



EXPANDING FINANCIAL SERVICES FRONTIER AND MOBILE BANKING IN SRI LANKA

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Introduction

The breathtaking pace of evolution in communications technology and the corresponding change in consumer behaviour has had a significant impact on how customers perceive and use banking services. The rapid growth of mobile technology and the ever-growing ubiquity of mobile devices over the years, have resulted in mobile banking to evolve from a simple information delivery channel to a comprehensive banking transaction channel.

Adoption of mobile banking has become fundamental in the banking industry globally, and Sri Lanka is no exception. Most commercial banks in the country are offering some flavour of mobile banking at present. The challenge now for Sri Lankan banks is to develop and execute a mobile banking strategy that creates value for customers and encourages them to switch to the mobile channel from the more costly channels such as branch in a manner that would make a difference to the cost/ income ratio of the banks.

This paper discusses the current technologies and trends in mobile banking, placing emphasis on the opportunities and challenges for the local mobile banking sector. Some models and strategies that may be adopted by the local banks in enhancing the mobile banking offerings are also discussed.

What is mobile banking?

Mobile banking refers to the provision and use of banking and financial services through mobile telecommunication devices such as mobile phones or tablets (Goyal 2012). The scope of offered services may vary from merely making information available to availing general banking transactions such as balance inquiry, transaction history, fund transfers, bill payments, etc to real interactivity between the banks and customers.

Mobile banking allows customers to use mobile devices as another channel for their banking services. Most mobile banking offerings are additive in that they provide a new delivery channel to existing bank customers. Transformative models integrate unbanked populations into the formal financial sector (Mostafa 2010).



Mobile banking evolution and technologies

The earliest mobile banking services were powered by SMS communication, which was known as 'SMS Banking'. Then gradually, Mobile Web was introduced and mobile banking was offered through WAP (Wireless Application Protocol). As WAP was restricted to a specific set of hand-sets, USSD (Unstructured Supplementary Service Data) came in to practice which permitted a real-time interactive access to bank accounts on many basic handsets. Today, with the proliferation of smart-phones, mobile banking has progressed to the use of special client programs, called Mobile Apps, downloaded to the mobile device used for mobile banking.

Each of the above technologies provides a different range of functionality, consumer reach and user experience. While each technology has pros and cons, when combined they create an ideal offer that realizes the full potential of the mobile banking channel.

SMS Banking is the simplest of all approaches and is compatible with virtually all mobile phones. This method is ideal for simple transactions (e.g. balance inquiry, transaction history) where customers can request for information and services by sending a SMS to a published number. Banks can also use this method to alert customers about activities on their bank accounts. However SMS banking has certain drawbacks as the interface provides limited features and functionality, and SMS communication may have communication latency.

WAP Banking is a form of Mobile Web that allows customers to access their bank accounts using a real time data communication mode through mobile web pages. Today, mobile banking has vastly progressed in this direction by providing an experience almost similar to Internet Banking on the mobile phone.

USSD mobile banking, also a popular mobile banking technology is a menu-driven, interactive service using a conversation-like telecom protocol initiated by dialling a short code assigned to a bank (e.g. dial *535#). It is a session-oriented service unlike SMS which is a store-and-forward based service. USSD is a convenient form of mobile banking, which does not require an internet connectivity.

The latest form of mobile banking, which is through Mobile Apps has gained vast popularity across the world due to enhanced usage of smart-phones. This new generation of mobile banking applications offer several comprehensive features such as richer user interface and mobile device specific user interface, enhancing customer experience. Richer user experience leads to more comprehensive features being offered on mobile banking. The downside to this approach is that not all mobile devices support this technology.

Considering the range of technologies available, banks have the option to choose the technology that offers the right combination of customer experience and customer reach. No one technology will fit all customer requirements, and multiple modalities are expected to merge to support banks in getting the optimum breadth and depth of their customer base.



In the global context, it is observed that many banks have been offering mobile banking in stages; most starting with basic SMS Banking and browser, and then moving to include downloadable applications. Sri Lanka is no exception, where most of the banks have taken an incremental approach in their mobile banking offerings, starting with basic SMS Banking and gradually moving to add other technologies.

Current mobile banking landscape in Sri Lanka

At present, majority of the domestic commercial banks in the country including the two state-banks are offering some flavour of mobile banking. The services offered vary from non-transactions based information providing services such as SMS alerts on transactions to a range of transactions based services such as fund transfers, payments settlement, cheque book requests, etc. These services are offered by different banks using a single platform or a combination of platforms such as SMS, Mobile Web, USSD or Mobile Apps as described earlier.

