



The Enterprise Mobile Financial Services Platform

MCB Mobile And Fundamo – Combining Sound Business Strategy And Superior Technology



Overview

MCB Bank intends to be the first bank in Pakistan to have 10 million customers. It believes that an ambitious, but practical mobile strategy is the key to achieve this. It has turned to Fundamo and the Access Group to help build its MCB Mobile division.

This case study takes an in-depth look at how MCB has approached its mobile strategy. It contextualises these efforts by examining the economic, regulatory and business environments to illustrate the challenges and opportunities open to MCB. More importantly, it will show how choosing the right partners can make all the difference in staying ahead of the game in a deeply competitive business environment.



Pakistan – A Snapshot

Nestled between Afghanistan and India, Pakistan is slightly less than twice the size of California, or roughly the size of the UK, Poland and Italy combined. The terrain of Pakistan varies from the flat Indus plain in the east; the mountains in north and northwest; and the Balochistan plateau in the west. The country endures frequent earthquakes and severe flooding along the Indus as has so recently been highlighted in the global news.

With a population of roughly 180 million, 36% of Pakistanis live in urban areas, with the majority living in outlying rural areas.

Pakistan is regarded as an impoverished and underdeveloped country. It has suffered from decades of internal political disputes and low levels of foreign investment. Between 2001-07, however, poverty

levels decreased by 10%, as Islamabad steadily raised development spending.

Between 2004-07, GDP growth (in the 5-8% range) was spurred by gains in the industrial and service sectors - despite severe electricity shortfalls. However, growth slowed in 2008-09 and unemployment rose. Inflation remains the top concern among the public, jumping from 7.7% in 2007 to 20.3% in 2008, and 14.2% in 2009. In addition, the Pakistani rupee has depreciated since 2007 as a result of political and economic instability. The government agreed to an International Monetary Fund Standby Arrangement in November 2008 in response to a balance of payments crisis, but during 2009 its current account strengthened and foreign exchange reserves stabilised - largely because of lower oil prices and record remittances from workers abroad.

Existing Infrastructure

Tele-density in Pakistan is around 63%. The large majority of connections (97%) are pre-paid with only 3% of phone users making use of post-paid services. All incoming calls are free with voice as the dominant service; however, SMS and other value-added services are on the rise.

Although Pakistan's population is pushing the 180 million mark, there are only an estimated 16 million individual bank accounts, leaving the vast majority of the population without access to banking services. Access challenges are particularly acute in rural areas, where there are fewer than 2 500 branches for a population of 105 million people—or an average of 42000 inhabitants per branch. In contrast, the number of mobile telephone customers exceeds 97 million.

There are five major MNOs in Pakistan (Mobilink, Telenor, U-fone, Warid and Zong) although analysts have pointed out that consolidation in the market is expected. Pakistan has at least eight networks of agents that collate and pay bills for the major utility companies and fixed line telephone providers. The majority of these are privately run although the National Database and Registration Authority (NADRA) also operates one network.

The State Bank of Pakistan (SBP) is given regulatory authority over the Payment Systems that process payment instruments and e-money. The SBP can nominate clearing houses to provide clearing or settlement services for Payment Systems. The SBP then supervises the clearing house as it discharges its settlement and other obligations with respect to the Payment Systems that it undertakes to service. All ATM payments are covered under the EFT Act and its implementing circulars and rules. There are two private ATM switches in Pakistan: M-Net, owned by MCB Bank, and 1-Link, owned by eleven banks. All members of the ATM switches are banks, and both switches are interconnected.

A Policy And Regulatory Overview Of Pakistan

In an effort to promote the financial inclusion of the poor, the Government of Pakistan (GoP) has taken significant steps to create a legal and regulatory environment where “bank-led” branchless banking can thrive. The State Bank of Pakistan (SBP), particularly its Banking Policy & Regulations Department, has spearheaded what the Consultative Group to Assist the Poor (CGAP) has called ‘a thoughtful process’. This resulted in the issuance of

the Branchless Banking Regulations dated March 31, 2008 (BBR). The BBR set out the ground rules for entry into and participation in the branchless banking market and greatly improved the possibility that financial services will be accessible on an affordable basis to millions of people who have been unbanked or underserved. The SBP considered several models of branchless banking before deciding to initially allow only bank-led models. The BBR permits three bank-led

The Country...

