Comparative Study of Various Mobile Applications for Mobile Banking

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Abstract— **A mobile application software popularly known as mobile app is basically a software application that is made to run on any portable mobile devices like smartphones, ipads, tablets, etc. Majority of such portable devices are sold with pre-installed operating system, system software and many applications. The applications such as web browser, calendar, media player, email client etc. Usually the mobile users can add or remove the application from their phones. Majority of the mobile gadgets support Android, an open source operating systems. Application developers develop lot of mobile apps for the Android based mobile platforms and they are available in a pool of repository called as App Store. Users can download these apps from the app store and install in their mobile phones. With recent initiatives, mobile banking is taking over internet banking systems. Both the Government and Banks are providing variety of mobile applications that differ from types of customers and the types of transactions. This chapter provides the survey of different mobile apps with their features, security, ease of operation and the limitations.**

INTRODUCTION

A mobile application software popularly known as mobile app is basically a software application that is made to run on any portable mobile devices like smartphones, ipads, tablets, etc. Majority of such portable devices are sold with pre-installed operating system, system software and many applications. The applications such as web browser, calendar, media player, email client etc. Usually the mobile users can add or remove the application from their phones. Majority of the mobile gadgets support android, an open source operating system. Application developers develop lot of mobile apps for the android based mobile platforms and they are available in a pool of repository called as App Store. Users can download these apps from the App Store and install in their mobile phones. Mobile banking is basically a mobile service or an mobile application provided by the financial institutions like banks to its customers to carryout their financial transactions remotely via mobile devices connected by a mobile network or an internet provided on 24*7 basis. Typical transactions include account balance enquiry, bill payments, and fund transfer from one account to another. This mobile banking allows customers and banks to perform cashless transactions and paperless transactions. This makes people to move from paper money to plastic money to mobile money. It also serves a digital wallet for all the customers. With recent initiatives, mobile banking is taking over internet banking systems. Both the Government and Banks are providing variety of mobile applications that differ from types of customers and the types of transactions. This chapter provides the survey of different mobile apps with their features, security, ease of operation and the limitations.

HISTORY OF BANKING IN INDIA

The understanding of Indians in the field of money matters is quite clear from the very early times. There are many evidences from the history which reinforces this fact. A great example is the *Arthashastra* by Acharya Kautilya Chanakya in the Mauryan Era. There were many significant economic reforms in the Mughal era too especially in the reign of Mughal Emperor Akbar. India witnessed many economic rise and falls in her lifetime till now. Talking particularly about banking in Indian continent, it started in 18th century. The commencement of banking system in India emerged with the invention of Bank of Hindostan in Calcutta (now Kolkata) in 1770. The bank operated for almost 6 decades and then in1829-1832 it get liquidated. In 1935, Reserve Bank of ndia was formed. Since then many banks came into existence. Unfortunately some went unsuccessful and some merged into a single entity as they were not capable of existing alone. But still some banks were very successful and some continued to exist even till now. The oldest bank which still exists is the State Bank of India (SBI). SBI originated as Imperial Bank of India in 1921 and was renamed as State Bank of India in 1955. In 1921 Bank of Bengal (est. 1806), Bank of Bombay (est. 1840), Bank of Madras (est. 1843) merged to form Imperial Bank of India.

In the post independence phase there emerged the need of nationalization of banks because the poor masses and small scale industries were being exploited by money lenders.In view of this emerging need in 1949 Reserve Bank of India was nationalized. In the same year Banking Companies Act was passed, which later amended to be read as Banking Regulation Act,1949. This Act presented the legal framework for regulation of banking system in India. Following this, in 1969, 14 commercial banks were nationalized. After this in 1980, 6 more commercial banks were nationalized. In between in 1975 RRBs (Regional Rural Banks) were formed on recommendation of the M.Narsimhan Committee. The benefits that India reaped out of all these events were improved efficiency of Indian banking system, medium and Small scale industries started to grow. This further led to the overall growth of our economy. These events also provided deeper penetration of bank branches in rural areas. Then came the period in which india saw a remarkable growth in the banking development process. A major reason behind this was liberalization of economic policies. But despite of all this growth a large mass of people was left untouched by the banking service. To oversee this issue, in 1991, the Narsimhan Committee allowed the entry of private sector into the banking system. Accordingly, RBI gave license to 10 private entities. Again in 1998 RBI gave license to more private entities, of which only some survived and others diminished.

