEOUS, (2007) distinguishes "additive" m-banking models from "transformational" models, and defines transformational m-banking services as "those in which the financial product linked to the use of the phone is targeted at the unbanked, who are largely low income people". Porteous stresses that a service becomes transformational when it causes a shift in the access frontier. Additive refers to the fact that m-banking complements services offered by the banking system, such as checkbooks, ATMs, voicemail/landline interfaces, smart cards, point-of-sale networks, and Internet resources; the mobile platform offers a convenient additional method for managing money without handling cash (DONNER & TELLEZ, 2008). In contrast, the transformational model leads to the creation of new accounts for non banking customers. The distinction is particularly important for the industry, researchers, and for policymakers in assessing the usage and impact of the m-banking phenomenon (DONNER & TELLEZ, 2008, p. 5). The transformational m-banking services increasingly have been heralded as a tool for bringing financial services to the largely unbanked population in the developing countries.

The transformational potential of m-banking is due to the increased access to the mobile communication infrastructure by the rural unbanked and the introduction of new players such as the MNOs (mobile network operators) and airtime merchants in the financial system. To be transformational, consumers must understand the relative advantage that m-banking provides to the rural unbanked (DFID, 2008). Furthermore, given

the rural unbanked's unique characteristic associated with being poor, it must be affordable and should provide services that the consumer needs (Vodafone group Plc., 2007).

The implementations of m-banking, mobile payment and mobile finance services have been referred to collectively as mobile money services. Since it was first launched as SMART Money in the Philippines in 2003, at least 72 mobile money deployments have been launched across 42 developing countries (MAS & RADCLIFFE, 2010). The implementations are taking place using many different models; some are offered entirely by banks (bank-led), others are offered entirely by Mobile Network Operators (G-Cash in Philippines), still others involve a partnership between a bank and a telecommunication provider, while some are independently provided (Celpay, Zambia) (DONNER, 2007). In a bank led model, the financial institution takes ownership of the account whilst the MNOs owns the customer relationship and provides the service distribution channels in the MNO-led model. Although no particular model is emerging as superior, mobile network operator models are thriving in developing markets because of their ability to reach large numbers of unbanked people in physically remote locations beyond the reach of bank and landline infrastructures.

Since the launch of Safaricom's M-PESA in Kenya, the deployment of m-banking has been phenomenally rapid. According to the GSM Association, 25 schemes of m-banking started in 2009 and 38 in 2010 and it was estimated that there would be 140 mobile money services by the end of 2011 (KLIEN & MAYER, 2011). So far the most successful deployment of transformational m-banking services is Safaricom's M-PESA in Kenya (MORAWCZYNSKI & PICKENS, 2009). Since its launch in March 2007 it has been adopted by 11.7m customers (corresponding to 54% of Kenya's adult population and 73% of Safaricom's subscriber base). It processes more transactions domestically than Western Union does globally (MAS & RADCLIFFE, 2010). However, the success story of M-Pesa in Kenya has yet to be repeated anywhere else in Africa. A few studies have sought the determinants of M-Pesa's successful adoption in Kenya (HEYER & MAS, 2009), (SURI & JACK, 2010). For example, (CRAMMER *et al.*, 2009) contrasts the experience of M-PESA in Kenya and Tanzania, and highlights the differences in urbanization and domestic remittance patterns as a key difference explaining the relative lack of success of mobile money in Tanzania. Further studies in countries where current deployments have not been quite as successful are necessary to extend our understanding of the key determinants of the adoption of mobile money services.

■ Research methodology

The main purpose of the qualitative research reported here is to examine the deeper motivations and associations that underlie an unbanked consumer's intentions to adopt m-banking services. Previous studies have shown that focus group discussion is a good methodology for studying innovative mobile services (JARVENPAA & LANG, 2005). The use of open-ended questions in the group discussions allowed participants to explain, comment on and share experiences, attitudes, opinions, and beliefs, with specific focus on the consumer (cognition and emotions associated with consumption intentions). Focus Groups provide an opportunity to capture the meaning that consumers give to different aspects of the reality they live in through group dynamics and interactions. For example, DAHLBERG *et al.* (2008) posit that qualitative studies on adoption are needed to help reveal details of the adoption factors identified in previous research. This research method is employed widely in marketing and consumer behavior research, but its application in consumer early adoption of technology decision making is novel.

