

# A Comparative Analysis Study on Mobile Banking and Mobile Wallet Services in India

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## Abstract

Banking sectors are fully focused on Mobile Banking and Mobile wallets and engage in electronic device and apps initiatives by reducing physical activities in banking operations. Mobile Banking and Mobile Wallet practices perceived various electronic products and services to measures supporting private companies, public and private banking sector procedures to electronic management systems and reduction of fuel and cost proper utilization. They are the best performance and efficiency of Mobile Banking and Mobile Wallet in the key of elements in the financial system. The most important mobile banking services have been mentioned through Account Access, Balance Enquiry, E-Passbook, Account Statement, Fund Transfer, Bill Payment, Branch Locator, ATM Locator and Requests, etc. Mobile wallet's procedure is to open a zero account to submit KYC for address proof rather than submit a mobile number—payment using a one-time password, pin code, or bar code. The funds are limited to transactions only. Most private companies, public and private sector banks are; Airtel Money, Axis Bank Lime, Citrus Pay, Freecharge, ICICI Pockets, Itz Cash, Jio Money, Mobikwik, Oxigen, mRuppee, Paytm, SBI Buddy, SpeedPay, Vodafone M-Pesa, etc. The awareness of mobile banking and mobile wallet products and services is ready for all people using modern banking activities. Mobile banking and mobile wallets reduce physical activities and use information technology devices for proper handling of banking websites and private company mobile apps etc. This relative study of Mobile Banking and Mobile Wallet shows that there are significant differences in the transactions of Mobile Banking and Mobile Wallet volume and value. Analysis simple percentages have been used to analyze and interpret the data on Mobile Banking and Mobile Wallet volume and value made in India during the study period of 2012-13 to 2018-19 (7 years).

**Keywords:** Online banking, Mobile banking, Mobile wallets and mobile applications

## Introduction

Mobile banking is a service provided by a banking sector or other financial transaction institution that allows its customer's services to perform financial transactions remotely utilizing a mobile device such as a PC or laptop, smartphone or tablet. This can be indicating safety transferring money and making a deposit or checking their correct balance. Mobile wallets, as regards in the extended device as mobile banking, enable users to securely store their individual financial information through cards are debit, credit, prepaid, gift, loyalty, vouchers and more in a prepared form on their Smartphone.

In different ways, the related online or internet banking software is usually called an application (apps) provided by the financial transaction institution for this reason. The most benefits of Mobile banking are usually available 24/7 that's creating time savings and reduces human efforts. Smartphone or tablet is dependent on the availability of an online, internet, or data connection to the mobile device for SIM card or Modem. Transactions through mobile banking depend on the characteristics of the mobile banking apps provided and typically comprise obtaining account balances and checking the latest transactions statement, electronic bill payments, remote check deposits, People to People (P2P) payments, and money transfers between one person to another's personal accounts is easily possible. Banking customers using mobile banking apps increase ease of use, speed, flexibility and also get a better security system because it integrates with the user creating mobile device security mechanisms. The most important mobile banking differs from mobile payments to engage a mobile device to pay for goods or services.

### Objectives of the Paper

The following are the objectives of the present paper:

- To examine the Mobile Banking & Wallet Services
- To analyze the Mobile Banking & Wallet Transaction and services in India.

### Hypothesis

The following hypothesis is framed and tested with regression analysis on mobile banking and mobile wallet.

$H_0$ : There is no significant association between mobile banking and mobile wallet volume.

$H_0$ : There is no significant association between mobile banking and mobile wallet value.

### Research Methodology

The present paper is descriptive and is based on secondary data only. The data were collected from RBI bulletin annual report and other related publications. The literature was collected from authorized national and international published journals and related websites. A study period of

seven years has been taken. The period of study cover (2012-13 to 2018-19); analysis for the chart, trend line, simple percentage and linear regression has been used to analyze this data.

### Literature Review

Archana Sharma. (2011) said that the individuality of mobile banking users could be established to be significant determinants of their adoption decision. Banks have received wireless and mobile banking technology into their board-room to recommend to their customers the liberty to pay bills, planning and various marketing goods purchasing virtual relationships. The consumer adoption of a new electronic payment transaction service in mobile banking and the factors influencing the acceptance of mobile banking services in India.

