

Mobile Banking and its Intricacies

Geetarthi Dutta*

Student, School of Public Policy and Law, Assam Rajiv Gandhi University of Co-operative Management, Assam, India

Abstract: Mobile banking is a service that allows banks and financial institutions to make financial transactions with customers using mobile terminals such as Smart phones and tablets. They usually work through programs/apps (program shortcuts) provided by financial institutions to facilitate financial transactions. Mobile banking refers to performing financial transactions using mobile devices. These services are provided by many financial institutions, including banks. Mobile banking allows customers and users to conduct separate transactions that may vary from institution to institution. Today's mobile application development has made banking easier. Customers can now view account balances, view bank invoices online, send money, and purchase prepaid services.

Keywords: Banking, intricacies, mobile.

1. Introduction

A. Brief History of Mobile Banking

Until the introduction and activation of mobile web services in 1999, mobile banking services were primarily handled via text or SMS. This became known as SMS banking. Europe's leading mobile banking banks use WAP (Wireless Access Protocol) to provide mobile banking services over the mobile Internet. Prior to 2010, SMS and mobile web were the most popular mobile banking products. Mobile banking can be divided into the following categories:

- 1. Access to Account Information: Customers can access simple details, transaction and account history, When accessing account information, customers request a mini account statements, view term deposits, view statements or cards, and access the investment data to access your balances and view your invoices and for some insurance management institutions or agencies.
- 2. *Transactions:* Transaction services allow customers to exchange money, transfer money to each other, and pay bills to third parties (example, bill payments) in a corporate account, the same institution or another institution. You can run other applications. Prepayment is accepted by the service provider. You can buy it.
- 3. *Investments*: Investment management services allow clients to manage their investment portfolios and access investment information such as deposits. Then log in to your Demat account in real time.

4. *Content and News*: The content service provides financial sector news and up-to-date services from banks or institutions. Smart phones and banking applications are developed using either the iOS or Android operating systems. This allows customers to download banking apps on their Smart phones with an improved user interface and advanced trading features. To date, many financial institutions have

For example, a text message from the bank stating that an ATM or its application will be unavailable for a period of time due to system maintenance, or a message from the bank confirming that the customer has activated the program through Cell Phone. Mobile Banking Types: There are three types of banking services typically offered to customers. In addition a fourth one, in terms of phone banking i. e, mobile as well fixed line banking too available. There are three main categories.

- 1. Mobile banking via SMS (SMS service)
- 2. Mobile banking using WAP (Wireless Application Protocol)
- 3. Mobile banking using USSD (Unstructured Value Added Service Data)

2. The Modus Operandi of Mobile Services

- 1. *Mobile Banking over SMS*: This form is also known as SMS banking. It allows customers who do not have access to the internet to check their bank account balance and receive a mini account statement among others. Just choose to sign up with your bank for the service and register your number with the bank account.
- 2. *Mobile Banking over WAP*: Customers who wish to use this service can download each bank's official banking program on their Smartphone. After downloading, the customer must register for mobile banking. After receiving the login information from the bank, you can use the mobile banking service.
- 3. *Mobile Banking over USSD*: (Unstructured supplementary service Data) Banks also offer mobile

Support services: It enables customers to Check the status of their credit facilities or credit card application, track their card application and find or locate an ATM.

^{*}Corresponding author: duttageetarthi0000@gmail.com

banking services to customers who do not have access to the internet or a Smartphone. Customers are provided with USSD codes. Customers can avail services, such as account balance enquiry and mini account statement, on their phone. Over the years, mobile banking with USSD has become one of the most commonly used methods in rural areas.

Mobile banking allows customers to access banking services from anywhere. Businesses and entrepreneurs can now use mobile apps to save time by processing payments and receiving money directly from customers by phone number. It is especially popular with small and medium-sized enterprises (SMEs). Mobile technology enables banks to reduce operating costs while maintaining customer satisfaction. The fact that any bank customer can request services such as opening an account, paying an order, or booking other payments in the program will increase transaction volume and ultimately lead to the growth of the company.

3. Pros of Mobile Banking

Mobile Banking offers a variety of virtual banking services, including transactions through mobile wallets, digital payment methods, and UPI transfers (eg, BHIM app). For example, SBI includes SBIYONO and SBI Anywhere. ICICI Bank has iMobile. HDFC includes HDFC Mobile and PayZap. Kotak's banking app is Mahindra Kotak 811, but Axis Mobile offers Axis Mobile. They also offer last mile withdrawals and services from payment banks such as PAYTM, Vodafone M Pesa, Airtel and Fino. This banking method is so fast and convenient that it is loved by men and women of all ages. Mobile wallets work like cryptocurrencies that you can transfer money instantly, so you don't need to carry cash or cards with you. Transactions through the mobile app also include attractive refunds, coupons and coupons that can be used on your next transaction or purchase. Not only is it easy to spend money, you can also keep track of all your expenses for the month.