DIGITAL BANKING IN INDIA

GOVERNMENT BANKS

SERVICES PROVIDED BY SBI:

1) Enquiry services: This option includes Balance enquiry and Mini Statement.
Balance enquiry-shows the balance, the hold value and the un-cleared balance for the account selected by the user,
Mini statement- Shows the last five transactions of the account selected.
2) Register payee and transfer fund : This provides the facility of register payee and transfer fund to an account of SBI itself or to an account of another bank.
3) IMPS-Interbank Mobile Payment Service: IMPS Transfers Funds to Mobile Number, to account number and IMPS merchant payment. This facility provides fund transfer to accounts based on the Mobile numbers and an ID number called MMID (Mobile Money ID). Registration of payee is not required. The account can either be with State Bank of India or any other Bank. The customer should know the beneficiary's mobile number and MMID for transferring Funds through this option. The funds transfer happens instantaneously. Paying for goods /services purchased online using the 'PAY through IMPS option.
4) Demand account services: The facilities under Demat Account Services are :
Portfolio Value - The value of user holdings as on the previous day of trading.
DIS Booklet Request
Bill Statement - Statement of charges on the Demat account.
Last Five Transactions- Last five transactions in the Demat account.
Transaction Status Enquiry.
5) Requests :
Cheque Book request – Using this option the user can send a request for cheque book by filling the requirements like number of leaves, etc. The cheque book will be sent to the address recorded at the Bank if the branch is linked to LCPC.
6) Bill Pay : This option can be used to pay the utility bills using Mobile Banking Service.

Biller ID- For utilising the Bill pay services, the user have to know the biller's ID and the format required for registering the billers.

Get format- Every biller has to give the input in a certain format for the registration. After using this option the user will get a SMS with the format e.g. format for aviva is Policy No, Client ID.

Add Billers.

To Delete Billers.

View Bill- This option gives the details of the latest bill with Bill ID through SMS.

Pay Bill- This option is used when the user want to schedule the payment for a later date. If user selects "Pay Later" option, then the user will require to enter the date. After the transaction gets processed, the user will receive a message.

View Scheduled Bills- User will get a message with the details of the scheduled bills.

Cancel Scheduled Bill.

Mobile Top-up : for recharging different mobile numbers of different companies like Vodafone, airtel, MTNL, ETC.

7) DTH Recharge : for recharging Dish TV, Sun Direct, Digital TV, Videocon d2h, Tata Sky, Big TV connections.

8) M-Commerce : The facilities provided under this link are:

SBI Life : The user can make payment of the premium of SBI Life policies. (Up to Rs. 50,000. This is Available for Non-Pension policies only.

Merchant payment: The services available under this facility are:

a) Top up of Mobile Wallet

b) e-tag service - The customers of Gurgaon and Delhi can avail this facility for Delhi-Gurgaon toll.

c) Top up of BMRCL (Bangalore Metro Rail Corporation Limited) card.

9) Settings : User can use this option to change his mobile banking preferences. The features provided are:

Change MPIN

Manage Self Accounts- If user have more than one account that has been enabled for Mobile Banking Service, then he will have to link them though the Mobile Banking Application. This can be done after registering the accounts at the Branch.

   a) Linking Self Accounts

   b) Deleting linked accounts

   c) Change mobile number,

Forgot MPIN,

Manage Payees- This option is used to Delete Locally / Delete / View Details / Add Payee Locally / Fetch All Details of the Payee accounts already entered through the option 'Funds Transfer –Register Payee'.

Deleting a payee

Deregister - User can deregister from the service by visiting the home Branch of the account or over online SBI also, by using this deregister option.

Synchronize- By using this option the user can synchronize his mobile banking application by setting a key value. The user needs to synchronize his mobile when he gets a 904 response code. [1]

LIMITATIONS OF SBI MOBILE BANKING APPLICATION -

1.   This application sometimes does not work on certain Smartphones.

2.   Some problems are seen in Blinking Screen, not able to login, Please wait error and app closes.

3.   In this App there is no option to check Debit card or Cheque status.

4.   Some people complain that they are not able to find Login button, the solution is to just click on the options / menu button and it will be found there. [2]

SERVICES PROVIDED BY PNB:

1) Fund Transfer: This option provides two types of fund transfers. Fund transfers to other PNB account by way of self transfers and 3rd party transfers using NEFT and IMPS.

