

## Mobile Phone Technology in Banking System: Its Economic Effect

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**Abstract:** Globally, various initiatives use the mobile phone to provide financial services to those with or without access to traditional banks. This paper outlined vividly the use of mobile phone in the banking industry, its economic implications, and in general a systematic look into the various forms of mobile banking with emphasis on the security measures that makes the whole process safe for adoption. The emergence of mobile banking technology systems has implications for the general discussions about mobile telephony in the developing world. Existing theory about the significance of mobile communications in the developing world has focused on voice and text messaging. Moreso, the emergence of mobile banking also underscores how, occasionally, innovations emerge from unexpected places and have the capability of reconfiguring the significance of a technology to its users, offering a way to lower the costs of moving money from place to place and opening a way to bring more users into contact with formal financial systems.

**Key Words:** Mobile phone, banking system and economy

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### INTRODUCTION

Banking can simply be expressed as the business of keeping, lending, exchanging and issuing money [Barnhart and Barnhart, 2000]. It can also be express as the business of bankers.

Banking today is undergoing a radical transformation. The symptoms are obvious; new products, new players, new channels are appearing daily. This transformation is taking place across all sectors of the banking industry. Information technology is one of the major issues on any bank chief executive's agenda, thrust into prominence by the massive and increasing magnitude of its costs at a time when competitive pressure has never been greater, (Carrington *et al.*, 1994).

Information system/technology can be any organized combination of people, hardware, software, communications networks, and data resources that collect, transforms, and disseminate information in an organization, [http://www.jonathandonner.com/dpinner.teller.m-banking use pdf.]. Banks urgently need to improve the ability to think strategically about information technology investments.

Only banks that use their technology resources effectively have the opportunity to secure real competitive advantage in this fast changing industry through real product or service differentiation.

Since 1980, banking in the UK has undergone tremendous structural changes, this has been primarily the result of new regulation and new technology, which itself precipitated the change in regulation. One of the most important regulatory changes is the abolition of credit controls on sterling lending, which was followed by the expansion of the

bank's direct consumer lending, credit card and montage business.

### MATERIALS AND METHODS

**Mobile Banking Technology:** If technological revolution is at its peak, one of the notable sectors of the economy where technology is at it helm of affairs with respect to customer service is BANKING. Over the years, banking has transcended from a traditional brick-and mortar model of customers queuing for services in the banks to modern day banking where banks can be reached at any point for their services. In today's business, technology has been on the predominant indicators of growth and competitiveness. The banking industry today is in the industry of it revolution. The combinations of regulatory and competitive reasons have lead to increasing importance of total banking automation in the banking industry. Information technology has basically been used under two different avenues in banking. One is communication and connectivity and other is business process. Reengineering both, basically focusing on increasing its customer reaches. Information of technology enables sophisticated product development, better market infrastructures, implementation of reliable techniques for control of risks and helps the financial intermediaries to reach geographically distant and diversified markets. The latest revolution seems to happen with respect to mobile banking an attempt to leverage on the synergies of mobile banking technology in telecomm and information technology in the banking services, (http://en.wikipedia.org/wiki/mobile\_banking-7/16/2008). Today, banks have welcomed wireless and mobile

technology into their boardroom to offer their customers the freedom to pay bills, planning payments while stuck in traffic jams, to receive updates on the various marketing efforts while present at a party to provide more personal and intimate relationships. Mobile banking can be classified as push vs. pull and transaction vs. enquiry.

Some of the other features where mobile banking has lent its hand are fund transfer and bill payment where the customers have the freedom of maintaining account through mobile. Mobile banking also welcomed other financial services like share trading. The latest information technology revolution enables sophisticated enquiry based banking services for credit/debit alerts.

Some of the other outcomes of the revolution in the banking industry are minimum balance alerts, account balance enquiry, account statement enquiry, cheque status enquiry, cheque book request and bill payment alerts. The last time that technology has a major impact in helping banks services their customers was with the introduction of the internet banking. However, the biggest limitation of internet banking is the requirement of a PC with an internet connection, not a big obstacle if we look at the US and the European countries, but definitely a big barrier if we consider most of the developing countries of Asia like china and India. Mobile banking addresses this.