4. Cons of Mobile Banking

Mobile banking has much positivity, but there are also things to consider in this banking situation. Unlike websites, mobile apps used for digital transactions must be very efficient at encrypting data. Have you ever thought that unlocking your phone could abuse your wallet or mobile app? Using a hacker with a secure public Wi-Fi connection can make you a victim. On the other hand, poor service can be intercepted by hackers and unauthorized people.

5. Challenges Associated With Mobile Banking

There are many challenges associated with mobile banking and that includes

- a) Accessibility based on the type of handset being used
- b) Security concerns
- c) Upgrade synchronization abilities
- d) Lack of proper legal remedies in case of fraud over hand held devices.
- e) Privacy Concerns

The iOS operating system, the windows are proprietary and more secured compared to the open source android operating systems and so their usability. In proprietary operating systems the product is the mobile or the handset whereas in the open source systems i. e android the user is the product. There are many security lapses on the part of the mobile banking systems and gradually those are addressed from time to time. One such effective system is called the 'phone factor'.

We will illustrate the phone factor process and its intricacies so that people understands it. 'Phone factor': it is a system of authentication while banking transactions are taking place by the user. While doing banking, other than user id and passwords, some other authentication systems have been developed to secure the transactions. In some cases the banks used to offer 'Grid Card' to authenticate the transactions. Grid card is pre-printed matrix which the customer has to use along with the user id and passwords, so that transitions are secure. The next level of security has been developed and termed as phone factor. It is a process of sending a code or OTP over another network, mostly on mobile or by email, so that the customer enters in into the system along with user id and password. These days phone factor has been made mandatory for banking transactions.

6. Privacy Concerns

ARRCA, a cyber-security firm which studies on 'data privacy' has examined about 330 Android and iOS apps, along with other websites and have essentially found that 71% of these applications can access exact locations and 62% have access to the camera. With respect to the children's apps, they said that 87% of the apps accessed at least one dangerous permission. By 'dangerous permission' it means permission like access to the camera, audio, microphone, contact list, messages, exact location and so on and so forth. "We started this study about 5 years ago where we tried to study Indian apps and websites, because we found that there are very few data points about India when it comes to privacy. We have always considered scrutinizing the children's apps since we've been witnessing people around us using apps or websites which are extremely concerning. So we started examining and diving deep into that.

This year while we studied about 300 + apps in the general and business category, we studied 29 children apps. Incidentally, there are a lot more of them targeting Indian children this year compared to the last, so we could study a larger sample size and some of those findings have been of concern. Alongside, we found certain other concerning statistics, for example, 57% of them allowed in-app purchase options, which essentially means that if one is a parent and he/she has a credit number or wallet fed in, which a child can actually go on clicking and purchasing items without any supervision of the adults. There are 53% of them which actually have in-app ads with no ads pertaining to children. 80% of them allowed access to files on storage, 30% to phone details meaning, they could check who was being called and what actions were happening on the phone. These are the points which rings bell of concern, but we don't yet have laws in place

to be able to curb this in India", Shivangi Nadkarni, Author, ARRCA report said. 84% of the apps don't have a notice addressing children under age 13. When these kinds of data are made available, it gets accessed from the phones and goes to the central servers that belong not just to the entity whose app it is, but it can also be accessible to an entire host of third parties which are present in the app, or the entity can further share with other players as well. Firstly, it is about data which is going out of the phones without the owner realizing it and secondly, one has no control over it once it goes out of one's own sight.

On being asked about the list of do's and don'ts that people should or shouldn't do and how cautious should the people be, "This is going to be a little contra to what the trends are, because there are more and more apps coming out with a lot of push towards people using it, and what's called 'the app economy'. But what I would suggest is the reduction of the number of apps one has access to .So, I always advice deleting of apps which aren't used in a while, in order to minimize exposure. Secondly, look for all the sensitive permissions available and turn them off wherever one can, especially the location, camera etc.", Shivangi Nadkarni further said.

"A lot of people who have seen our study have actually called us and said that after that they realized how much happens and they have gone on and actually turned off permissions. From all the apps that their children were using, deleted apps on their devices that kids use. I would say, go back and relook at all the permissions, for eg, an android or an IOS phones both tells us what dangerous permissions are being taken by which apps and kindly manually turn them off", she said. Regarding the predatory loan apps which have caused many suicides, there is an update, an advisory that has come in from RBI and in a statement they said that there had been reports about individuals and small businesses falling prey to a growing number of unauthorized digital lending platforms and mobile applications on promises of getting loans. They, basically, said that these reports also referred to an excessive rates of interest in additional hidden charges and hence, RBI cautioned people to be careful.

7. Conclusion

Though mobile banking is very convenient from the users perspective there are security concerns too. Government of India has launched its flagship scheme christened as Digital India and promoted mobile Banking. The union government has come up with an app called BHIM where financial transactions take place through mobile even without having any internet connectivity. Despite of all, there are no proper remedy is available under the IT Act 2020 (Amended) for hand held devices for any possible eventuality. Industry body's like CII and NASSCOM has been persuading Government of India to frame rules and remedies for any possible fallout of financial transactions over handheld devices i.e Mobile.

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