Transfer to own Accounts – To avail this service the user has to select required accounts, enter amount, transaction password and press Go.

Transfer to other accounts – To avail this service the user has to Enter From and To accounts, Brach Id, Amount, transaction password and press Options. User can check account name if required and then press Go.

2) Inter Bank Fund Transfer: This includes Offline Request (FD Opening, NEFT, RTGS) *FD Account Opening Request* - It is an offline request which is forwarded to branch's Relationship Manager. The details required are like Amount, time period, account number, PAN Number, auto renewal option, transaction password. After pressing Go, a reference number is generated and the user's request gets submitted.

NEFT Offline Request **-** It is also an offline request which is forwarded to branch's Relationship Manager. The required details are like, account number, IFSC code, beneficiary account name and number, beneficiary bank and branch name, amount and transaction password. After pressing Go, a reference number ID is generated and the request gets submitted.

RTGS Offline Request **-** It is an offline request which is forwarded to branch's Relationship Manager. The required details are like account number, IFSC code, beneficiary account name and number, beneficiary bank and branch name, amount and transaction password. On pressing Go, a reference number is generated and user's request gets submitted.

3) Utility Bill Payments Mobile & DTH Recharge: This option recharges different mobile numbers of different companies like Vodafone, airtel, MTNL, etc. & recharges different DTH services like Tata Sky, Big TV, Dish TV, Sun Direct, Digital TV, Videocon d2h connections.

4) View Account and Balance Details:

Account Balance Inquiry –By using this option the user can view his account balance. For this he has to select the required account and press Go.

Account Balance Screen – This option shows the Closing , Available and Effective Available Balances.

Account Details Inquiry – Using this the Nominee Details will be displayed.

Account Details Status - Account open date and account status is displayed.

View last 10 transactions.

Account Statement.

5) Cheque Related Services:

Cheque Status Inquiry - Enter the account number and cheque number and press Go. Status of the cheque will be displayed.

Request Cheque Book **-** Enter account number, number of leaves, address name and transaction password and press Go.

Stop payment of Cheque -

6) Mail to Relationship Manager: Any message can be sent to relationship manager of the branch by the user.

7) Synchronise data:

This option is used to synchronise account related information between clients application stored on handset and Banks mobile banking server.

8) Offline Service Requests

- Apply for various Bank products

9) Value Added Services

- Online Registration & Password Reset facility for retail Internet Banking users and Debit card holders.

- Scheduling transaction for future date.

- Recurring transactions (Automatic credit to RD account every month).

- Changing the Security Questions – The user can submit the request for changing security questions.

- Online Mini Statement.

- Changing Login and Transaction Password. [3], [4].

LIMITATIONS OF PNB MOBILE BANKING APPLICATION -

1. The registering task with the bank to use the mobile application is little hectic.
2. The compatible devices are very less.
3. Very less features offered.
4. The amount of automation provided with the app is at a very low level.
5. Error messages and alert box messages pop up frequently while using the application.
6. Frequent app crashes and screen freezing complaints. [5]

SERVICES PROVIDED BY BANK OF BARODA:

1) Balance Enquiry: Requires entry of four-digit mPIN, and displays the primary account balance on screen.

2) Mini Statement: It also requires the 4-digit m-PIN. It provides the mini statement showing last 8 transactions and last 3 transactions in case of CDMA phones.

3) Fund Transfer: It provides two kinds of fund transfer, within bank and other bank.

Within Bank –

a)   Mobile to Mobile – This facility transfer money from mobile to mobile by using beneficiary mobile number (to be a registered Baroda M-Connect customer) and m-Pin to complete beneficiary registration.
b)   Mobile to account – To use this facility the customer needs to select beneficiary registration option and enter the 14 digit a/c number of the beneficiary and the System will fetches his name for user confirmation. Then user enters the amount and m-PIN and get the confirmation message on screen.