**Mobile Banking:** Mobile banking (also known as m-banking m-banking, SMS banking etc.) is a term used for performing balance checks, account transactions, payment, etc via mobile device such as mobile phones. Mobile banking today is most often perform via SMS or mobile Internet, but can also be used by special programs called clients downloaded to the mobile device.

**Mobile Banking Business Models:** A wide spectrum of mobile/branches banking models is evolving. These models differ primarily on the question that who will establish the relationship (account opening, deposit taking, etc.) to the end customer, the bank or non-bank/telecommunication company. Another difference lies in the nature of agency agreement between bank and the non-bank models of branches banking can be classified into three broad categories-banks focused, bank-led and nonbank led.

**Banking Model:** The bank-led model offers a distinct alternative to conventional branch-based banking in that customer conducts financial transaction of the whole range of retail agents (or through mobile phone) instead of a bank branches or through bank employees. The model promise the potential to substantially increase the financial service outreach by using a different delivery channel (retailers/mobile phone), a different trade partner, having experience and target market distinct from traditional banks and may be significantly cheaper than the bank and based alternatives. The bank-led model may be implemented by either using correspondent arrangement or by creating a JV between bank and

Telco/non-bank. In this model customer account relationship rest with the bank.

**Non bank led model:** The non-bank-led model is where a bank does not come into the picture (except possibly as a safe keep of surplus funds) and the non-bank (e.g. telco) performs all the function.

**Mobile banking services:** Mobile banking can offer service such as the following;

**Account information:**

- Mini- statement and checking of account history
- Alerts on account activity or passing of set thresholds
- Monitoring of term deposits
- Access to loan statements
- Access to card statements
- Mutual funds/equity statement
- Insurance policy management
- Pension plan management
- Status on cheque, stop payment on cheque.

**Payment and transfers:**

- Domestic and international fund transfers
- Micro-payment handling
- Mobile recharging
- Commercial payment processing
- Bill payment processing
- Peer to peer payment

**Investment:**

- Portfolio management service
- Real-time stock quotes
- Personalized alerts and notification on security prices

**Support:**

- Status of request for credit including mortgage approval, and insurance
- Coverage
- IiCHECK (cheque) book and card requests
- IiiExchange of data messages and email, including complaint submission and tracking
- IvATM location

**Content service:**

- General information such as weather up dates, news
- Loyalty-related offers
- Location-based services

Based on a survey conduct by Forrester, mobile banking will be attractive mainly to the younger, more "tech savvy" customer segment. A third of mobile phone users say that they may consider performing some kind of financial transaction through their mobile phone. But most of the user are interested in performing basic transaction such as querying for account balance and making bill payment, (<http://en.wikipedia.org/wiki/telephone-banking,7/16/2008>).

**SMS Banking:** SMS banking is a technology-enabled service offering from banks to its customers permitting them to operate selected banking services over their mobile phone using SMS messaging, (<http://en.wikipedia.org/wiki/smsbanking-7/16/2008>).

## RESULT AND DISCUSSION

**Mobile Banking And Economic Development:** The spread of mobile phone across the world is one of the most remarkable technology stories of the past decade. Buoyed by prepaid cards and inexpensive handsets, hundreds of millions of first-time telephone owners have made voice calls and text messages part of their daily lives. However, many of these same new mobile users live in informal and/or cash economies, without access to financial services that others take for granted indeed, across the developing world, there are probably more people with mobile handsets than bank accounts. Various initiatives use mobile phones to provide financial services to “the unbanked”. These services take a variety of forms including long distance remittances, micro payments and informal airtime bartering schemes and by various names including mobile banking, mobile transfers and mobile payments. Taken together, they are no longer merely pilots, in the Philippines, South Africa, Kenya, and elsewhere, these services are badly available and increasingly popular.

**Mediating Informal Credit Mechanisms In Urban India:** Analysis of the results of an exploratory study conducted in urban India focus on the importance of informal credit mechanisms amongst small businesses in developing countries and explores some issues associated with using m-banking/m-payments systems to mediate those mechanisms.