The group sizes varied from 8 to 12 with a total of 97 unbanked rural dwellers participating in seven focus group discussions held in different communities in Ghana (Yawkoko, Akorley Anti, Akorley waterworks, Wassaman, Asukesu and Heman). The communities had no electricity or pipe borne water except Yawkoko and Esukesu which had electricity but no water. The distances between the communities and their respective nearest bank were approximately 5km. Participants were selected by sampling through open recruitment, however, in order to foster successful interactions and group dynamics stratification was employed in grouping them. Members of each group were either friends or neighbors. Although the core of each group was between 8 and 12, other members of the community were allowed to join, usually validating the responses of the core group.

Although m-banking was introduced in Ghana in 2009, at the time of this study by MTN it was still quite new to most people especially in the rural areas. An initial introduction and demonstration of the m-banking service was given prior to the discussions. This was to enable the users to appreciate the services available on an existing m-banking platform and to foster the interactions between the participants. Two registered m-banking accounts from Airtel Money were used for the demonstration.

The discussions followed a semi-structured guide which we developed based on the secondary research on adoption from the information systems

literature. Each session took approximately one and half hours. The discussions were moderated by the researcher with an assistant who took care of video recording the discussions and making notes. In order to ensure that the participants were able to express themselves freely, a local dialect, Twi was used in the discussions. All participants were quite fluent in Twi.

The focus group interviews were recorded, and at the conclusion of each session, the researchers transcribed the video discussions verbatim. During the transcription process, the researchers noted concepts which were repeated across the groups, allowing for the identification of common concepts. First, data were coded into broad categories and each category was then analysed for evidence of the general concepts which the researchers had noted in the discussions and during the transcription process. Common concepts which emerged in the focussing questions across the focus groups, were identified as themes.

■ Findings

The field study among rural dwellers revealed important perceptions that affect early adoption of the technology among this section of the population. All participants had very little knowledge of the m-banking schemes available in Ghana. Although a majority of the participants had heard of m-banking through MTN advertisements, only 3 out of the 69 participants had experience with any m-banking service. Most participants in the groups had knowledge of basic financial terms such as savings, loans, insurance and interest.

Description of participants

The participants were mainly rural dwellers whose main occupation was farming. There were a few traders, who sell foodstuff and other basic necessities in the communities. The traders were largely women whose husbands are farmers and sell basic amenities as an additional source of income. The sample was made up of 63% males and 37% females and about 57% were less than 40 years of age. With regard to education, the majority had basic or no formal education, with only 10% being able to read and write. The size of their farms ranged from 1 acre to 6 acres with the majority less than 3 acres. On average, the participants earned below 80GH

Cedis a month. At the time of the study, \$1 was exchanged for 1.6 Ghana Cedis, approximately. Thus, about 73% of the respondents earn less than \$50 per month. Apart from being low, their earnings were also volatile, depending on the rains.

Table 1 - Characteristics of participants

	<i>No. of Participants</i>	<i>Land Ownership</i>	<i>Female</i>	<i>Male</i>
AKorley Waterworks	10	0	3	7
Akorley Ayiti	12	4	4	8
Yawkoko	9	5	4	5
Teacher Mante	9	0	2	7
Asukesu	10	6	2	8
Wassaman	10	5	3	7
Heman	9	4	3	6

Mobile phones

In general, all participants had a mobile phone with an average overall mobile experience of three years. The majority (68%) of the participants had only one SIM, while 32% had two or more SIM cards. Where participants had two SIM cards, dual SIM handsets were used. Participants were requested to show their mobile phones and, surprisingly, more than 50% had smartphones. The high rate of smartphone users among the rural unbanked can be explained by the influx of cheap double SIM phones from China. A smartphone from China cost about \$80 new and roughly \$50 for used phones. Apart from making and receiving calls, about 33% used their phone for texting, listening to the radio and playing music. There was an identifiable link between the level of education and the use of their handsets for other than making and receiving calls. For example, the Akorley waterworks group had the lowest level of education and they all used their mobile phones only for making and receiving calls. In contrast, the Asukesu participants exhibited the highest level of literacy and most of them used the mobile phones for other purposes.