Other Bank –

a)   NEFT (National Electronic Fund Transfer) – for transferring money to other bank account the user needs to use the NEFT beneficiary Registration option. He has to know the Beneficiary A/C in other Bank and other Bank IFSC code. Complete registration is done after entering the beneficiary's full name.
b)   IMPS (Immediate Payment Services) – For this user has to generate and remember MMID (Mobile Money Identifier – A unique 7 digit number). Other required details are m-PIN Beneficiary Nick Name, Beneficiary MMID, Beneficiary Mobile No, etc.
Other services provided are:
    i. De-register Beneficiary.
    ii. Quick IMPS – Make payment without Beneficiary Registration.
    iii. Cancel MMID – Cancel already generated MMID.

4) My Services: This option further includes the following services.

a)   *Mobile Recharge* – The user needs to enter details like mobile number (to be charged), the amount with which he/she wants to recharge the prepaid mobile number, etc. By entering m-Pin the transaction gets successful and a success message flashes on screen and inbox.
b)   *Other Services* - Branch Locator (Locate bank's branch using pin code or the location), ATM Locator (Locate bank's ATM using pin code or the location), Cheque Status (gives the status of required cheque) and Block Card (This Service is available for customers registered through ATM only).

5) My Setup: This includes the following services.

My Account - This feature displays all the linked accounts of user for mobile banking.

Select Transaction Account - Customer can change the transaction account for mobile banking.

Enable or Disable Transaction – this option Enables or disables the transactions in user application.

Save Application in Memory - Select "Yes" to save the messages received in the inbox.

Communication Mode - Communication mode can be set according to the customer's choice.

Email ID Configuration – An email can be configured for receiving mails while booking tickets.

WAP Option - Allows the user to access mobile banking using WAP

Re-Activate Application - This option is used when the customer deregisters and registers his mobile number in the ATM and uses existing application with old user login password then the application will prompt to change the application password.

Change Login Password – This feature is used to change the user login password.

Deregistration - By using this option the user can deregister his mobile banking services.

6) Inbox: Inbox can contain last five responses received. It can be transactions like mini statement, Balance enquiry, fund transfer received or fund transfer done, ticket booking, bill payment etc.

7) m-PIN Change: This option facilitates customer to change m-PIN as and when desired.

8) Feedback / Complaints: The customer can register complaints and give feedback about the services. [6]

<u>**PRIVATE BANKS**</u>

SERVICES PROVIDED BY ICICI BANK:

1) Accounts and Deposits: This option provides several Bank Account Services like Balance Enquiry, view last 10 transactions, Open a fixed Deposite, Open a Reccuring Deposite, Apply for PPF Account, Apply for Current Account, Open iWish, Stop Cheque Request, Cheque Status Enquiry, Cheque Book Request, Pay to Contacts.

2) Funds Transfer: This option transfers money from one account to another account. To do this user can choose either Select other bank account through IMPS or by selecting other bank account and then select cardless cash.

3) Prepaid and DTH Recharge: This service can be used for Recharging Prepaid Mobile, Data Card Recharge and DTH Recharge of different mobile and DTH companies as desired by the user.

4) Movie Ticketing: User can book Movie Tickets using this service.

5) Bill Pay: This service provides bill payment through different modes.

Bill Payment **–** Enables paying bill by selecting Payment Billers icon.

Bill Presentment **-** Enables paying bill by selecting Presentment Bills icon.

VISA Credit Card **-** Enables paying bill through Visa Credit Card.

Quick Pay **-** Enables paying bill through Quick Pay.

6) Cards and Loans: The Credit card and Loan Services provided are as follows.

Credit Card Services – The services provided under this option are Balance Details, Pay Credit Card Bill, Last Statement, Payment Due Details.

Loan Account - The services provided under this option are Income Tax Certificate, Interest Certificate, EMI Schedule, Loan Account Statement, Loan Outstanding.

7) Forex Services: The services provided are Request Forex or Travel Card, Request for Reload of your Travel Card, Track Order, Request a call back for Forex.

8) Investments and Insurance:

Insurance Policies – The services provided are View General Insurance Details, View Life Insurance Details.

Demat – The services provided are Holding Value Enquiry.