When evaluating the mobile banking solutions currently on offer by local banks, the following can be identified as the most common mobile banking features available;

- * Balance inquiry
- * Fund transfers between own and third-party accounts
- * View account history/ mini statement
- * Utility and credit card bill payments
- * Cheque book request
- * Cheque status inquiry
- * Alerts on account activity or passing of set thresholds
- * Mobile recharging
- * Change PIN/ password
- * Locate ATMs and branches
- * Check forex rates

Considering the above services, it is apparent that most leading financial institutions offer introductory or “foundational” mobile banking services to enable their customers to conduct basic financial transactions that integrate tightly with core and/or online banking services.

Also, even though statistics on mobile banking usage in the country is sparse at present, data on other payment channels suggest mobile banking penetration to be low despite high mobile penetration rates prevailing in the country (Lovelock 2013).

The challenge now for Sri Lankan banks is to develop and execute a mobile banking strategy that creates value for customers and encourages them to switch to the mobile channel from the more costly channels such as branch, so that it would make a difference to the cost/income ratio of the banks. To achieve this, it is essential for banks to exploit the unique capabilities of the mobile platform to offer new value propositions to customers. Mobile banking if implemented



properly can affect every aspect of banking business models, from customer acquisition and retention through costs and revenues to long-term brand identity.

From a regulatory perspective, the banking regulator Central Bank of Sri Lanka has issued the Mobile Payments Guidelines No. 1 of 2011 for the Bank-led Mobile Payment Services, in addition to the 'Mobile Payment Guidelines No.2 for Custodian Account Based Mobile Payment Services' to set-up the regulatory framework for mobile banking and mobile payments in the country.

Opportunities

As mobile technology extends its influence on financial transactions, banks will need to identify key opportunity areas to retain and attract customers. In its current context, local banking sector is afforded with many opportunities when it comes to the mobile banking channel:

◆ Mobile penetration and mobile internet growth

According to the Telecommunications Regulatory Commission of Sri Lanka (*statis_Mar_2014* 2014), the mobile subscription rate of the country as at March, 2014 is 104.4%. Furthermore, statistics show that an increasing number of Sri Lankans are beginning to use their mobile phones to access the internet. According to provisional figures, mobile broadband internet usage as at March 2014 was estimated at near 1.8M which surpasses fixed-line internet access by nearly three-folds. Nielsen's "2013 Sri Lanka review" report (Nielsen 2014) further emphasizes this trend which highlights 57% of Internet users in Sri Lanka accessing internet through a mobile device.

This trend indicates that more Sri Lankans are beginning to spend more and more time on their mobile devices compared to desktop, which provides a significant opportunity for the banks in terms of customer channel migration to mobile banking. Banks can capitalize on this massive reach of mobile communications in the country to promote mobile banking.

◆ Cost of mobile devices

Analysis of mobile device pricing in Sri Lanka suggests that smart phones are becoming more affordable for average Sri Lankans. It is estimated that a decent smart-phone can now be purchased for less than Rs. 10, 000. This strengthens the case for banks for Mobile Apps for smart-phones.

◆ Millennial opportunity

When considering demographics across Sri Lanka, as well as other parts of the world, consumers born in the 1980s and 1990s known as 'Millennials' are becoming a steadily important group to engage with. In addition to being a group with growing spending power, Millennials tend to be more optimistic than the average consumer.



According to Nielsen research (Nielsen 2014), consumer confidence in Sri Lanka is highest in this group. They are also more likely to use mobile banking than any other demographic group. Nielsen identifies them as a group who is always on the lookout for the brands that are considered the most modern and trendy. Lifestyle and convenience are of utmost importance to this demographic group. Accordingly, this demographic group presents an opportunity for the Sri Lankan banking sector to exploit, in terms of engaging in mobile banking.

◆ **New revenue**

Mobile banking also offers traditional revenue opportunities, such as cross- and up-selling products to existing customers, and new revenue opportunities, such as delivering merchant-funded rewards through mobile digital wallets. For example, banks can use SMS to up-sell services to its customers when they make a transaction with their debit or credit card.