Vinod Kumar Gupta., Renu Bagoria., & Neha Bagoria. (2013) examined that mobile banking facility removes the gap and time limits from banking actions such as view account balances or transferring money from one personal account to another and saving some for banking activities. The main challenges are Positive and Negative factors in influencing the acceptance of SMS-based mobile banking services. Another is the focus on the adoption of mobile banking services by customers and the utilization of mobile banking in India. Finally they are a different technology utilizing easy access mobile banking services. The implications of the outcome provide realistic suggestions to the banking districts' banking industries and instructions for further works.

Vijayashri Gurme., & Pradnya Meshram. (2017) observed that mobile banking initiate the utilize smartphones or other electronic devices to operate net banking transactions on note, computer, laptop or any other device, to transfer money from one personal account to another person account, electricity & gas bill payments, recharge mobile, net banking shopping, etc. Mobile banking is available 24\*7 for customers for financial transactions in the current era of technology to help the banking industry rise at an advanced speed. The majority use is the growth of the economy in India.

Praiseye, T., & Florence John. (2018) said that mobile phones are used everywhere in this current

era. The new technological progress has been made all likely under one touch. By using the apps installed in the smartphone, if users can pay any bills or transact their money to anyone at their convenience for a one-time password or bar code. The variables are factors that affect consumers' preferences towards the mobile wallet.

Vaishnavi, S., Shreyas, Sumesh.Menon., Vishnu Priya, B., & Dhanalakshmi, C. (2019). Said that banking systems are measured as the bank bone of any implementations or developing our economy. Banks are the financial institution which recognizes deposits from people with additional funds and through them to the personalities who need money. Traditional banking refers to available banks to deposit funds, withdraw funds, or relate for loans. Mobile wallet, also known as m-wallet, allows the user to make transactions from any place are any ware. These mobile wallets will be linked to several banks anywhere the customer holds an account.

### Mobile Banking Services

Banking Sectors offer Mobile Banking Services to their customers in the techniques programmed here:

- Wireless Application Protocol (WAP)
- SMS (also known as SMS Banking)
- Unstructured Supplementary Service Data (USSD)

### Mobile Banking over WAP

Banking customers can download the mobile application (M-apps) of the concerned bank on their smartphones and then utilize it to benefit various services provided by the bank. They require registering for mobile banking individually and delivering their login qualifications to use M-apps, basically known as m-apps. Most banks offer mobile apps for iOS and Android devices. The customers can select to download more apps offered by the bank to benefit mobile banking services. The major mobile banking services have been mentioned here: Account Access, Balance Enquiry, E-Passbook, Account Statement, Fund Transfer, Bill Payment, Branch Locator, ATM Locator and Requests, etc.

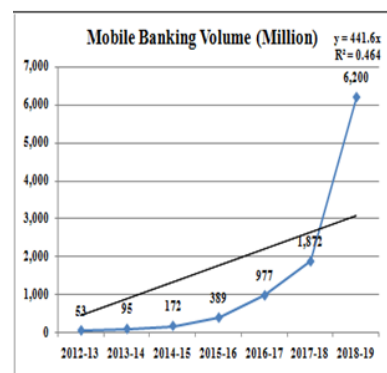
### Mobile Banking over SMS

Most banks offer mobile banking services on SMS. Banks have a specific phone number registered and an SMS format that the customers require to pursue to benefit from this service. For example, to ensure the available balance in their account, they may have to send an SMS in the format: (Avail Balance digitally is the last 4 digits of the account number).

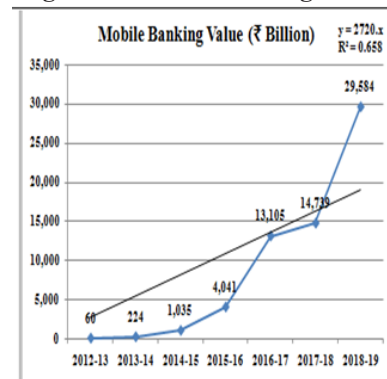
### Mobile Banking over USSD

Banks offer mobile banking on USSD service to the public on Smartphones or devices that have access to the internet. Mobile banking through the \*99#, USSD based mobile banking can be used for fund transfers, checking account balance, generating bank statements, among other uses.

**Figure 1: Mobile Banking Volume**



**Figure 2: Mobile Banking Value**



Source: RBI Bulletin 2012-13 to 2018-19.