9) Services: The services provided under this option are Services Request Tracker, Card Blocking / Unblocking, Cheque Stop / Inquiry / Order Cheque Book, Track Your Deliverable, Add Payee, Add Biller, Standing Instructions, Cardless Cash Cancellation, Passbook, Link My Account, Refer a friend, Know Your IMPS/MMID, Refer a friend, Change Login PIN, Calculator, Chat, Contact Us, Locate Us, Feedback, Apply Now, Logout.

10) Offers: The two services provided under this option are iMobile Offers and Product Offers [7].

LIMITATIONS OF ICICI MOBILE BANKING APPLLICATION –

There are complaints regarding the deduction of Rs. 3 Balance whenever someone tries to login to the account through the Mobile App, the solution is that the user needs to make sure that the Mobile Data is On and the Mobile Application is able to access the mobile data. All mobile handsets are not able to launch the application [8].

SERVICES PROVIDED BY AXIS BANK:

Pre-login Features

1) Recharge:. The customer can recharge his contacts quickly without logging in. By simply picking up a mobile number from the mobile's contact list or by entering any mobile number he / she wish to recharge. Then enter the recharge amount, confirm with m-PIN and the recharge will be done.

*(This feature is available only for iPhone and Android devices)

2) *Near Me:* *This service helps locating user's nearest ATMs / Branches and Offers using GPS based feature (within 5 km radius). User can also search these by locations of his choice (Note: user will have to enable the Location Services under Privacy Settings on his phone for this feature).*

3) *Apply Now:* *Through this feature user can apply for any Axis Bank product (savings account, credit cards, and loans) easily by filling up simple form.*

4) *Bill Pay:* *The bill payment service in the pre-login section allows user easy access to selected billers. Bills can be paid instantly without registering the biller. Just enter the category, operator, unique reference ID and amount and the user's bill will be paid.*

Post-login Features

5) Accounts: The various services provided under this option are View your account balance, View Mini Statement (Last 10 transactions), View Detailed Account Statement (up to 90 days), Email Account Statement (up to 12 months), Personalize Account with Images and Nick Names.

6) Credit Cards: The various services provided under this option are View Outstanding Balance, View Unbilled Transactions, View Current Statement, View Past Statements, Pay Credit Card Bill Instantly, Schedule Credit Card Bill Payment, Convert transactions above 2500 to EMI.

7) Other Accounts: The various services provided under this option are View Loan Account Summary, View Fixed Deposit Summary, View Recurring Deposit Summary.

8) Transfer: The various services provided under this option are Adding Payees for fund transfer without logging in to Internet Banking.

To Own Linked Accounts – Transfer to Other Axis Bank Accounts using Account Number or Mobile Number.

To Other Bank Accounts - Transfer funds to Other Bank Accounts using NEFT, IMPS P2A, IMPS P2P.

To any merchant - Transfer to any merchant using P2M. User can personalize his payee list by adding images by clicking a picture with his phone's camera instantly, using a stored image from his gallery or by taking an image from Facebook.

Schedule Fund Transfer for any future date – The user can schedule the transfer for any future date and as and when desired.

*(The above payments are processed as per the payment cycles of NEFT and IMPS(instant). These payments are credited to the beneficiaries instantly and therefore, no stop payments can be accepted once the transfer has been successfully completed by the customer)

9) Recharge: The services provided under this option are add beneficiaries for Recharging Prepaid Mobile, Recharging DTH, Recharging Data Card.

10) Pay Bills: The various services provided under this option are Add Billers for regular bill presentment, View and Pay Bills or directly pay any amount, Schedule bills for a later date and view them on a calendar in the application, Pay Bills automatically by settling Auto-pay on for a certain threshold limit.

11) Favourites: The service provided under this option is that user can set his 10 frequently done transactions as favourites and Pay in one click.

12) Loyalty: The various services provided under this option are View Your Edge Loyalty Points, Learn how you can earn more points from all your Axis Bank relations, Instantly redeem Loyalty Points from the app.

13) App Settings: The various services provided under this option are Personalise functions to be displayed on the app home screen, Change user app m-PIN, Deregister from the app, Modify user's daily transaction limit for the app. The default transaction limit on Axis Mobile is Rs 5,00,000 per day. This limit can be modified to values between Rs 50,000 to Rs 10,00,000 to suit user needs.