MTN was noted as the most used Mobile Network Operator (MNO) with over 75% of the participants using only MTN and 87% using MTN and other networks. Although this is not a good representation of the dominance of MTN in the Ghanaian telecom market, it is an indication of its coverage in rural Ghana. Most participants affirmed that their choice of mobile operator

was based on availability of network. The Heman community claimed that the only network available to them was MTN.

The study also revealed that participants are mindful of their mobile numbers. Most participants had registered their numbers to ensure that they do not have to change if they lose their phones. Two of the participants summed this up:

"My phone number is the only means my friends and family in the city can contact me"

"Losing my mobile number is like losing my identity, how will my customers contact me?"

About 68% of the participants have not changed their mobile operator. Those who have changed their mobile operator cited poor network quality and better pricing as their reasons for changing. Furthermore, participants with dual SIM cards claimed that this enables them to take advantage of promotional (same network) cheaper calls that the mobile operators introduce from time to time. And that it enables them to maintain their mobile numbers whilst taking advantage of promotions from other networks.

The average frequency of top-up (buying of credit) was about once a week. The amount of top-up a week ranged from GHC3 to GHC10 with the average top-up per week being GHC5. Interestingly, the female participants spend more of their income on buying top-ups than their male counterparts. Considering the average income of GHC80 per month, the average participant spends 25% of their income on mobile phone calls. This is an indication of the impact of the mobile phone on the life of these rural dwellers. When asked about the availability of an agent, most participants could identify an agent within their community. However, the unavailability of top-ups (units) at the agents' outlet when needed was a major concern for most of them.

Bank account

This part of the discussion was geared towards getting an understanding of why the unbanked did not have an account and what might influence them to open one. It was to discuss whether m-banking is indeed the solution to bringing financial services to the unbanked. Although the study targeted the unbanked, there were some who were previously banked and others who were under-banked (have an account but not currently operating it properly).

However, the majority (85%) of the participants had never opened a bank account. Among the few that were banked, most of them have an account with a rural bank and only two had an account with a commercial bank. However, all the banked participants were considered to be under-banked because they reported not using the account because of lack of funds. When asked "why don't you have a bank account?" the majority of the participants cited a lack of funds, accessibility, trust, and volatility of funds as the main reasons for not using a bank. Among the reasons given for being unbanked, the most widely accepted among all participants were firstly lack of funds followed by accessibility, trust, and financial cost.

"There is no money"

"I have no formal job"

"I don't have enough money to save"

"Income from farming is not certain, we depend on the rains"

The majority of the rural unbanked perceive that a formal job is required for opening a bank account. Furthermore, they believe that you must have a reasonable amount of money before an account can be opened. Access-related reasons are the next most important explanation for being unbanked. Although the banks are within 4-8 km of the Akorley Waterworks, Akorley Anti, Yawkoko and Teacher Mante communities, all considered the issue of distance as a major deterrent to having a bank account. However, it was obvious that the introduction of rural banks and micro-finance institutions have increased access to financial services in rural Ghana. The following are some of the comments:

"It cost GHC4 to get to the nearest bank, which is too much for us"

"The bank is too far from this community"

"Long queues to get your own money back"

However, when asked "if a bank is opened in your community will you open an account?" they all responded affirmatively. The discussion changed from "we have no money to open a bank account" to "if the bank is close by, then any little money that you get can be taken to the bank". Although their first reason for not having a bank account was based on the lack of surplus funds, participants were eager to become banked if the access barriers are removed. However, these findings suggest the importance of addressing underlying economic perceptions and realities and not only the access barriers if financial inclusion is to be achieved.