Despite India’s growing role as an international hub for IT services and innovation, the majority of enterprises in India (agricultural and non-agricultural alike) are not participants in the IT boom. Most are small, with five or fewer employees and most are informal, operating in cash-only environments without formal books, bank accounts or regard tax payments. Among non-agricultural small and informal firms often called micro-enterprises, access to affordable credit is a constant struggle. In recent years, micro finance institutions have stepped into the gaps left by banks and have begun to provide affordable alternatives to moneylenders and other informal sources. However, surveys conducted in Hyderabad suggested that, for many smaller forms, extending credit informally to customers has as big a challenge as securing credit for the enterprise from lending source. Credit cards and formal financing sources are customers and suppliers resemble those detailed by Geertz (1963) so long ago. These ongoing credit relationships are both a blessing and a curse-although they bind customers to certain suppliers, they strain supplier’s cash flows if an enterprise is to prosper, these informal credit relationships must be

skillfully managed ([http://www.jonathandonner.com/dpinner.teller.m-banking use pdf](http://www.jonathandonner.com/dpinner.teller.m-banking%20use.pdf)).

**M-Banking And M-Payment Systems In The Developing World:** The terms m-banking, m-payments, m-transfer and m-finance refer collectively to a set of applications that enable people to use their mobile applications to manipulate their bank accounts, store value in an account linked to their handsets, transfer funds or even access credit or insurance products. By complementing services offered by the banking system such as checkbooks, ATMs, voicemail, landline interfaces, smart cards, point-to-sale networks, and Internet resources, the mobile platform offers a convenient additional method for managing money without handling cash. For users in the developing world, on the other hand, the appeal of these m-banking/m-payments systems may be less about convenience and more about accessibility and affordability. An exploration is underway-between banks mobile operators, hardware and software providers, regulatory agencies, donors and users to determine the shape of m-banking/m-payments services in the developing world mobile phone operations have identified m-banking/m-payments systems as a potential service to offer customers, increasing loyalty which generating fees and messaging charges. Financial institutions, which have had difficulty providing profitable services through traditional channels to poor clients, see m-banking/m-payments as a form of “branches banking”, which lowers the costs of serving low-income customers. Government regulators see a similar appeal but are working out the legal implications of the technologies, particularly concerning security and taxation.

There is no universal form of m-banking rather, purposes and structures vary from country to country. The systems offer a variety of financial functions, including micro payments to merchants, bill-payments to utilities P 2 P transfers between individuals, and long distance remittances. Currently, deliver these systems some are offered entirely by bank. Others entirely by telecommunications providers and still others involve a partnership between a bank and a telecommunications provider. Regulatory factors, which can vary dramatically from country, play a strong role in determine which services can be delivered via which institution arrangements, ([http://en.wikipedia.org/wiki/online banking-7/16/2008](http://en.wikipedia.org/wiki/online_banking-7/16/2008)).

**Most m-banking /m-payments system in the developing world enable users to do three things:**

- Store value (currency) in a account accessible via the handset if the user already has a bank account, this is generally a question of linking to a bank account. If the user does not have an account then the process creates a bank account for her or creates a pseudo bank account, held by a third party or the user’s mobile operator.

- Convert cash in and out of the stored value account “if the account is linked to a bank account, then users can visit banks to cash-in and cash out. In many cases, users can also visit the GSM providers” retail stores. In the most flexible services, a user can visit a corner kiosk or grocery store-perhaps the same one when he or she purchases airtime-and transact with an independent retailer working as an agent for the transaction system.
- Transfer stored value between accounts users can generally transfer funds between accounts linked to two mobile phones, by using asset of SMS messages (or menu commands) and PIN numbers.

The new services offer a way to move money from place to place and present an alternative to the payment systems offered by banks, remittance firms, pawn shops, etc the uptake of m-banking/m-payments systems has been particularly strong in the Philippines where three million customers use systems offered by mobile operators smart and globe in south Africa, where 450,000 people use wi Zzit or one of two other national systems and in Kenya, where nearly two million users registered with safari co m-pesa system within a year of its nationwide rollout.

**The Social Embeddedness Of Economic Transaction:**

There is a litany of social/contextual influences on m-banking/m-payment use. Both macro-level cultural factors and micro-level, locally negotiated norms in families and among peers-particularly about money are at play. For example, respondents in focus groups conducted in manila explained that, while they would certainly transfer money to family member (a gift), they would not do so to an acquaintance (a loan). Technically, the actions are the same, socially, they are miles apart. Practitioners and policy makers are already concerned about validating-transactions under conditions of sharing behavior in which two people use the same handset. On the other hand, others suggest that m-banking/m-payments systems may alter patterns of money sharing within families by given women grater autonomy and control over household savings.

