Rethink the “Mobile” in Mobile Banking
Disruptions and Innovations in Mobile Communications Technology
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Executive Overview

As mobile device technology evolves from being device-driven to consumer-driven, we are witnessing a corresponding shift in the consumer’s outlook towards the usage of mobile devices. In the earlier days, the consumer would feel overawed by the impact of technology and could be easily satisfied with the simple promise of convenience. Today’s consumer, exposed to unprecedented levels of information and awareness, is becoming more and more demanding by the day. The average mobile device user is not swayed by the bundle of services being offered on his device; he now expects service providers to push the envelope continuously, leading to the age of consumer-led innovation.

The evolution of mobile device technology and the consumer’s expectations has had a significant impact on the banking industry. With non-banking players venturing into the realm of mobile payments, wallets etc., the consumer is spoilt for choices. However, with the mobile payments industry still in a state of flux, ambiguities remain in terms of regulations, cross-border transactions, and most significantly, ownership of the customer. To survive the onslaught of non-traditional competitors, banks need to ramp up their capabilities to service the connected and aware consumer.

This whitepaper examines the current trends in the mobile banking sector, placing emphasis on the disruptive innovations that are altering the global banking landscape.
Who is Leading Innovations: Manufacturer or Consumer?

Over the years, mobile communications technology has evolved from being device-driven to user-centric. In the past, the customer’s usage of a mobile communication device was restricted by the device’s capabilities. However, with the evolution in technology, the device no longer dictates the user experience. Instead, it is the other way round; the user’s expectations now drive the device’s capabilities. Increasing computing power, scalability of operations and the increasing interaction between the device and the user have led to innovations such as voice-activated assistants, mobile handsets with built-in projectors, wireless battery chargers etc., which are continuously redefining the way we use mobile devices.

Is the Mobile a “Handheld” Device?

Traditionally, the ‘form factor’ of the device was dictated by the technology to be fitted inside the device. As mobile device technology evolved, the form factor and the size ceased to be constraining factors, and devices became progressively lighter and smaller. Lately, the very idea of the mobile being a handheld device is being challenged by the emergence of wearables, which are redefining the concept of the form factor for mobile devices. As current handheld form factors disappear, interfaces delivered via glasses or contact lenses, microscopic earpieces and devices as unobtrusive as the ring on a finger will emerge. Even among traditional mobile devices such as smartphones, new form factors such as flexible and foldable displays are emerging.

“Call” or “Do”: Unlocking New Avenues

The initial stage in the development of mobile device technology restricted itself to offering improved customer convenience, within the confines of the pre-defined functionality of the mobile device—communication. Most innovations focused on delivering a faster and more convenient way for the user to communicate. As mobile networks became ubiquitous, call rates reduced and mobile communication became the preferred mode of communication. As consumers started to spend more and more time with their mobile devices, they were no longer content with the mobile device performing the basic task of communications. The user today expects the mobile device to perform all the functions of a PC. The smartphone and tablet boom has transformed the mobile device into an interface through which the consumers can engage with the service providers in real-time and with the luxury of choices.

Is it a Phone or an Identity Card?

In the past decade or so, we have witnessed the evolution from physical identity cards and passbooks to virtual methods of establishing identity such as secret questions on telebanking, pin codes, barcodes, QR codes etc. As technology advances further, mobile devices will play a significant role in multi-factor authentication and authorization. Identity will be sensor driven in the age of robotics, cloud and predictive analytics. Face and voice recognition using biometric technology will enable mobile devices to replace the traditional modes of establishing identity.
Emerging technologies such as Near Field Communication (NFC), which is in vogue these days for making contactless payments, can also be used to enable devices to act as electronic identity documents. Since the technology supports encryption, it is more secure than Radio Frequency Identification (RFID) systems. Unique identity can be further extended to manage access in the form of common access devices, a concept that is already being applied for getting tickets or boarding passes at airports. Innovative applications of NFC technology include car-locking mechanisms, tagging of pets, parking meters etc. The emerging trends of Bring Your Own Device (BYOD) technology, virtual thin clients, and cloud-based network management can be applied to enable authentication even when a local network server does not manage the device.