*6th most populous country in the world
40 banks with 10,000 branches and 30 million accounts
5 cellular operators with 90 million plus SIMs issued
90% plus of adult population with ID cards
Large majority is numerically literate and familiar with basic English syntax
63% of the population is under the age of 25 years*

models: one-to-one, one-to-many and many-to-many. These three models apply to arrangements between banks and Mobile Network Operators (MNOs) as well as to arrangements between banks and other agents (such as gas stations, chain stores, the Pakistan Post) using either mobile phones or other technologies such as point-of-sale (POS) devices to communicate between the bank and the agent. (The BBR refers to the non-MNO branchless banking arrangements as "alternate channels.") In all cases, the customer has an account relationship with the bank through the establishment of a "branchless banking account" (BB account). The BBR define "branchless banking" to exclude "information services" provided by banks to their existing customers via channels including the phone, Internet and SMS.

In December 2009, the SBP and Pakistan Telecommunication Authority (PTA) agreed to set up a Joint Regulatory Committee to introduce a "unified regulatory framework for Third Party Solution Provider system. The issuance of the BBR in March 2008 dramatically changed the branchless banking landscape in Pakistan. As defined in the regulations, branchless banking is the provision of banking activities by authorised financial institutions (i.e. commercial banks, Islamic banks and microfinance banks authorized under the regulations to engage in branchless banking) to customers having a BB account.

A BB account is defined in the BBR as an account maintained in a financial institution in which credits and debits may be effected by virtue of electronic fund transfers and which is used to conduct branchless banking activities. The regulations

expressly restrict non-financial institutions from offering branchless banking services, stating that nonbank-led models will only be considered after "the players and stakeholders attain [the] necessary level of maturity and after putting in place necessary controls."

Under the BBR, a customer can open one BB account (one account per customer per financial institution), and access a variety of services, including account-to-account fund transfers, person-to-person fund transfers, cash-in/cash-out, bill payments, merchant payments, loan disbursements/repayments, and remittances (subject to existing regulations).

The BBR permits flexibility in the manner in which financial institutions and MNOs partner with each other. As described above, the BBR expressly contemplate several branchless banking models – "one-to one," "one-to-many," and "many-to-many" – which can involve a bank partnering with an MNO or other agents or a bank using other non-mobile phone technologies, in each case, to deliver banking services.

Financial institutions must apply to and be approved by the SBP to offer branchless banking services. Banks and their partners must prove that they have taken the required steps to ensure that the customer is protected and that there is sufficient integrity in the the delivery systems to comply and that a proper Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT) monitoring process exists for branchless banking, and that responsibilities of agents are clearly communicated and monitored. More about the technical challenges faced in order to comply will be discussed later on.

About MCB Mobile

MCB is one of the leading and most profitable banks in the region with a deposit base of Rs 377 Billion (USD 4.7 Billion) and a total asset base worth Rs 509 Billion (USD 6.3 Billion). The Bank has approximately 4 million customers, a branch network of over 1 100 branches, 500 plus ATMs, an acquiring network of 7000 merchants and a work force of around 14 000 employees.