*(This feature is available only for Windows Phone devices)

14) Credit Cards: The services provided under this option are Block card and give request for replacement and Check for Credit Limit Increase eligibility.

15) Debit Cards: The various services provided under this option are Modify ATM/Purchase Limits, Block card and give request for replacement, Temporarily switch your card on/off.

16) Services: The various services provided under this option are My Details helps you view details saved with the bank, Request for a new cheque book, View issued cheque status, Stop issues cheque, Register email id for e-statement, Update email id for e-statement, Check you MMID, Generate OTP for P2M IMPS transaction, View recent requests.

17) Feedback /Comments: The customer can Post his feedback and comments on to Axis Bank's Twitter handle or through email to the Bank.

18) Offers and charges: The user gets information regarding various latest offers and charges

(Applicable only to iPhone and Android devices)

19) Personalized features: The various personalized features provided are the user can customize the look and feel of the application like setting the favourite transactions, uploading photos of beneficiaries, Get reminders for the bill payments, Locating the nearest ATM, Branch and loan centers, Post your feedback and comments on to our Twitter Customer Support handle and lot more.

20) Other Key features: The other key features provided are Easy fund transfer, Customized offers, Simplified registration process using your Internet banking details or Debit card details [9, 10].

LIMITATIONS OFAXIX MOBILE BANKING APPLLICATION –

1. While doing a pre-paid recharge, the amount instantly gets deducted from the account but it usually results in a technical error and unsuccessful recharge.

2. It is difficult to add multiple accounts for the same user [11].

SERVICES PROVIDED BY KOTAK MAHINDRA BANK:

1) Banking Services: The various services provided under this option are:

- ° Check balance of your Savings & Current accounts.
- ° View past transactions
- ° Account Overview
- ° Open Term Deposit
- ° Open Recurring Deposit
- ° View Term & Recurring Deposits
- ° Add a beneficiary for fund transfer
- ° Modify a registered beneficiary
- ° Register Beneficiary from past one time transactions
- ° Transfer funds without registering beneficiary & through One Time transfer
- ° Repeat past transactions made through One Time Transfer
- ° Search registered beneficiary
- ° Make NEFT / RTGS fund transfer even after the cut-off time
- ° Kotak to Kotak Fund Transfer
- ° Fund Transfer between own accounts
- ° IMPS Fund Transfer using Account No / IFSC (P2A)
- ° IMPS Fund Transfer using Mobile No / MMID (P2P)

° IMPS Fund Transfer for Merchant Transactions (P2M)
° Transfer money by using beneficiary's mobile number with Message Money
° Request for account statement
° Schedule Fund Transfer post cut off time
° View MMID
° Modify MMID
° Generate OTP for IMPS P2M (Merchant Transactions)
° Term Deposit Calculator
° View Term Deposit Rates
° View Scheduled Payments
° Select customers can apply for pre-approved personal loan

2) Bill Pay & Recharge: The various services provided under this option are:

° Register for BillPay using Add biller
° Pay due bills
° Make instant payments to your registered billers
° Set auto pay to make payment automatically using Manage AutoPay option
° Mobile recharge
° Browse mobile tariff special plans
° Repeat past mobile recharges
° DTH Recharge
° Repeat past DTH Recharges

3) Credit Card: The various services provided under this option are:

° View summary of your Credit Cards
° Pay your Credit Card bills
° View past billed statements
° View unbilled transactions
° Balance Transfer
° Convert transactions to EMI
° Request Add on Card
° Set-up auto debit for bill payment
° Report Lost / Damaged Card
° Regenerate Credit Card PIN
° Register for e-statement of your Credit Card
° Select customers can upgrade to a new Credit Card
° Select customers can increase credit limit of their credit card

4) Investments: The various services provided under this option are:

° Purchase Mutual Funds (SIP / One Time)
° Redeem Mutual Funds
° Keep a track of your investments
° Get the latest NAV report
° Check status of your transaction requests
° Cancel your transaction request

5) mStore: The various services provided under this option are:

° Book domestic & international flight tickets
° View flight booking history
° Cancel flight booking
° Make hotel reservations
° View hotel reservation history
° Book bus travel