As wearables become more and more prevalent, users will be able to carry their identity with them at all times. As mobile technology becomes more and more affordable and accessible, a mobile device will gradually become an extension of one’s self.

From Consumer-Aware to Context-Aware

The rapid innovations in mobile technology have far-reaching implications for service providers, who need to adapt their offerings to not only the evolving technology but also the corresponding shift in the consumer’s expectations. With the omnipresence of the internet and the proliferation of social networking channels, the user now has unlimited avenues of information at his disposal. Today’s connected and informed customer is no longer a passive recipient satisfied with the functionality of a device, he is actively looking for new ways to extend the device’s functionality.

Armed with the awareness that user data is critical for a service provider, the user today is more open to sharing information, but with the expectation that the information will be used to deliver a customized and context-aware experience. Instances of these are the location-based offers in vogue today. However, a context-aware experience is not limited to location-based offers. The user now expects the mobile device to be an extension of his or her identity and personality. This presents an opportunity for service providers to offer a truly intuitive and context-aware experience, utilizing the data stored in the user’s device. For instance, when a customer walks into a restaurant, his mobile device could display the menu, allow him to place an order, calculate the tab based on the order, and finally settle the bill using the device. With GPS technology, it could even be used to locate acquaintances, as listed in the device’s contact list or through social networks, who are present in the restaurant at that moment and allow the user to solicit recommendations from the menu or share the meal.
Implications for the Banking Industry

The breathtaking pace of evolution in communications technology and the corresponding change in consumer behavior has had a significant impact on how customers perceive and use banking services. According to the Global Consumer Banking Survey conducted by Ernst and Young\(^1\) in 2012, only 40% of the surveyed customers believe that the bank adapts the products and services to meet their needs. The survey results also show that 70% of customers are willing to provide their banks with more personal information in exchange for context-aware products and services. These and other similar statistics available in the public domain clearly indicate that customers today treat banks as just another service provider, and the likelihood of customer changing their banks is increasing by the day. Hence, banks need to tailor their business models to suit customer preferences. As consumers move on to the virtual channels, banks will also need to shift their focus from the conventional brick and mortar branches to self-service channels such as internet, mobile and social networks.

Smart and cheap access devices arriving in the market are making every common man bank conveniently, using a handheld device. As mobile devices gradually replace cash and contactless cards, mobile payments have gained prominence. With payments being the gateway to build deposit and credit relationships, it is safe to say that offering the right mobile banking solutions has become an imperative in the banking world.

\(^1\) The Customer Takes Control: Global Consumer Banking Survey conducted by Ernst & Young (http://www.ey.com/Publication/vwLUAssets/Global_Consumer_Banking_Survey_2012_The_customer_takes_control/$FILE/Global_Consumer_Banking_Survey_2012.pdf)
Who are the Competitors for Banks Today?

As mobile communication becomes more and more affordable and user-friendly, mobile banking is gaining increasing acceptance globally. With innovations such as Near Field Communications (NFC), mobile wallets, virtual personal financial assistants and a slew of new and customized applications being developed and adopted, the mobile banking landscape is undergoing a rapid and irreversible transformation, to an extent that monetary transactions are no longer restricted to banks and traditional financial institutions.

The successful foray of mobile airtime providers into the mobile payments spectrum has prompted businesses and consumers to think 'beyond the bank' for enabling financial transactions. Today, applications allow smartphone-to-smartphone payments using only an account and a phone number. Many applications also allow users to transfer money between two mobile phones armed with prepaid wallets. As more and more non-traditional service providers start offering P2P transactions and digital wallets, banks face a threat of becoming redundant in the mobile banking landscape.

Who Owns the Customer?

A typical monetary transaction with a mobile device involves three key players responsible for delivering the service to the customer: the bank, the payment gateway and the mobile airtime provider. In case of mobile banking and mobile commerce, such as bill payments and online shopping, the device essentially acts just as a channel enabling the transaction, and the roles of the bank and the telco are clearly defined and demarcated. However, in the case of p2p transactions, the lines between these three entities are often blurred. Such a scenario raises a very pertinent question: who owns the customer?

