

A REVIEW

Effectiveness of mobile money transfer technology in rural areas in India

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ABSTRACT

Owing to the advancements in communication technologies, high processing systems and low-cost software, mobile money transfer is an emergent application that boosts the participation of network operators while reducing the intermediaries like Banks or ATMs, removing the condition of opening an account in a bank. It is a money transfer service that acts through the collaboration of Mobile Network Operators, Banks and Information and Communication Technologies. As notified in recent reports, there are around 1843 Banks having 82439 branches and approx 10 big Network Operators are running in India. Moreover, with increased mobile consumers and a big consumer market, MMT may get immense popularity as well as effectiveness in rural areas having less banking services. The overall effectiveness of this service, possibly will be increased mobility of money, more demand for consumer products, improved socio-economic status of rural population and hence a high economic growth. The current paper discusses various key nugget helpful in enhancing performance of the service, such as cost of availing this mobile-wallet, required infrastructure, finance and mobile literacy by consumers, micro financing in rural areas, laws and regulations to avoid fraud, high speed internet, risk factors and consumer protection.

KEY WORDS : Mobile money transfer, Aadhaar, Mobile network operators, Microfinance

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INTRODUCTION

For the last many years, a huge population has been dependant on postal services to remit money. Nowadays, mobile operators have the major distribution network in developing economy and hence are in a better position to remit money from one location to another [1]. Mobile technology is a collective term used to describe the various types of cellular communication technology [2], it is a transformational service that uses information and communication technologies (ICTs) and non-bank retail channels to extend the delivery of financial services to clients who cannot be reached profitably with traditional branch-based financial services [24]. In a report published by IFC (International Finance Corporation, The World Bank Group), it is stated that Main banks are ICICI Bank, State Bank of India, HFDC Bank Ltd, Union Bank of India, Axis Bank, Punjab National Bank, Bank of Boroda, Yes Bank, Bank of India. Numbers of Banks/Branches are 1843 Banks / 82439 Branches. Mobile Network Operators are Airtel, Vodafone, Reliance, Idea, TATA, BSNL, Aircel, MTNL. [25] Thus Mobile Money Transfer (MMT) in India can be effectively implemented with the collaboration of existing Mobile Network Operators (MNO) and Banks. The vast world of m-money subdivides into two broad categories: mobile financial services (MFS) and m-purchasing or m-payment. MFS is mobile access to Banking services that includes deposit, withdrawal and transfer of cash along with bill payment. It falls into two categories: m-banking and person-to-person (P2P) or government to person payments (G2P [24]) transfers or remittance by mobile. M-banking is provided by banks in developed nations, where most people have bank accounts, while P2P remittance is provided by mobile operators in developing nations, where fewer people are having bank accounts. P2P service includes sending money at home (increasingly this will be from abroad) and paying utility bills or wages [3]. Mobile Money Transfer (MMT) is a peer-to-peer form of mobile payment mechanism that has the best prospects for

success amongst other forms of mobile transactions [24] [1] [5]. Mobile money is the management of money via mobile devices that enables Mobile network operators to offer new services, boost customer loyalty and attract new subscribers [14]. It is a service that allows customer money from one place to another place with her/his cell phone would have done without financial intermediaries [8]. Mobile money transfer is a facility that offers a perfect alternative for banks and ATMs (noticed that ATMs are available only in urban areas). Even for those unable to open up a bank account, they can now register and use a mobile wallet [16]. It is stated that 40 per cent of Indians currently do not have access to a bank, and most of these people belong to low-income rural areas. Starting in 2005, the Reserve Bank of India (RBI) has recommended that banks increase access to banking services for the unbanked population using the mobile payment (m-payment) systems. [21] Using this facility, one can get rid of tensions regarding visiting banks or ATMs for getting money to make urgent payments or transfers of money. There is a complete freedom of money transfer to anyone. That means one may be in local market, making the transfers and the cost of this transaction would be very less as compared to that of banks. Furthermore, it saves time, paper and energy. It also adds to the security of money transfer [4].