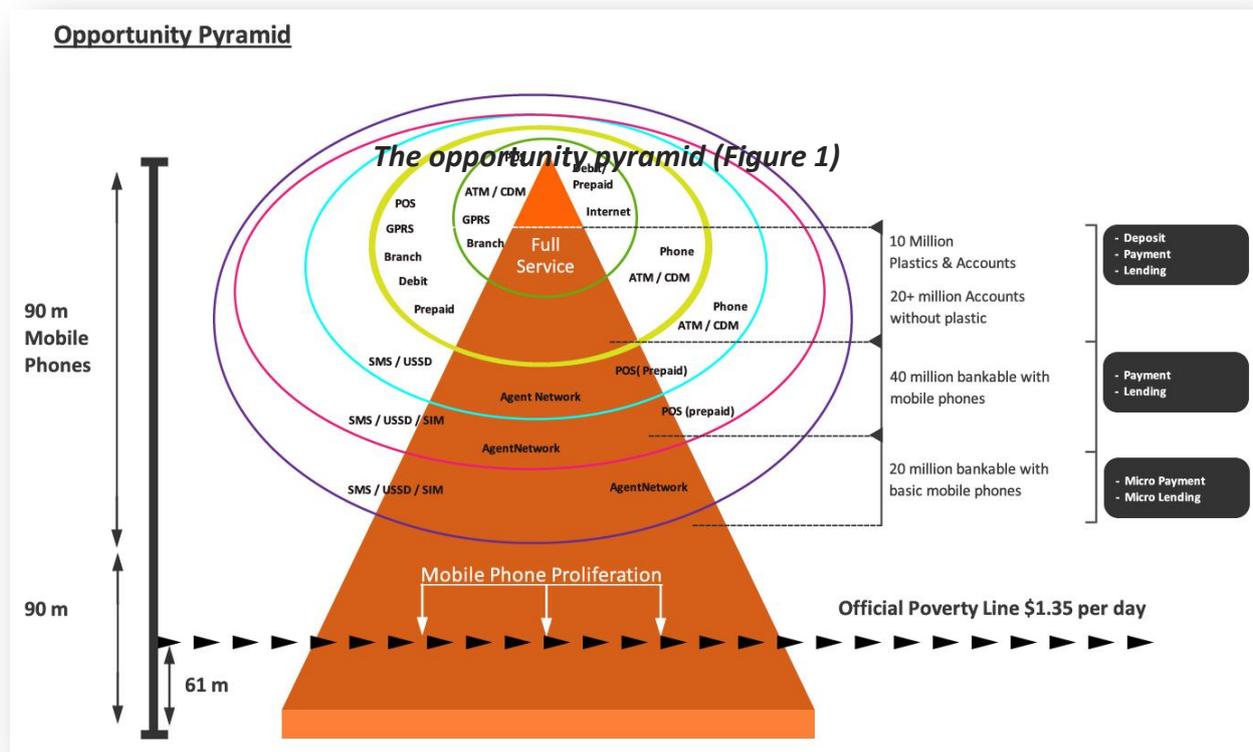
MCB has stated that its strategic intent is to become the leading player in creating transactional/payments related convenience for its customers and thereby

grow the bank three to five times its current size within the next three years. MCB has set its sights on becoming the first bank in Pakistan to have 10 million customers. This will be achieved by leveraging its existing advantages in a large branch and ATM network, deposit access plastics portfolio and Point-of-sale (POS) agent network. MCB says its experience in building electronic banking channels and insights into related controls and security aspects of these businesses are a natural platform for creating the next generation of mobile-led, low-cost transactional banking products.

Mobile Delivery Key To Its Growth Strategy

From the beginning MCB understood the importance of starting quickly and gaining the first-mover advantage. The bank saw the value of attaining valuable insights through conducting real payments via mobile devices ahead of anyone else in the market and in leveraging these insights into constructing the next generation of banking and payment products targeted at mobile phone users without bank accounts. MCB has been lauded for its business strategy which was based on “thinking big, starting small and scaling up fast”. This soon became their execution mantra and the basis for their approach and market entry into the mobile payments space. MCB was determined to create the shortest and most scalable path to success possible. The opportunity pyramid (Figure 1), was developed around information from the central bank and CGAP. It re-

flects the “thinking big” part of MCB’s strategy based on the immense opportunity of banking the population with mobile phones but without existing banking accounts. The diagram depicts deposit access plastics and bank account penetration in the country versus mobile phone proliferation along with the changing relevance of different mobile and Internet channels/products as one travels down the opportunity pyramid. The red tip indicates 10 million people currently holding a deposit access plastic (branded VISA/Master Debit, Pre-paid or propriety ATM/Smart cards) and an additional 20 million under the red tip holding any type of banking account. The remaining 50 to 60 million people currently own a mobile phone and do not have a bank account. These people have payment needs such as re-charging of mobile phones, making person-to-person remittances



or paying utility bills that are currently not being met. Even the 20 million with bank accounts and without

deposit access plastics are considered under-served and represent a valuable new client base.