**Mobile Banking And Economic Use:** Mobile banking refers to banking and financial services with the help of mobile telecommunication devices. The scope of offered services may include facilities to conduct bank and stock market transaction, to administer accounts and to access customized information. Also known as M-Banking in Nigeria or in some instance SMS Banking etc. it is a term used for performing balance checks, account transactions, payments and others transaction services via a mobile devices. Some mobile Banking applications in Nigeria use pre-programmed configurations settings.

Mobile Banking in Nigeria started from the transaction based activities whereby Bank customers are notified via SMS when transactions are conducted on

their account or via ATM. This is one way event and only for informational purposes only. GT Bank was one of the earliest Banks to provide this service to customers.

Nigeria Banks are now deploying full fledged banking via the mobile phones with array of services which were only possible in the Banking Halls before. Zenith, UBA, GT Bank, Diamond and Intercontinental Banks are the fore runners of this innovation. The mobile remains the only and most available feasible means to provide mass market *alternative* to Breach Banking in Nigeria. The internet has only a penetration rate of 6 percent in a population of 140 million but mobile technology is close to 50 percent penetration with prospects for growth.

Mobile devices are the most promising way to reach masses and to create a tie-in among current customers, due to their ability to provide services anytime, anywhere, high rate of penetration and potential to grow, (Arumugam *et al.*, 2008).

Development of 3G in coming months will also enable Banks to offer more robust mobile Banking technologies. The bank is about to lunch four new key banking product. Now the first one is the NAL mobile that will enable customers to carry out is their transactions with their mobile phones, their GSM phones. The other product is the NAL TELE bank, it will enable the customers carry out their transactions with a telephone. Another product is the NAL PC banker which can carry out transaction from a laptop.

**Impact On The Society And Employment:** ICT is part of the fabric of daily life, supporting activities at home, work and school. ICT allows companies and families living in different locations to stay in torch with each other. The help of telecommunications helps in sending text (SMS) message through-out the country. The internet and the ICT revolution have created empowerment for individuals and in the area of learning opportunities to sell their own ideas services and products in the society. Moreover, the convenience and the anonymity provided by the internet have led some people to turn to the internet for psychological and emotional, (Anyasi and Yesufu, 2007).

ICT creates jobs in all sectors of the economy, and as jobs are created, labour markets adjust to their demands. The increase in both the wages and relative supply of educated workers are consistent with the idea that ICT allows skilled workers to perform more functions and produce things that previously were in the domain of less skilled workers, (Anyasi *et al.*, 2008).

**Customers’ Security:** In some areas, multiple security cameras and security guards are a common feature. The New York state comptroller’s office has criticized the New York states department of banking, for not following through on safety inspections of ATMs high crime areas. Critics of ATM operators assert that the issue of customer security appears to have been abandoned by banking

industry. It has been suggested that efforts are now more concentrated on deterrent legislation than on solving the problem of forced withdrawals. As least as far back as July 30, 1986, critics of the industry have called for the adoption of an emergency Pin system for ATMs where the user is able to send a silent alarm in response to a threat, [<http://en.wikipedia.org/wiki/automated-teller-machine7/16/2008>]

### CONCLUSION

The emergence of mobile banking technology systems has implications for the general discussions about mobile telephony in the developing world. For example, it underscores the way the device blurs the domestic and the productive spheres, the social and the transactional. Each transaction is influenced by (and reinforces) the structural position of the people in broader informational networks. The latest case of m-banking systems is a reminder that an understanding of the role of the mobile in mediating both social and economic transactions, sometimes simultaneously. Existing theory about the significance of mobile communications in the developing world has focused on voice and text messaging, ([http://en.wikipedia.org/wiki/telephone\\_banking-7/16/2008](http://en.wikipedia.org/wiki/telephone_banking-7/16/2008)). But the emergence of mobile banking also underscores how, occasionally, innovations emerge from unexpected places and have the capability of reconfiguring the significance of a technology to its users. Mobile theory must keep pace, accounting for m-banking systems along with other capabilities enabled by this increasing flexible technology, offering a way to lower the costs of moving money from place to place and opening a way to bring more users into contact with formal financial systems. M-banking systems may prove to be an important innovation for the developing world. However, the true measure of that importance requires multiple studies using multiple methodologies and multiple theoretical perspectives before the issue of its economic implication can be fully outlined.

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