Money transfer applications and functioning :

Money transfer applications allow using a mobile phone in order to perform certain tasks to help in managing money [6]. Such task may be, transfer funds between accounts, set up beneficiaries, make payments to other accounts, manage profiles and accounts, shop online and get real-time statements of each transaction [6]. Mobile money has the monetary value that together with the above said errands, is issued on receipt of funds in an amount equal to the available monetary value, electronically recorded, mirrored by the value stored in an account(s) usually open in one (or more) bank(s); and redeemable for cash. [24] Customers initiate transactions using an interface that is available on basic mobile handsets [24]. To use the mobile money transfer facility, download a mobile money transfer application of service provider to mobile and get started. This will usually be required to have a user name and password [6], as well as a number of security questions to protect from unauthorized users. Some banks even have special software available for their members to download to make it extra sure that mobile is a safe environment to manage the money. Once registered, one can go ahead and manage the money [6]. Like prepaid accounts for cell phones, a service provider saves a user’s money, the user usually having no bank account [9]. Virtual accounts must be created in order to be able to transfer money without physical bank accounts. Mobile Money systems consist of four players: the sender, the recipient, and two agents. The sender and recipient each have a virtual account with their provider for their cell phones; the two agents have actual bank accounts. Thus, mobile network operators, financial institutions, and payment service providers, all play a role in this market [9]. The transfer is simple: the sender chooses the service from a menu on his cell phone, e.g. Money Transfer, enters the recipient phone number, the amount and the security PIN. The recipient gets a message on her/his phone that money has been credited her/his account and the sender get a message that the money has successfully been transferred [9]. Mobile operators can offer their mobile money services in co-operation with banks or independently of banks [18] In order to achieve the maximum benefit for consumers by increasing competition, reducing prices, promoting innovation and increasing the choice of mobile money transfer services, financial regulators should allow both options of mobile money transfer services on a national level [18].

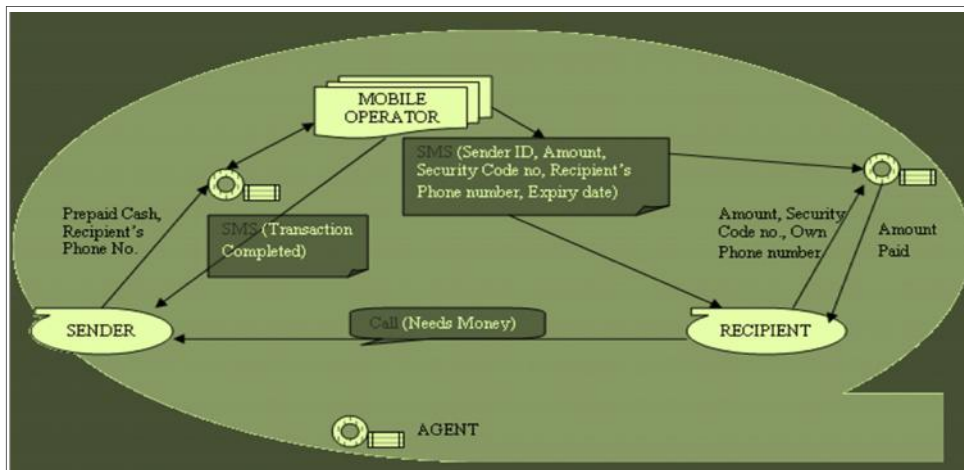


Fig. 1: Whole procedure of mobile money transfer from sender to receiver

Examples of service :

Nokia along with Union Bank of India launched a mobile-to-mobile cash transfer service called Union Bank Money, which would allow any mobile users on any network to shop, pay utility bills, top-up prepaid cards using only a mobile phone. Both Nokia and Union Bank of India said their offers would help the Indian government address its social obligation of financial inclusion, especially in rural areas. Nokia is pre-installing the application on all its mobile phones while existing mobile phone users can register for the service at a Nokia retail outlet. The bank is also providing ATM cards for cash withdrawal [15]. Green Mobile Money Transfer is a financial inclusion based program. It currently targets migrant workers and facilitates mobile money transfer for them. This service has been launched by Corporation Bank and Tata Indicom along with PayMate, which is the technology/platform provider for this initiative. The technology is Windows based. Net Framework technology which is PCI DSS (Payment Application Data Security Standard) compliant and connects into the core banking platform of the bank and then facilitates both the credit and debit of the account on a real-time basis as well as all back-end report generation and other features required to settle the transaction from end-to-end [17]. Other examples are Western Union Mobile Transfer, Axis bank Instant Mobile money transfer, Airtel's Mobile Money Transfer and banks such as ICICI, HDFC, and State Bank of India (SBI) have launched their own mobile payment services in partnership with several MNOs experiencing varying degrees of success [21]. In addition to the State Bank of India and Bharti Airtel, Vodafone and ICICI have also teamed up to offer mobile banking services in the country [22].