The MCB Rollout Strategy

MCB was aware that the smart move was to create a low cost, fully functional transactional banking product and to package it as a fast-moving consumer commodity. This would be sold first to customers at the top of the pyramid – the 20 million or so customers with bank accounts but without any linkage to deposit access plastics or the mobile channel.

The next step for MCB was the “scale up” stage and involved building maturity and scale in sales and service processes and in developing cross industry partnerships aimed at creating a relevant and effective distribution networks.

The answer lay in first launching a service for MCB’s existing 4 million banking customers where they could link their existing ATM card/bank account to their mobile phones. This step reflects the “starting small”

part of the bank’s strategy. The advantage of this approach lay in the fact that the banking relationship continued to reside on the existing banking host/core banking application and all MCB needed to do was to add another channel. In this case it was going to be a mobile front.

This approach was similar to what other banks had been rolling out, such as launching conventional electronic payment channels for example ATMs, Internet, etc. as augmented channels. This was a known path and therefore it represented an easier and quicker go-to-market route, both in terms of handling internal executional dynamics and in dealing with the local banking industry regulator.

The fact that MCB was targeting its existing customers initially meant that it knew a lot about them. Their

relationship history, balances and the channels they prefer to use to access their money, frequency and the amounts of their transactions, age and demographics were all quantifiable entities and

therefore easy to cater to. Convinced that it was on the right track, MCB went on to carefully define and transform the behaviour of its existing staff and customers before venturing out to acquire new ones.

Challenges: Walking The Regulatory Tightrope And Still Delivering A Compelling Product

In the wake of the 9/11 attacks and the more recent sub-prime crisis, a slew of financial regulations came down the line that required financial institutions to be able to monitor the movement of money and who was moving it. Know Your Customer (KYC) regulations became a requirement for countries who wished to adhere to global standards. Monitoring and controlling money was also used as key means to cut down on anti-money laundering (AML) and together these Anti-Money Laundering / Combating the Finance of Terrorism (AML/CFT) laws meant significant restrictions on who could handle money. The ensuing fallout of the sub-prime crisis saw the further tightening on how money changed hands. It also saw many countries enforcing stricter consumer protection laws. Perhaps an unintended result of this was a more complex environment for m-payments. Harsher licensing requirements, stringent foreign currency laws, daily transfer limits and other requirements all made the rollout of m-payments more difficult. The nature of financial services delivered over a mobile device, across networks, across sovereign borders makes the regulation of m-payments exceptionally tricky.

“The field of m-payments and m-banking is not only new and fast evolving but also sits at the overlap of several regulatory domains—those of banking, telco and payment system supervisors, and anti-money laundering agencies. The overlap substantially raises the risk of coordination failure, where legislation or regulatory approaches are inconsistent or contradictory. In such environments, it is likely that m-banking may simply be an added channel for already banked customers.

A comprehensive vision for market development between policy makers, regulators and industry players can help to define obstacles and calibrate proportionate responses to risk at appropriate times.”
(David Porteous, 2006)

Pakistan faced significant challenges as its financial regulator acknowledged that urgent intervention was required to bring the financially disenfranchised into the formal banking fold, but still needed to stay true to global legislative best practice.

For businesses, the challenge lies in ensuring a mobile platform can cope with all the regulatory requirements, but that the user experience would remain simple and elegant.

Section 4 of the BBR outlines a risk-based approach to customer due diligence. For Level 1 accounts¹, customers must fill out and sign an account-opening application form and provide a photocopy of their computerized national identity card which has to be verified.

In addition, there must either be a face-to-face contact with a designated financial institution employee or a biometric fingerprint scan and a digital photo taken by the agent and sent to the financial institution.

BB accounts that are Level 2 (top level and unrestricted) and Level 3 (designed for merchants, agents, businesses, banking agents, or third-party service providers) are subject to the full range of KYC and other prudential regulations applicable to all accounts. The BBR also require that a bank's

transaction processing system be capable of:

- Enforcing the account-level transaction limits
- Sending alerts to users close to limits, and
- Analysing transaction history, identifying abnormal/suspicious transactions and reporting them to the bank's compliance function.

When the Outsourcing Guidelines were issued in 2007, they became the primary source of guidance regarding the engagement of third-party service providers to perform certain "material activities" often relating to the bank's technological infrastructure.