In today’s era of big data and predictive analytics, owing customer data has assumed considerable significance. As you try to adapt to the emerging ecosystem and deliver a context-aware user experience, you will need to start revisiting customer data, which is growing at an exponential rate. Banks that will be able to use their data effectively and appropriately incentivize the customer for data usage will maximize their chances of trumping the customer ownership conundrum.

Where Banks Hold an Edge

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.

The issue of customer ownership and the ambiguities surrounding regulations and interoperability have resulted in banks adopting a cautious approach towards mobile money transfers. However, as mobile
devices become ubiquitous and the preferred channel for financial transactions, banks will need to work towards becoming the prime movers in developing and owning a global mobile payments ecosystem.

**Strategic Opportunities for Banks**

As mobile technology extends its influence on financial transactions, banks will need to identify key opportunity areas to retain and attract customers. Banks will need to make sure that customers who want to conduct the basic banking transactions such as bill payments and shopping using their mobile devices or more evolved customers who use mobile wallets and conduct p2p money transfers are able to manage their transactions with minimum fuss. With the mushrooming of smartphones, banks can also explore the possibility of developing virtual private assistants for banking applications. With the usage of mobile devices for retail banking transactions becoming more and more accepted and prevalent, banks will also need to deliver full-service banking for corporate on mobile devices.

Finally, using the massive reach of mobile communications globally, banks could explore the option of offering banking services to the huge unbanked population in developing and under-developed countries.

**Redefining “Take the Bank With You”**

The first stage in the evolution of mobile banking involved the usage of the mobile device for banking and e-commerce, essentially the usage of the device for internet access. Banks and consumers treated mobile as an alternative channel for banking, and there was no significant value delivered to the customer, except the convenience aspect. With mobile device technology becoming more and more advanced and user-friendly and with smartphones becoming ubiquitous, mobile banking evolved from being just another banking channel to being an avenue to deliver an enhanced experience to the bank’s customer. Development of technologies such as mobile wallets, NFC, QR codes etc., and the mushrooming of customized applications for mobile platforms such as Android, I/OS or Windows presented an enormous window of opportunity for banks to service their customers using the mobile channel.

However, one factor, which has traditionally impeded the growth of mobile commerce for purchase of goods and services, had been the requirement of a supporting infrastructure for the seller. The POS terminal should be adequately integrated with the store software, including inventory management, security systems, product catalogs and customer service systems. Additionally, the payment mechanism should be used by a significant number of buyers to make adoption by retailers viable. This is a time and cost-intensive exercise and with the multitude of payment services available, the sellers are circumspect about investing in the necessary infrastructure.

**Who Needs Cash or Cards Anymore?**

With the growing prevalence of mobile wallets, the customer no longer needs to physically carry cash and multiple credit and loyalty cards. More and more smartphone owners now use their phones as
mobile wallets and as a preferred method of payment. Using Near Field Communication (NFC) technology, you can make payments or redeem points from your stored loyalty cards.

Electronic payment service providers such as Square have taken the concept of mobile wallets a step ahead by tying up with retailers such as Starbucks. Starbucks offers a virtual card to its users, which can be integrated with the Square wallet to facilitate reloading of credits on to the Starbucks card. By simply downloading the wallet on their Android or I/OS smartphones, customers can pay for their purchases by just tapping ‘Pay’ on their mobile devices.

Personal Financial Advisors at Your Fingertips

As smartphones allow the user to practically perform every function of the PC, there is a mushrooming of personal finance management applications developed specifically for mobile users. While applications are already freely available for Android and I/OS smartphones, it won’t be long before we see virtual personal assistants such as Siri performing the role of a branch teller on your mobile device. Personetics, a leading provider of VPA solutions for the banking industry, has developed a predictive virtual assistant for mobile devices that can transform a mobile banking application into an intelligent, context-aware and convenient channel. With interactive voice response capability similar to Siri, the mobile virtual assistant can facilitate accessibility and navigation using the predictive solution integrated with the bank’s core systems.