◆ **Customer acquisition through differentiation**

Mobile banking creates a new opportunity to win customers by increasing customer acquisition through differentiation. Banks are already using mobile banking to differentiate their brands, for example by incorporating mobile banking into TV advertising. In few cases from US, Chase and USAA have used their early-to-market mobile remote deposit capture services to win customers (Wannemacher, P and Benjamin, E 2013).

◆ **Edge for banks**

According to Oracle Financial Services (*Rethink the "Mobile" in Mobile Banking 2013*), "though a slew of competitors have made a foray into the mobile money transfer arena, banks still hold an edge on multiple counts. For non-banking service providers, building a remittance corridor can be a cost-intensive exercise with limited revenue potential. The multiple costs associated with managing regulations and compliance will place further pressure on margins. Consequently, businesses for which mobile payments is not a core service may reassess their presence in a sector wherein they may not be owning the customer directly. For banks, on the other hand, the pressures of regulations, interoperability, and technology upgrades would be accounted for in their operating models".

Challenges

While mobile banking generates many opportunities for banks, there are also many challenges connected with same. Banks need to overcome these barriers if they are to implement successful mobile banking strategies to reap its many benefits. Some of the key challenges to be addressed are:

◆ **New entrants**

As mobile communication becomes more and more affordable and user-friendly, many non-banks have entered the mobile payments market, often with innovative solutions to an extent that monetary transactions are no longer restricted to banks and traditional financial institutions.



The successful foray of mobile network operators into the mobile payments domain has prompted businesses and consumers to think 'beyond the bank' for enabling financial transactions. As more and more non-traditional service providers start offering mobile money and mobile payment services banks face a threat of becoming redundant in the mobile banking landscape.

◆ **Diverse disparity**

The mobile space is filled with diverse mobile platforms and devices each offering a different set of capabilities such as SMS, WAP Browser, Mobile web browser, USSD capability, among others, none of which is under the control of banks.

This creates a great challenge for banks as they need to offer mobile banking solutions that operate on any type of device, if they are to reach a wide customer base. Rapid pace of technology change further adds to this matter, as banks need to constantly update their solutions to match the advances in technology.

◆ **Personalization**

As discussed above, mobile banking is mostly popular among Millennials and the demand for personalized applications is also quite high in this demographic group (*Evolution of Mobile Banking* n.d). The personalization demands could be in the form of language, facilities, colour schemes, messages and many more. The need for personalization may be addressed by providing a mobile banking platform on which various mobile banking applications/ features can be developed and customers can choose the features to be installed on their mobile phone.

◆ **Interoperability**

Most mobile payments services that are in place in the country today are closed-loop systems whereby a customer is not able to send a payment to a customer in another system, of another bank. With the interest of the own organization taking priority, this interconnectivity has taken a backseat. However, the benefit for the banking industry as a whole would be immense with this kind of interoperability.

For example India's IMPS is multi-bank by design and underpinned by the country's ACH (*National Payments Corporation of India* n.d). With the recent introduction of common switch for banks in Sri Lanka, same concept may be explored in the future for mobile payment interconnectivity.

◆ **Security and risk**

As with any new technology, there are risks associated with mobile banking as well. One of the biggest risks related to mobile banking is malicious and fake applications. There are various malicious applications posing as legitimate applications that users download and then become infected. Privacy of user information is also a related risk, as there is a growing tendency for legitimate applications to pass on personal information to third party applications in unauthorized manner. Lack of maturity of security controls and tools as well as fraud detection tools for



mobile devices further aggravates the risk. On the other hand, user behavior itself is creating a suite of vulnerabilities for mobile banking, and fraudsters are eager to take advantage of same. Customers are prone to download third-party apps, use unsecured wireless networks, open and click links in fake SMS text messages and e-mails, and lose their mobile devices. Continuous customer education is key in this regard, in ensuring a secure mobile banking experience.