The BBR add to this guidance in the context of branchless banking and expand the scope of

permitted activities. The BBR permit financial institutions to engage third-party agents to open Level 1 accounts, provide cash-in/cash-out services, offer bill payment services, and disburse and collect loans, although agents are not allowed to market or approve loans.

In November 2009, the President promulgated the "Ordinance to Provide for Prevention of Money Laundering" (AML Ordinance). The AML Ordinance establishes a Financial Monitoring Unit (FMU) to receive and analyse reports of suspicious transactions, assist in investigations, recommend changes to regulations, and generally exercise responsibility for AML.

¹ *Level 1 accounts are subject to balance and transaction limits: the maximum balance is capped at Rs. 60,000, and the maximum throughputs are Rs 10,000 per day, Rs 20,000 per month, and Rs 120,000 per year. BBR, Section 4*

Minimum Technology Standards

For overall e-banking risk management, the BBR refer financial institutions to the "Risk Management Principles for Electronic Banking" (issued by the Basel Committee on Banking Supervision in July 2003) as a starting point for the development of e-banking risk management practices. The BBR also include specific requirements with respect to data security linked to the level of account.

Level 1 accounts can use either SMS or USSD channels, and do not require message encryption.

Level 2 and 3 accounts can use either WAP or SIM Application Toolkit (SAT) channels, and require 128-bit message encryption. For all accounts, the BBR require two-factor authentication (PIN and MSISDN in the case of a mobile phone), secured records of all transactions stored by financial institution (for audit, investigation, and non-repudiation purposes), and infrastructure for a high availability of services in normal and disaster circumstances.

The Fundamo Solution

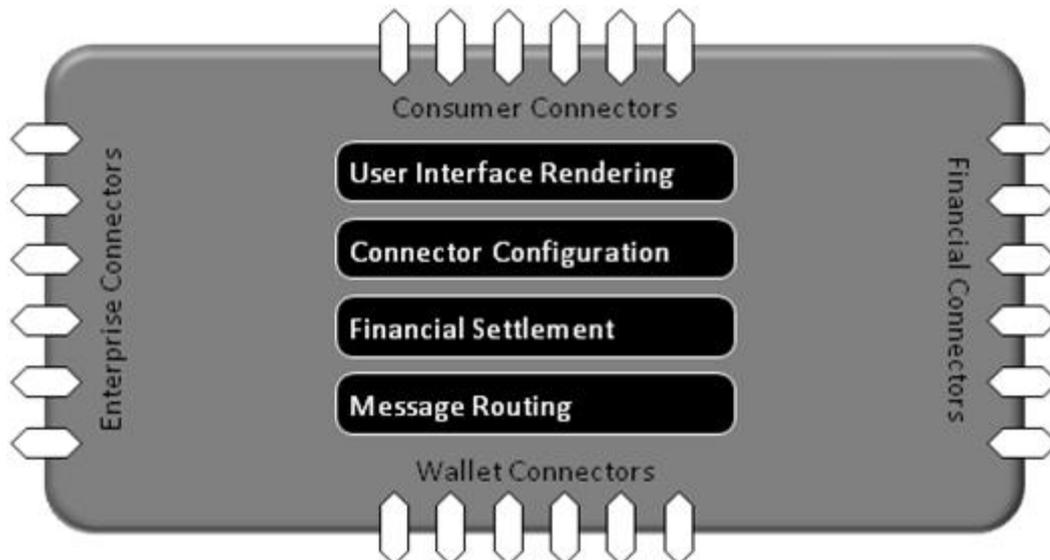
Access Group is the leading IT services provider in Pakistan. Their main area of focus is providing diversified IT services and solutions, including payment platforms, to the financial, telecoms and enterprise sectors. The group started in 1995 as one of the first Data Network Operators (DNOs) in Pakistan.

Working with the Access Group, Fundamo devised a solution that has allowed MCB to hold to its scalable approach, but has given it the flexibility to expand quickly as the uptake of services increases.