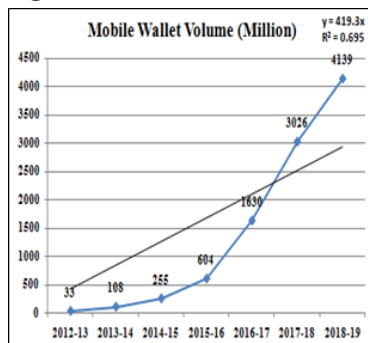
The measures of Trend Line Graphs on Progress of Mobile Banking in India are presented

below the Mobile Banking Volume (Million) positive trend; R-squared value is 0.464. So, it has a correct fit of the trend line nearest to 50% and Mobile Banking Value (Billion) that is a positive trend; R-squared value is 0.658. So, it has a correct fit of the trend line nearest to 70%.

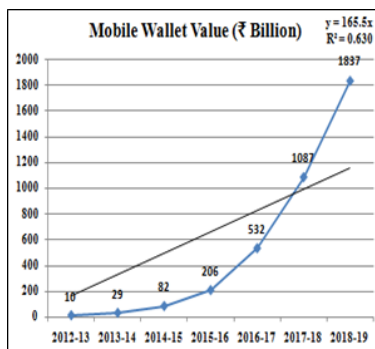
### Mobile Wallet Services

A Mobile Wallet is moving cash digitally. People utilize mobile apps debit and credit cards to transfer money online on pc, smartphones, tables, etc. Mobile wallet's procedure is to open a zero account to submit KYC for address proof rather than submit a mobile number—payment using one-time password, pin code or bar code. The funds are limited to transactions only. Most private companies, public and private sector banks are; Airtel Money, Axis Bank Lime, Citrus Pay, Freecharge, ICICI Pockets, Itz Cash, Jio Money, Mobikwik, Oxigen, mRuppee, Paytm, SBI Buddy, SpeedPay, Vodafone M-Pesa, etc.

**Figure 3: Mobile Wallet Volume**



**Figure 4: Mobile Wallet Value**



Source: RBI Bulletin 2012-13 to 2018-19.

The measures of Trend Line Graphs on Progress of Mobile Wallet in India are presented below the Mobile Wallet Volume (Million) that is a positive trend; R-squared value is 0.695. So, it has a correct fit of the trend line nearest to 70% and Mobile Wallet Value (Billion) that is a positive trend; R-squared value is 0.630. So, it has a correct fit of the trend line nearest to 60%.

**Table 1: Descriptive Statistics for Mobile Banking Volume & Value and Mobile Wallet Volume & Value**

Items	Mobile Banking Volume (Million)	Mobile Banking Value (Billion)	Mobile Wallet Volume (Million)	Mobile Wallet Value (Billion)
Mean	1394.12	8969.67	1399.20	540.35
Std. Deviation	2217.04	10942.63	1616.84	688.42
CV	159.03	122.00	115.55	127.40
Range	6147.02	29524.17	4106.58	1826.54
Minimum	53.30	59.90	32.70	10.01
Maximum	6200.32	29584.07	4139.28	1836.55
Kurtosis	5.09	1.07	-0.50	1.07
Skewness	2.22	1.25	1.00	1.38
CGR	0.017	0.005	0.016	0.011

It is clear from table 1 that the volume and value of transactions made through mobile banking. It is known that mobile banking volume (million values) is 1394.12 and is 2217.04. The coefficient of variation (CV) value is 159.03. If the kurtosis ranges from 0 to 3, there is a normal distribution. So, there is a normal distribution. As the Skewness value is 2.22, between -1 or greater than 1, the distribution is highly skewed. There is correct distribution and compound growth rate (CGR) value is 0.017. The mobile banking value (Billion values) is 8969.67 and is 10942.63. The coefficient of variation (CV) value is 122. If the kurtosis ranges from 0 to 3, there is a normal distribution. So, there is a normal distribution. As the Skewness value is 1.25, which is between -1 or greater than 1, the distribution is highly skewed; There is a correct distribution and the compound growth rate (CGR) value is 0.005. Therefore, mobile banking transactions are increasing the volume (Million) and values (Billion) well for future electronic transactions.