Another very important set of reasons given for being unbanked were trust-related. A number of the participants did not trust the banks to give them their money when they need it. The following are some of the comments from the participants:

"Once you put your money in the bank it's difficult to get it back"

"I don't trust banks"

"My money may get missing at the bank"

Finally, financial cost (bank charges and high interest on loans) was identified as another set of reasons for being unbanked. All these factors were identified as deterrents to having a bank account.

When participants were asked, if you had sufficient money, what would encourage you to open a bank account? 75% responded that they would do so if there is access to cheap loans, 15% if there is high interest on savings, and others mentioned low bank charges as incentives to being banked. The participants in Akorley Anti community insisted that any banking facility to be established in their community would need to be prepared to give them loans. They claimed that loans are required to make their farming business flourish and that all efforts to obtain loans from existing financial institutions have not been successful. However, when asked if they have ever taken a loan, the majority of them answered no. There were only two participants from the Yawkoko group who claimed to have taken a loan, one from a commercial bank and the other from a rural bank. The participants in Akorley Waterworks and Heman were totally against loans and argued that taking a loan can make them poorer. Moreover, informal loan sources including family, friends, spouses and religious organizations were regularly patronized by all participants. Some reasons for choosing the informal sources included proximity, greater trust in these institutions and people, and no or minimal interest rates.

Overall, participants were aware of the importance of savings irrespective of gender or age. Whereas some participants had reservations about taking loans, all participants agreed on the importance of savings. Asked "How important are savings to you?", participants responded:

"Saving is important because it helps you to take care of unexpected events whenever they arise".

"Saving is important for emergency periods, for example my child can be sick at anytime".

The rural unbanked save through their livestock, buying of gold, moneybox and some informal community-based structures. The savings-led group (SLG), and rotating savings and credit associations (ROSCA), were some of the informal financial services discussed. The SLG involves members contributing savings into a pooled account periodically (usually weekly), lending a portion of the funds to individual members and sharing proceeds annually (BASU *et al.*, 2004). Members of a ROSCA contribute money into a pooled account which is then given to an individual member at the end of a period (e.g. quarterly). This is then rotated until all members have received their turn. The lump sum is usually used to begin a trade, pay school fees or bury their dead.

M-banking

The m-banking questions sought to assess participants' awareness of the mobile money services introduced in Ghana and whether or not they would patronize the services when introduced in their communities. About 85% of the participants were unaware that m-banking services are available. In some cases for example, in Yawkoko and Wassa, although they have head of it through a MTN radio/TV adverts, they had not been clear about how the services operate or how they could take advantage of it. They stressed that a demonstration and training on how the services work would be necessary for adoption and use by their communities. In Teacher Mante, a participant had used a similar service where call units were bought by her sister in the city and transferred to her and she intended to sell the units to others for cash.

Having seen a demonstration, listened and discussed the benefits of m-banking services including the cash-in, cash-out, savings, payments and loans, most of the participants generally warmed up to this concept and were anxious to try the services and to explore the benefits to be gained. Among the services explained to the participants, the ability to use the mobile phone to save and be able to cash-out the money whenever they need it was what interested them most. The traders among the participants discussed the possibilities of buying goods from the regular suppliers without physically going to the market. Remittance of funds to their children and a few older participants' using it to receive remittances were casually discussed. Surprisingly, using the m-banking concept for remittances did not seem to be a major motivation for the participants in this study. Apart from only two of the participants from the Wassaman group who depend on remittances from

their children, most of the participants do not receive regular remittance from relatives in the urban areas. This may explain why the introduction of mobile money in Ghana as a tool for domestic remittance has not been widely accepted. However, a further broader study on this area is required before the findings can be generalised.

When asked what would motivate them to take up m-banking? Most participants emphasized time saving and convenience. Other motivations cited included affordability, ease of use, high interest on savings, availability of cash, guaranteed network availability and security of funds. Interestingly, participants from Akorley Anti insisted that their main motivation would be access to loans. Concerning affordability, a number of the participants were worried about the effect of cash-out charges on interest to be received on their savings. They emphasized that higher charges would deter them from using the services. They appreciated, however, that there have to be some charges for the benefits of convenience, reduced transportation cost, and the time saving that the m-banking services would afford them.