The solution has allowed MCB to make seamless connections to its clients over the mobile networks without compromising data integrity and allowing for a completely auditable trail of data to ensure compliance. The Fundamo/Access combination allowed MCB to structure its services as part of the shared platform where the mobile front-end layer

resided in Access's datacenter as opposed to the bank. The shared platform set-up not only meant that Fundamo/Access was responsible for ongoing management, running and scalability of the infrastructure; it also meant a much shorter execution time period.

MCB had effectively taken most of the execution outside of the large bank and therefore avoided the usual legacy related time and cost issues that are generally associated with internal bank executions. Connecting to the shared platform required zero investment in hardware and related communication infrastructure for MCB and therefore a much lower per-customer per-year charge. Subscribers to MCB Mobile are not restricted to just viewing account balances or requesting mini-statements; they are able to securely effect a host of payments, such as pay utility bills, recharge pre-paid and make post-paid



payments for their mobile phone connections. They can even conduct account to account fund transfers from their mobile phones in seconds. MCB ascribes a key attribute of its success and impressive uptake to its ability to register customers across multiple channels safely and almost instantaneously. The trick lies in being able to use the authentication leg of existing channels and registering customers for the mobile service without the need for any form filling.

MCB management have acknowledged that this type of channel-interplay and execution (where a fragile, newly born innovation is incubated in the middle of mature electronic payment channels) is only possible if the organisational structure and strategy supports mobile payments as central to the bank's future growth plans and not merely a side-show or a good-to-have initiative. In MCB's case, they not only used channel interplay for marketing, promoting and registering customers for MCB Mobile, but also enhanced the security of its service through the use

of a dual pin authentication mechanism. The MCB's mobile banking system requires a mobile PIN to log into the service and an ATM PIN to conduct financial and non-financial transactions. The dual authentication feature served its customers well and resulted in MCB offering higher daily transactional limits on the mobile channel compared to other deposit access channels.

Fundamo's development team were required to develop the dual authentication option as part of the XHTML (a stricter and cleaner version of HTML) solution. This was no small task and the team is now confident that this authentication solution ranks as the best of its kind anywhere in the world.

The solution also had to be operator agnostic and be able to run over all five mobile networks in Pakistan. This again called on the Fundamo team to ensure that their solution was perfect for the most exacting of environments.



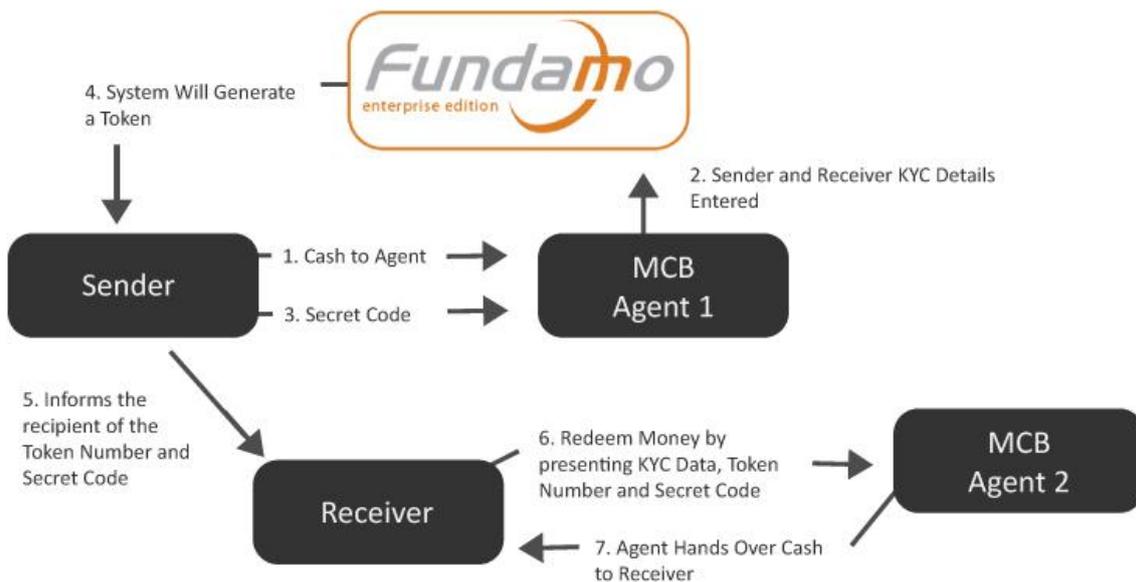
A customised user interface was designed specifically for the MCB solution, allowing the bank's customers to experience the service in a manner to which they were accustomed.