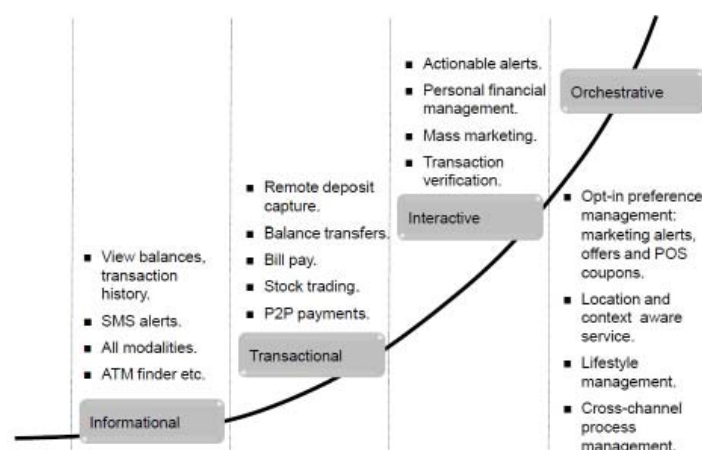
The security issues of mobile banking that need to be addressed are multi-fold as it concerns protection of data on the device, authentication of the device, authentication of the customer and security of transmitted information. Mitigatory measures include user authentication including a two-factor authentication (2FA), device authentication with service provider before initiating a transaction which would ensure that unauthorized devices are not used to perform financial transactions, encryption of the data being transmitted over the air.

Mobile banking maturity model

As discussed above, Sri Lankan banking sector is currently in a stage where majority of players have the foundational mobile banking services in place, where few have progressed further to offer more services through a combination of platforms. However, considering the growth of mobile devices and customer expectations, the road ahead for Sri Lankan banks is to offer the whole gamut of banking services on the mobile device.

As more innovative applications are developed within and outside the banking sector, the ability for banks to keep pace becomes both more difficult and more important.

When analyzing the mobile banking maturity in Sri Lanka, the mobile banking maturity Model developed by the TowerGroup (*Mobile Banking Case Studies 2010*) provides a useful measurement guideline for the banks to assess the current maturity level of their mobile banking solutions and to plan for the intended maturity levels in the future.



(Source: TowerGroup)



The model (illustrated above) describes four maturity levels in terms of the sophistication of the features of the mobile banking solutions. The model defines mobile banking progression from relaying information to customers through enabling transactions, through interacting with customers around their financial needs through being part of lifestyle management, and engaged in largely non-financial activities. The four stages are described in detail below.

i) Informational

The first stage is merely making information available to customers. At this level there are functions such as balance inquiry and transaction history. This may also include 360 degree view of the account including e.g. savings, loans, credit card, stocks, etc. Additional informational services such as ATM and branch locators, forex rates information is also offered at this stage. Furthermore, transactional alerts are provided by mobile banking solutions in this stage. Introduction of multiple modalities (SMS, USSD, Mobile Apps, etc.) is initiated at this stage as well.

ii) Transactional

At the next stage, transactional services are made possible via mobile banking solutions. These include account transfers, bill payments, person-to-person payments, and in advanced instances features such as remote deposit capture of cheques as implemented by some banks in US, etc. Mobile re-charging and other mobile wallet options are offered at this stage.

iii) Interactive

The next level of mobile banking maturity demands real interactivity between banks and customers via mobile banking solutions. Key features include functions that enhance the customer's experience including contact options, help information and alerts.

At this stage customers are provided with actionable alerts which allow users to respond in real-time to alerts received from their financial institution compared to mere informational alerts provided at the first stage. Examples of actionable alerts include balance triggered savings offers, balance triggered credit offers, product renewal notifications, etc. Customer experience is also enhanced through features such as personal financial management (PFM) functions that may include spending comparisons with peers or budget tools.

In the area of marketing and acquisition, there are services such as mobile coupons/incentives, barcodes, new product information, customer research, cross selling and acquisition. The aspects of mobile that make it particularly appealing to marketing are the very personal nature of mobile devices and the "always on" aspect of customer use.

Mass marketing is also an important aspect at the Interactive level. Banks must begin to promote mobile banking to a wider audience using messaging that appeal to those consumers who don't understand the benefits of the channel. Forrester research recommends the following mobile banking marketing strategies (Building a Winning Mobile Banking Strategy 2013):



- * Integrate mobile banking within all brand marketing campaigns
- * Rather than promote mobile banking generically, promote individual functions and features ('there's an app for that')
- * Leverage target marketing opportunities to segments such as frequent users of online banking, bill pay, heavy ATM users and/or customers who frequently do balance inquiries
- * Leverage traditional media such as POS, ATM messaging, direct mail, email to support targeted efforts
- * Use social media like Facebook and gamification to promote mobile banking
- * Leverage video within the mobile banking site to explain the benefits of mobile banking and ways to use the service that are unique to the channel
- * Encourage current mobile banking users to recommend services to friends and family
- * Help customers overcome security concerns with guarantees
- * Provide interactive devices in branches that can demonstrate how mobile banking works
- * Fully explain all costs involved
- * Provide incentives for enrollment and use.

iv) Orchestrative

At the highest point of the maturity curve, features and services that are not directly connected to banking are offered and the bank is actually participating in the customer's social life. This stage helps banks in expanding the customer base by attracting new customers by posing as innovative and assisting with the social life of the customer. Functionality offered at this stage include personal offers from both the bank and/or merchants based on spending behavior, contactless payments at the point of sale, location-based services, international remittances, etc.