Advantages of the service :

Generally, if we talk about, a large population in India still does not have a bank account but has a mobile. The daily wage workers who often move to long distances do not practice opening and maintaining their bank accounts after shifted to new cities. It is stated that State Bank of India, India's largest commercial bank, and Bharti Airtel have entered into a joint Venture (JV) agreement to make available banking services to India's unbanked millions [22]. Thus along with the rich families who normally avail latest technologies, the poor community including rural population might exploit this low cost service. It is stated that easier circulation of money allowed clients to remit money in times of financial distress; (2) conducting business transactions became easier and safer; and (3) vendors were able to reduce the transaction costs and apply savings towards business expansion [21]. The newly formed entity MMT, will harness the power of State Bank's strengths and Airtel's mobile telephony to add value to the banking and financial services sector and empower millions of financially excluded in the country to enhance their livelihood and quality of life. [22] Further, it is also easier to track payments if they are sent electronically, which can reduce corruption and increase confidence that the right amount of money ends up with the right individuals [23]. Mobile money provides a convenient and safe alternative to informal financial services and cash-based assets. The complex infrastructure (mobile connectivity + networks for cash-in and cash-out services + mobile money account) that people use to transact and store their money electronically can be used by a range of financial institutions to offer other services and products, which improves efficiency and competition in the financial sector. [24]

Success requisites :

Following are the key nuggets that are necessary to put into action for better performance and successful employment of MMT:

Consumer first :

Consumer is the key to success. So the service provider should beware of their preferences, their culture, living status and even local language. Provider should work toward maintaining and enhancing consumer trust, their financial as well as mobile literacy and advantages of using mobile money transfer facility. Attracting the customer by offering other more significant services like financial, informative etc. on discount or free of cost, is another weapon to prevail. Due to disparities between choices or requirements of urban consumers and rural consumers, service provider must think twice before designing any policy. For example e-banking is done by educated people mostly lived in urban areas. Rural people even do not have much knowledge about banking services.

Building an effortful system :

Before implementing the service, there should be a provision of working capital management since sufficient liquidity is must for the success of the service. Mobile money franchise operators (agents) often find it difficult to maintain enough cash to serve customers in rural areas who withdraw money after receiving electronic funds [12]. So there should be a proper analysis of the required liquidity amount to avoid bankruptcy. There should also be provision of investing unused funds (if left) for a

good return. All this required an efficient infrastructure and reach to various parties like investors, government, consumers etc. It is essential to conduct a suitable risk assessment before committing resources to this business [1]. There is also a need of service centers in different areas for smart service. This service delivery system as a minimum, include software vendors, system integrators, handset manufacturers and Mobile network operators [7].

Regulatory framework :

It is obligatory to fix the responsibilities of the service provider and to control their agendas to protect the consumer and in favor of economic development. In addition, there is a need to monitor the charging fees, promotional efforts so that consumer can use this facility without fear. Providers of mobile services are known to violate rules and regulations to expand their business [8]. Therefore, standardization of money transfer technology is essential for secure and efficient transactions. The overall goal should be a regulatory environment that enables operators to bring traditional financial services to the poor and appropriately reflects the levels of risk involved [14]. *Aadhaar*, a unique identification number issued to residents of India, will benefit the mobile money ecosystem both in terms of monitoring transactions as well as ensuring that government benefits transfers and other mobile payments reach the intended beneficiary. [24] The price of mobile money services in India should be set by each provider according to market dynamics. This will allow each Mobile Network Operator (MNO) to make the right level of investment in the development of products, the distribution network, etc., and to allow providers to price products to suit the different economic profiles of its customers and transaction sizes [24].