- ° View bus booking history
- ° Shop on Flipkart through e-commerce
- ° Cancel bus/hotel booking
- ° Book Movie Tickets at PVR
- ° Pay to offline Merchants via mobilePay
- ° Buy Adventure Sports gear or book tours
- ° Subscribe to magazines

*(This feature is currently available only on Android & iPhones)

6) Service Requests: The various services provided under this option are:

- ° Request for cheque book
- ° Status enquiry of your cheque
- ° Stop cheque request
- ° Switch primary account of your Debit Card
- ° Report loss of card
- ° Instantly Activate/Deactivate your Debit Card
- ° Set / Remove international usage facility for your card
- ° Instantly regenerate Debit Card PIN

7) Demat: The various services provided under this option are:

- ° Add ASBA beneficiary
- ° View and Edit ASBA beneficiary
- ° Apply for ASBA through mobile
- ° View past ASBA applications
- ° Check your account overview
- ° Check your account activity
- ° View your holding details
- ° Request Client Master List (CML)
- ° Request Pledge Form
- ° Request Nomination Form
- ° Request Statement of Transaction
- ° Request Statement of Holding
- ° Request Statement of Billing

*(This feature is currently available only on Android & iPhones)

8) My Kotak: The various services provided under this option are:

- ° Select widgets to personalise your home page and get all the information in one place
- ° Option to set MPIN Off and view certain information without logging in
- ° View alerts & notifications
- ° Get One View of all accounts
- ° View social and transaction points in your JiFi account

9) General: The various services provided under this option are:

- ° Change MPIN (Mobile Banking PIN)
- ° Add / Delete CRN
- ° Customer Contact Centre numbers and Email under Contact Us
- ° Set a profile picture to personalize your app
- ° Links to follow Kotak Mahindra Bank on social media sites
- ° Frequently asked questions
- ° Locate nearby branches and ATMs
- ° Locate branches
- ° ATMs by city and Pincode
- ° Use MPIN while paying through Payment Gateway for online purchases [12]

LIMITATIONS OF KOTAK MAHINDRA MOBILE BANKING APPLICATION -

1.   Has shown signs of being incompatible of few of the Android devices.

2.   Few issues of the app crashing have also been reported [13].

UNIFIED PAYMENT INTERFACE (UPI):

Unified Payment Interface as its name suggests, it is a system that merges several bank accounts into a single mobile application. Any participating bank will be linked to the UPI system and hence all its bank accounts will also be linked. It provides several banking features in a single mobile application. Suppose, someone has an account in a bank who is a participant in UPI and wants to transfer money to a account in some other bank. If the receiver bank is also a participant of UPI then it is possible to establish a connection with that account and transfer the money. This is possible only through this unified payment interface. In fact, not only money transfer but any kind of banking task can be performed using this system. In other words, this system provides a peer-to-peer connection as and when required.

National Payments Corporation of India (NPCI) is a RBI regulated corporation which was established in 2008. Its main objective is to ensure the availability of e-payments for all. On 11th April 2016, NPCI conducted a pilot launch of UPI application with 21 member banks. Banks supporting UPI started to upload their UPI enabled applications on Google play Store as well as on Apple App Store from 25th august 2016 onwards.

 Following are the features that make this system unique:

- Round the clock 24*7 and 365 days service for immediate money transfer through mobile.
- Single mobile application for managing and accessing several bank accounts.
- A very strong feature of single click payment.
- Virtual address of the customer for push (sending money using virtual address) and pull (Requesting money) operations. This provides security to the customer who is not required to enter details such as Account Number, Card Number, IFSC Code etc.
- Best solution to cash on delivery fuss like running to an ATM.
- Merchant Payment using Single Application.
- Scheduling of push and pull payments for several purposes as and when required.
- Utility Bill Payments.
- Over the counter payment.
- Barcode (scan and pay) based payments.
- Donations and Collections.
- Registering a Complaint from mobile application directly.
- The above features make the UPI system unique and powerful.

Benefits for Banks: There are many benefits that the banks can get by using UPI system such as single click two factor authentication. The other important benefit is Universal application for transactions, a single mobile application can be used to operate various bank accounts. In this case the bank is released by the overhead of keeping track of many applications. It also amplify the potential gains of the existing infrastructure. It provides a safer, secured and innovative payment platform with single or unique identifier for each customer. Another crucial benefit is harmonious merchant transactions.