However, for a mobile-based virtual personal assistant to serve effectively as a PFM tool, it has to be much more intelligent and context-aware than an ordinary VPA. It should be programmed for iterative learning, ensuring real-time updates to its database based on the queries of the customer. For instance, if the tool is unable to resolve a specific query, it should address it to the integrated support system and subsequently save it for immediate resolution when a similar query is raised again.

Can Mobiles Facilitate Financial Inclusion?

Out of a world population of 7 billion, over 5 billion or 70% have mobile phones and only 2 billion or 30% have a bank account. In India, out of a population of 1.2 billion over 800 million have a mobile phone and only 250 million have a bank account.

Globally, more than 2.5 billion adults (50% of adults) do not have a formal account, most of them in developing economies. The most commonly reported barriers to account use are high cost, physical distance, and lack of proper documentation.²

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It is common knowledge that mobile usage has grown at a breathtaking pace over the past decade or so. With mobile devices and airtime rates becoming cheaper, mobile communication has become easily affordable to a substantial majority. As mobile phone users graduate to smartphones and tablets, the barriers to account use such as high cost and physical distance are overcome. Such a scenario opens up a potentially enormous opportunity for banks around the world. However, banks have not been swift in latching on to this opportunity. Instead, it is the mobile service providers and other non-traditional players who have been the first movers in this space. Mobile airtime providers offer services that allow customers and businesses to use their mobile device to make payments without even having a bank account. For developing and under-developed countries, wherein mobile penetration far exceeds banking penetration, mobile banking can even serve as an enabler of financial inclusion.

Delivering Full-service Corporate Mobile Banking

Statistics in the public domain clearly indicate that for the next generation of banking customers, mobile devices will be the preferred channel for banking transactions. However, many banks still perceive mobile and internet banking as extensions of the conventional bank branch, and not its replacement. While the fact remains that the virtual channel is predominantly used for retail transactions, the road ahead for banks is to offer the whole gamut of banking services on the mobile device. Currently, most banks offer essential banking services such as account-related transactions and mobile commerce facilities. In the future, though, banks will need to deliver corporate banking services on the mobile device. 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. Though a few banks do offer corporate mobile banking, it is largely restricted to checking balances, approvals and simple fund transfers. However, as more and more executives get equipped with smartphones and tablets, they would expect banks to offer advanced features like vendor payments, cross-border transactions, treasury services, commercial lending and leasing services etc. on their handheld devices.

However, is corporate mobile banking secure and device-agnostic?

The primary reason for banks not delivering full-service corporate banking functionality on the mobile devices is the perception of a security threat. The high volume of sensitive data heightens the risk perception, which is further compounded by the fear of device theft and misuse. An added challenge is the variety of handheld devices in use today, running multiple operating systems. A banking platform will have to counter these valid concerns by introducing robust security and authentication features and by offering a banking platform, which can run on any of the popular operating systems such as Android, I/OS, Windows Mobile etc.
Conclusion

As mobile banking becomes more and more prevalent, it will not be long before it becomes the primary channel of banking. The breathtaking pace at which mobile usage and technology is evolving has created a scenario wherein the user is truly dictating terms to the service providers, be it device, airtime, applications or banking services. As non-traditional players enter the mobile banking landscape, banks will need to ensure that they offer their customers the enhanced service levels offered by the non-banking competitors.

With the global economy showing signs of gradual recovery, now is the time for banks to be proactive and lead the curve in heralding the next step in core banking transformation. This is an opportunity space for banks to drive this ecosystem and create value because banks have the advantage of owning the financial ecosystem and the ability for the bank to be the “trusted” source of this ecosystem is higher than any other source.

With technology evolving at a phenomenal pace, banks will have to be omnipresent on each and every device and channel and offer seamless navigation across channels and devices. As change becomes the only constant in the industry, agility to adapt to change will become paramount in the IT decision making of banks.