Stabbing the risks :

Once it comes to transfer money (including International money transfer) through emerging technologies like: cell phones, social media and other less traditional methods, convenience comes with potential risks [10] [19]. For instance, from loss of payment instrument *i.e.* the mobile phone, fraudulent transactions, identity theft, loss of funds through bankruptcy or fraud by the mobile money transfer provider etc [18]. Scammers can take advantage of use of text message to transfer money by instructing people to text money to illegitimate numbers [10]. To be safe, verify the owner's website, or apply sophisticated encryption method before transferring. To be safer, do business with reputable companies that have strong security safeguards in place. As an added precaution, do not save financial data on websites, as any site is vulnerable to attacks [10]. Further use complicated passwords to ensure the protection of personal accounts, which will be difficult to crack [19]. Many smart phone applications allow customers to take a photo of the front, back of a check, and download it into their account. Banks that accept remote checks say the process is secure, but critics have raised concerns about situation if a phone is stolen or if financial information is intercepted [10]. Such risks cannot be controlled only by regulatory environment but also requires an attentive user.

Microfinance in rural areas :

Microfinance institutions can employ MMT to facilitate greater access to their services. Rural banks can now offer many types of services via mobile money and SMS technology with only a mobile phone that commercial banks are able to offer via online platforms to clients. This also makes it easier for mobile money issuers to work with microfinance institutions (MFIs) and reach certain economies of scale that they would be unable to reach on their own [16].

Training to mobile operators :

Well trained staff is must for the success of technology. Staff should be trained about identification procedures to identify customers, record keeping procedures, procedures to identify beneficial owner, obtaining the purpose of money transfer. There should also be a system and training to prevent money laundering [11].

Collaboration of banks and mobile operators (Service providers) :

Recent revolution in mobile banking is the provision of banking services through mobile phones using the SMS facility or a downloadable mobile money application [12]. In developing countries the ratio of poor population is high especially in rural areas. Such people due to lack of literacy or banking services, do not have a bank account but have a mobile. While banks and mobile network operators have much unique strength, they also have notable gaps in areas vital to mobile money success. Mobile network operators may "own" mobile service delivery and customer relationships, but they are rarely experienced in the design, distribution and management of financial products that closely fit market needs. Conversely, bank's strength in financial products tends to be offset by their limited relationships with mobile users unless these occur through traditional banking channels. banks and mobile network operators should therefore form cross-industry alliances that will enable them to

jointly promote their cause [14].

Vast network :

Ease of access is vital, so establishing an accessible, secure and reliable network that enables to receive and disburse funds, is the cornerstone of mobile money. This implies a strong need for low-cost ubiquitous networks [14]. Creating alliances with institutions that already have deep market penetration, such as postal systems, payment centers and micro-finance services, may also be an option or electing village based agents having local community knowledge, an important tool in the credit arena [14]. By exploiting the extensive reach of mobile networks, the mobile industry has the opportunity to complement and extend remittance channels, make transferring money significantly more convenient and also bring many people into the formal banking system. With this more visibility on the money flows is also possible as the remittances move from informal channels to formal channels [20].

High speed internet facilities :

Besides the above mentioned issues, other one is speed and novelty of users. Mobile transactions need to be conducted on a phone via an internet connection, which is not only a relatively expensive service but also requires basic know-how about the internet technology. While these systems have been adopted by approximately 15 per cent of urban mobile users as of 2009, cash continues to be a predominant mode of transaction for unorganized retailers and their clients. [21]

Proper marketing efforts and customer-care :

Marketing efforts must communicate all costs to customers so that they are comparable to the cost of traditional financial service, this way customers have a better idea of the benefits they will receive [13]. There is a big market for money transfers on account of remittances. As a result, this is major source of revenue for Mobile network operators offering mobile banking services [13]. Thus migrants should be positively promoted to use mobile money transfer service. A straight-forward message, such as, send money home, or pay your bills, along with an explanation of the service that suits the financial literacy of consumers, will appeal to potential mobile banking clients and enhance their comfort level [13]. Other marketing tools include educational campaigns about the specific uses of mobile banking, sponsorships, endorsements, mobile messages, exhibitions, trade discounts, public relations, redemption coupons, road shows, shop-front activities, etc. [13] to satisfy consumers and remove their doubts. Such tools also improve finance and mobile literacy and benefits of availing microfinance services.

Conclusion :

MMT is used to transfer money from one place to another together with the additional financial and non-financial services having a cost lower than other channels like banks and ATMs. As mobile operators have vast networks than the financial institutions like banks, it will be a good initiative to relocate the job of remittances to mobile operators, however with an eye on their operations. The biggest advantage of MMT will be to reach poor people living in rural areas. Moreover, their increased financial activities will consecutively boost economic growth of our country.

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