Benefits for End Customers: Not only the banks but the end customers are also benefited from this new transaction system. The advantages are such as round the clock availability of services, Single application for accessing different bank accounts. One does not require having one application for each bank. The benefit regarding security of the customer is that the use of virtual ID. The use of virtual ID is more secure as no credentials like Account Number, Card Number, etc. are required to be entered by the customer. This system is easy to use and understand by any new customer. It enables single click authentication and rising of complaint directly from the mobile application.

Benefits For Merchants: The benefits for merchants include seamless fund collection from customers having unique identifiers. No risk of storing customer's virtual address like in Card numbers. Taping customers not having credit or debit cards. It is suitable for transactions through e-commerce and m-commerce. It very well resolves the problem of cash on delivery problem as it provides In-App Payments (IAP). [14]

BHIM (BHARAT INTERFACE FOR MONEY – BHIM APP):

BHIM is a mobile application developed by National Payments Corporation of India (NPCI). The Application is named after Dr. Bhim Rao Ambedkar. It is based on the UPI system and was launched at a Digi Dhan programme in New Delhi on 30th December 2016. It is intended to alleviate the process of m-banking and e-banking directly through banks. The app was launched in view of the 500 and 1000 Indian banknote demonetization and moving towards cashless transactions. It is a step towards making India a cashless economy. This app is an initiative to provide safe, reliable and fast banking services to everyone. Since this app is a government initiative therefore it maybe more reliable and secure than other private banking mobile applications.

Features of BHIM Application:

1) View Account Balance.
2) View Account Details.
3) Fund Transfer – Using this app the user can transfer money to any bank account anytime. It is a 24*7 open service.
4) The user can transfer money by only knowing the mobile number of the beneficiary, there is no need to know the account number of the payee.
5) This app does not require internet connection to operate.
6) This application also operates well on feature phone.
7) The user can access all the UPI enabled bank's mobile banking service using this single app.
8) The user is not required to register payee beforehand.
9) There is no need to activate internet banking to use BHIM app.
10) There is a special facility 'scan and pay' which makes the transfer of payment fast, specially between customers and merchants.
11) User can directly call the respective bank in case of any issue. This is possible because it has all the bank customer care numbers saved.
12) User can authenticate the transaction using his / her fingerprints.

Features added in the second update:

1) App available in nine different languages.
2) Money transfer using Aadhaar number, if the aadhaar number is linked with the beneficiary's bank account.
3) Block a person who sends spam.
4) User can report any issue through app itself.
5) Transactions can be made across platforms as the app is also available for IOS devices.

THE LIMITATIONS –

- When the application launched, there is a Verifying the number step. As new users sign up to the service are getting a screen that says device binding failed. The device binding occurs only when the app is launched, and it is not needed to go through the procedure repeatedly. However, the user is required to bind the device if the application is uninstalled and re-installed.
- There are some features which only show in the application and they are not functional.
- Some problems are bank specific. IDBI bank requires a new MPIN to be generated every time the bank account is changed. Bank of Baroda users are facing errors when the application tries to fetch the details of the accounts.
- There are problems where the transaction is not going through. The beneficiary has to have a bank account linked to a mobile number.
- Some users are facing problems making transactions even at odd hours.
- This app restricts single transactions to Rs 10,000, and has a 24 hour limit of Rs 20,000.
- The application allows users to link to only one bank account at a time. The account can be changed at any time, but it would be convenient to have a list of commonly used accounts, that allows for quick swapping. Designating one of the bank accounts as the default account, can be implemented in a manner similar to the UPI interface, where one of several addresses can be designated as the default address [15].

CONCLUSION

Mobile Banking is basically a mobile service or an mobile application provided by the financial institutions like Banks to its customers to carryout their financial transactions remotely via mobile devices connected by a mobile network or an internet provided on 24*7 basis. Typical transactions include account balance enquiry, bill payments, and fund transfer from one account to another. This Mobile Banking allows customers and banks to perform cashless transactions and paperless transactions. This makes people to move from paper money to plastic money to mobile money. It also serves a digital wallet for all the customers.

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