Mobile wallet volume (million values) is 1399.20 and is 1616.84. The coefficient of variation (CV) value is 115.55. If the kurtosis ranges from 0 to 3, there is a normal distribution. But the value is -0.50. So, there is no normal distribution. As the Skewness value is 1.00, between -1 or greater than 1, the distribution is highly skewed. There is a correct distribution and the compound growth rate (CGR) value is 0.016. The mobile wallet value ( Billion values) is 540.35 and is 688.42. The coefficient of variation (CV) value is 127.40. If the kurtosis ranges from 0 to 3, there is a normal distribution. So, there is a normal distribution. As the Skewness value is 1.38,

which is between -1 or greater than 1, the distribution is highly skewed; There is a correct distribution and the compound growth rate (CGR) value is 0.011. Therefore, mobile wallet transactions are increasing the volume (Million) and values ( Billion) well for future moving on advanced electronic transactions.

**A Comparative Study for Mobile Banking and Mobile Wallet based on Linear Regression Analysis**

The mobile banking and mobile wallet data was a comparative study to be made hypothesis-based.

**Table 2: ANOVA & Coefficients analysis for Mobile Banking Volume and Mobile Wallet Volume**

ANOVA <sup>a</sup>							
Model	Sum of Squares	df	Mean Square	F	Sig.	R	R Square
Regression	12971521	1	12971521	23.901	0.005 <sup>b</sup>	0.909 <sup>a</sup>	0.827
Residual	2713543	5	542709				
Total	15685065	6					
a. Dependent Variable: Mobile Wallet Volume (Million)							
b. Predictors: (Constant), Mobile Banking Volume (Million)							
Coefficients <sup>a</sup>							
Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	
	B	Std. Error	Beta				
(Constant)	474.619	336.594	-		1.410	0.218	
Mobile Banking Volume (Million)	0.663	0.136	0.909		4.889	0.005	
a Dependent Variable: Mobile Wallet Volume (Million)							

It is analyzed in Table 2.1 that the model F value (23.901) is significant since its p-value (0.005) is less than 0.005 (1%), which is a significant fit to the data. This linear regression model, with mobile banking and mobile wallet volume (Million), now has an R

squared value of 0.827 of the variation in 82.7%. The regression equation is  $Y = 474.619 + 0.663X1$ . The value of significance is 1% level. So, the null hypothesis is rejected.

**Table 3: ANOVA & Coefficients analysis for Mobile Banking Value and Mobile Wallet Value**

ANOVA <sup>a</sup>							
Model	Sum of Squares	df	Mean Square	F	Sig.	R	R Square
Regression	2734433	1	2734433	125.279	0.000 <sup>b</sup>	0.981 <sup>a</sup>	0.962
Residual	109133	5	21827				
Total	2843567	6					
a. Dependent Variable: Mobile Wallet Value ( Billion)							
b. Predictors: (Constant), Mobile Banking Value ( Billion)							

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-13.015	74.581	-	-0.175	0.868
Mobile Banking Volume (Million)	0.062	0.006	0.981	11.193	0.000

a Dependent Variable: Mobile Wallet Value (₹ Billion)

It is analyzed in table 2.2 that the model F value (125.279) is significant since its p-value (0.000) is less than 0.000 (1%), which is a significant fit to the data. This linear regression model, with mobile banking and mobile wallet value, now has an R squared value of 0.962 of the variation in 96.2%. The regression equation is  $Y = -13.015 + 0.062X_1$ . The value of significance is 1% level. So, the null hypothesis is rejected.

### Conclusion

Mobile banking and mobile wallet are very vital for progress in banking sector activities in India. The mobile banking initiatives of new concepts to adopt in Account Access, Balance Enquiry, E-Passbook, Account Statement, Fund Transfer, Bill Payment, Branch Locator, ATM Locator and Requests, etc. At the same time, mobile wallet is adopted to develop private companies, public and private sector banks they are; Airtel Money, Axis Bank Lime, Citrus Pay, Freecharge, ICICI Pockets, Itz Cash, Jio Money, Mobikwik, Oxigen, mRuppee, Paytm, SBI Buddy, SpeedPay, Vodafone M-Pesa, etc. The awareness of mobile banking and mobile wallet products and services is ready for all people using modern banking activities. Mobile banking and mobile wallets reduce physical activities and use information technology devices for proper handling of banking websites and private company mobile apps etc.

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