Bill Payment - Presentment



1. The user selects a utility company from a drop-down list.
2. After specifying the UBCC (utility bill company code) and the customer’s reference at that utility,
3. Fundamo passes on the request for a bill enquiry to the switch (Euronet).
4. The switch in turn passes this request on to a Billing Server that fetches the details and returns the results.
5. The user confirms, and the entire amount is paid.
6. Money is debited from the customer’s wallet account and settlement in Symbols is done instantly.

Token Money Transfer (Cash to Cash) – For Unbanked Users



1. A sender hands over cash to an MCB agent.
2. The sender and receiver KYC details are entered.
3. The sender enters their own secret code.
4. The system generates token.
5. Sender informs the receiver of the Token Number and secret code.
6. The receiver can then redeem the money from another agent by presenting their KYC data, the token number and entering the secret code.
7. The Agent hands over cash to the Receiver.

The Result

MCB has close to 100 000 registered customers (as of August 2010) and has processed Rs 2.3 billion (USD 27 million) in payments since commercial launch in 2009.

MCB mobile recorded the first billion rupees (USD 11.76M) within eight months of launching; the next billion came within four months and a further billion was expected by the end of 2010. The MCB customer base grows at a rate of 300 to 500 customers a day and the banks also gathering valuable insights into customer uptake in various segments, such as urban, rural, literate, semi-literate, gender, age, etc. and their respective affinities with various transaction types, related increase in their account balances, subsequent decreases in branch transactions and attrition levels.

At the 2010 Global Mobile Money Transfer awards held in Dubai, MCB won the award for the Best Bank Led mobile money programme.

MCB has also been on the short list for the Best Mobile Money Service at Mobile World Congress, 2010 as well as an award for Innovation in Banking at the Banker Magazine Awards, 2010.

“Both quick execution and subsequent scalability demanded a partnership with a mobile payments platform provider that understood the play well, kept their part of the bargain and created space for us to focus on growing and marketing the channel through superior customer experience and through a continuous build-up of related payment services and products around the mobile phone.”

MCB on the Fundamo partnership

The Future

MCB says its initial foray into the mobile payments space taught it that the true potential of “mobilising” customers is not just about making fee income (or for that matter making transactional revenue), but is really about being able to encourage them to higher levels of transactions and in making money through increases in their average monthly balances. An additional business benefit is obviously the cost saved as transactions move from higher cost channels to the lowest cost mobile channel.

Given the success of the MCB mobile banking offering based on the Fundamo R4 platform, MCB has embarked on a project to extend its mobile banking product to encompass a wallet solution. This will offer potential customers outside of the current banked LSM the ability to store money and conduct financial transactions from their mobile phone. The product will be branded “MCB Lite”.

With this in mind, MCB has appointed Access Group to deploy the Fundamo Enterprise Edition platform on which they will launch the MCB Lite product. With the launch of this new product they envision.

MCB has learned that it is much easier to up-sell and cross-sell through the mobile payments service and it has recently launched a life insurance service where MCB Mobile customers can instantly secure the future

of their loved ones by paying a small monthly premium. The bank has also launched a service where its customers can order VISA pre-paid cards for their loved ones, family or business partners linked to their MCB Mobile service. Customers can load these VISA pre-paid cards through MCB Mobile whenever there is a need and the owners of the pre-paid plastics can spend the money not just in Pakistan but anywhere in the world through the global network of POS machines or they can simply choose to take cash out through the global ATM network.

The bank and its partners are currently working on creating a service where MCB Mobile users could transfer money up to Rs 10,000 (USD 117) to anyone in Pakistan owning a mobile phone backed with a digital identity card – with or without a bank account. The recipient will simply be required to walk into any one of the 1100 MCB branches, along with his original identity card and secret code communicated to him by the sender, to claim the money or to open an account at MCB to receive the internal remittance.

Together with Fundamo and Access, MCB will be looking to grow its annual revenues, increase its client base and expand its brand into a Pakistani population which has proven to be more than ready for more banking innovation.