Persistent network fluctuations, unavailability of funds from the agents, the effect of loss of mobile phone, unauthorized use and the fear of mistakenly transferring funds were among the barriers to using the services that were discussed. A participant from Yawkoko argued that there were instances when mobile network services in their community were down for almost 72 hours. "What happens when you need some of your savings during this time", he exclaimed. Although participants debated the validity of the 72 hours downtime, they all agreed that unreliability of the network is a major deterrent to the use of m-banking services. The issue of what happens to the consumer who needs money when the network is down was discussed in all the group sessions. The participants from Heman gave examples of network reliability issues and how this affects trust in mobile communication in general. Furthermore, some of the participants were worried about mistakenly transferring funds to unknown recipients and cited that they have mistakenly called unknown numbers. As one participant from the Wassa group noted:

"What happens if I mistakenly transfer money to an unknown recipient?"

The participants were asked to indicate who they trust to keep their money, a mobile operator or a bank? Surprisingly, the majority of the participants trust the mobile network operator over the banks. Most stressed that they are more likely to find the mobile operator anywhere they go in

Ghana than the bank (mostly referring to the rural bank). Existing trust in the operator stems from established relationship through their use of the mobile phone. Such institutional trust is important for m-banking since customers' money is held in a virtual account managed by the MNO (MORAWCZYNSKI & MISCIONE, 2008). Those who trusted the banks more than the mobile operator argued that the banks are more established and had more relevant structures to ensure that they keep the funds than the mobile operators. The level of education of those who trusted the mobile operator more than the bank was lower than that of others.

When participants were asked if they believed the services will be easy to use, they responded yes. Moreover, they expressed the need for further awareness and training and explained that with some level of training they should be able to use them without problems. Most of the participants used their mobile phone only for making and receiving calls. This led to a discussion on the usage of the services by the aged population. Although most participants were confident in their ability to use the services, it was observed that gender and age influenced their perceived ease of use. The younger male participants were more confident in finding the m-banking service easy to use.

Managerial implications

The present findings have implications for industry practitioners. The demand for m-banking services by the unbanked can be linked to their demand for savings and loan services. Therefore, for successful adoption of m-banking by the unbanked, operators should promote the use of m-banking services for savings and loans. The companies should consider educating consumers through demonstrations and training to better equip them to master the m-banking systems. Once consumers feel more competent in utilizing the system, they are likely to find it easier to use and be encouraged to use it. In terms of trust, a user-friendly interface, increased network quality and recruitment of agents who can be trusted by the unbanked is likely to influence the acceptance of the m-banking services. Also, the findings indicate that building a strong brand may help to consolidate customers' confidence and elevate their trust in the m-banking system.

■ Conclusion

Transformational m-banking aims at providing banking services to unbanked people with mobile phones. The m-banking services have the potential to be transformational. However, this study concludes that the transformational potential of m-banking could be realised if beyond access, the other barriers to having a bank account are addressed. Although m-banking provides a solution to the access, documentation and affordability barriers identified; there are other barriers like economic perception, trust and compatibility that hinder its transformational potential. Furthermore, the financial needs of the customer lie at the heart of the potential for mobile transactions. In particular, if mobile is to prove transformational in delivering access to financial services, the specific needs of very low income customers must be understood in order to provide an affordable service to the unbanked.

Also, m-banking introduces new barriers (technology anxiety and risk of incorrect transfers) to the rural unbanked which are not considered in the traditional banking settings. Therefore, the transformational potential of m-banking could be significant if its implementation is compatible with existing financial and social practices of the rural unbanked (e.g. "susu" savings); potential users are given ability to trial services; and if trust is maintained through a reliable network, while providing accessibility and convenience through the removal of geographic barriers.

In order to generalise the findings, a future study that explores quantitatively the impact of the factors influencing the rural unbanked's intention to adopt m-banking services needs to be conducted. A study focusing on the impact of transformational m-banking on the norms and values of the rural society would also be useful.

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