Cross-channel integration is also a consideration for the Orchestrative stage - access to customer support directly from the mobile app is one such example.

Corporate mobile banking

In addition to the functions and features described under the maturity model, another area for banks to consider would be mobile banking services for corporate banking. At present, the mobile banking services are mainly focused on retail banking. As adoption of mobile banking



for retail transactions increases, the same set of users would expect the bank to offer them the same levels of convenience while conducting corporate banking transactions. Thus in the future, banks will need to consider delivering corporate banking services on the mobile device.

Mobile banking strategy

Mobile banking is the most important strategic opportunity in retail banking in at least a decade. However, many banks have taken a haphazard approach to mobile banking strategy in the rush to meet rising expectations of customers and to keep up with competitors.

For mobile banking to be successful and achieve its objectives, it is imperative that the banks follow a disciplined approach to mobile banking strategy. Forrester Research has developed a comprehensive mobile banking strategy (Wannemacher, P and Benjamin, E, 2013) to assist financial institutions in their planning, and same could be used by the local banking sector in implementing their mobile banking strategies.

The Forrester model addresses all required aspects for a successful mobile banking implementation from identifying the trends through defining the strategy to executing and then optimizing the mobile banking offerings. It is composed of four distinct phases, each consisting of three parts as depicted in the diagram below:

DISCOVER	PLAN	ACT	OPTIMIZE
Vision	Assessment	Organization	Performance Management
Landscape	Strategic Plan	Processes	Benchmarks
Business Case	Road Map	Tools And Technology	Continuous Improvement

(Source: Forrester Research)

The detailed description of the model is reproduced below from the Forrester Research (Wannemacher, P and Benjamin, E, 2013).

◆ Discover

The first step in implementing a mobile banking strategy would be to discover criticality of mobile banking in the banking industry and its impact to the particular bank. It is important to implement mobile banking strategies that can meet customer expectations and respond



to the threat of digital disruption to the banking and payments businesses. Therefore, firstly, banks must understand the current mobile banking landscape, develop a vision for their own organisation, and build the business case to justify further investment.

◆ Plan

The maturity model explained above would assist banks to make an assessment of their current mobile maturity and identify gaps in the strategy, governance, and execution. It is vital to develop a strategic plan and a road-map to address the identified gaps ensuring that customer needs are fulfilled. The plans can be developed by identifying customer needs, helping customers achieve their goals, integrating mobile banking into wider multichannel strategy, and lowering the barriers to adoption with tactics like education and security guarantees.

◆ Act

Mobile strategies often fail when organizations approach them as purely technology solutions or marketing initiatives without clear business objectives and stakeholder support. Having a documented strategic plan that all stakeholders - marketing, eBusiness and channel strategy, and IT agree on can make the difference. As with all business solutions, developing the right mobile strategy is more than a technical endeavour and requires the right people, processes and technology to be in place.

◆ Optimize

As mobile technologies evolve and expectations rise, it is essential to increase the mobile sophistication of the organization to deliver contextual mobile experiences that meet the customer needs. In order to maintain a competitive edge, banks need to fine-tune their mobile banking services and continue to innovate.

In this context it is necessary to develop appropriate metrics to measure mobile banking performance, and continuously benchmark the organization's mobile banking offering with that of leading mobile banking offerings locally and internationally.

Summary and concluding remarks

The increased prevalence of mobile phones provides exciting opportunities for the growth of mobile banking in Sri Lanka.

While most banks already offer some mobile banking functionality, the challenge going forward will be to execute a strategy that is a differentiator both from a customer experience and revenue perspective.

Mobile banking would be increasingly enhanced from building customer relations, reducing cost, achieving new revenue stream, etc to connecting with the new customer segments, enhancing customer relationships to improve loyalty and reduce attrition, create innovative ways offer dynamic customer experience etc.



By executing and optimizing a successful mobile banking strategy that is integrated with a wider multi-channel strategy, banks in Sri Lanka will be better positioned for the future of mobile banking.

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