TEST Engineering & Management

May – June 2020
ISSN: 0193-4120 Page No. 2090 - 2095

Analysis of Value & Volume of Real Time Gross Settement & Card based Transactions in India

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Article Info
Volume 83
Page Number: 2090 - 2095
Publication Issue:
May - June 2020

Article History
***Article Received**: 11August 2019*
***Revised**: 18November 2019*
***Accepted**: 23January 2020*
***Publication**: 10 May2020*

Abstract:

Indian financial sector has witnessed a tremendous development technologically in this decade. Financial technology has evidently improved the ways of making transaction for purchases and payments online. This study highlights RTGS and card based payments and analyses the trend with respect to change in volume(number of users of RTGS & debit-credit card) and value(amount of transaction) in the past ten years.

***Keywords:** FinTech, financial services, RTGS, debit and credit card, online transactions, payments and payment banks.*

I. INTRODUCTION

Finance is the backbone of any economy, a good financial system provides for the smooth functioning of the economy. The three contributors to Indian economy are the agriculture sector, manufacturing sector and service sector. The service sector contributed 53.66% to GDP in 2018-19, growth in the services sector in the year 2018-19 was 7.5%, 1st quartile growth in the services sector was 7.4 per cent and it grew by 7.7 per cent in the 3rd quartile. The services sector such as hotel industry and restaurants, transportation, financing and banking services, insurance, entertainment, social and personal care service. Financial and banking services are essential for every individual as well as business units. Banks play a very important role in every individual's life. The major functions done by banks are collecting deposits, lending or advancing money and some secondary services like providing locker facility, overdraft facility, discounting bills, providing agency facilities like honouring cheques, transferring money, providing trade finance, foreign exchange etc. Modern banking of India has boosted IT firms and has driven initiatives to include the excluded population under the umbrella of mainstream banking, create and provide new services to fit the gap of exclusion and to aware the excluded on financial products and services to help them to take informed financial decisions [1]. Due to improvement in technology, banks also improved their services by providing ATM (Automatic Teller Machine), transferring funds through online banking and mobile banking. Raising innovation in the financial sector has changed the shape of financial services. Now people are moving from traditional banking to digital banking, they want banking service, not just physical banks. This type of consumer preference for the banking sector has raised a new wave in the financial services called "FinTech" (Financial technological) firms. These firms are utilizing technological innovation more than banks do and have acted quicker than banks in the process of digitizing the financial services. Now they are disrupting the banks with their innovative ideas and business models. In total from south Asia, India contributes the most appropriate expected return on investment made on financial technological projects at 29% versus a global average of 20%. Globally the investment in the FinTech sector has doubled, $3.7 billion in 2019 from $ 1.9 billion in 2018 according to Accenture. If we observe the trend in the investment in FinTech from 2009 to 2014 the investments were $1.8, $1.9, $2.2, $2.5, $4.05, and $12.21 billion respectively;

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we can certainly say that there is a boom in this industry post demonetisation. In the Indian context, there are over 750 FinTech firms of which 174 firms were launched in 2016. This movement is inspired by many activities like rising usage of smartphones, digitization in financial services, innovation in finance through information and technology, growing e-commerce, rising start-ups and government programs like “Start-up India” and “Make in India”.

II. Objective Of The Study

To understand the recent development related to financial services in India.

To undertake empirical study on the role of FinTech on financial services provided by financial institutions of India.

III. Research Methodology

The secondary data has been collected from website of the RBI, other websites and annual reports. Many e-libraries of various universities were visited to gather data.

IV. Payment System Indicators

The secondary data has been collected from website of the RBI, other websites and annual reports. Many e-libraries of various universities were visited to gather data.

A. *Digital Bharath*

The rising smartphone penetration and the usage of internet helped the consumer to use the new services like E-commerce, Online ticket booking, Money transfer and Online payments. Usage of these new services are main contributors of digital payments. India currently has a population of 1.3 billion, in this 1000 million people have mobile phones, out of that, around 300 million people use the internet. Out of one billion smart mobile phone subscriptions, 240 million users of smartphone. Tremendous increase in smartphone led India to rank world’s 2nd most buyer of smartphones, which surpassed US recently. The introduction of 4G services has increased the smartphone penetration. The banking system in India is going digital.

B. *The Favourable Regulations*

The government is providing a conducive environment for digital payments. However, the favourable regulations are just beginning and more and more steps should be taken to improve the digital payments. Some of the favourable regulations include, KYC(know your customer) relaxation for small transactions, i.e., transactions below 10,000 rupees using prepaid instruments. Recently because of demonetization effect the transaction limit in PPIs increased to ₹20,000. This provides for easy and faster transactions. Aadhar linked accounts making KYC norms easier. The Pradhan Mantri Jan Dhan Yojana (PMJDY) which ensures the access to financial services like availability of savings bank account, access to credit, remittances facility, insurance and pension. According to data given by PMJDY government website around 25.68 crores accounts are opened, with around 72834.72 crores of rupees deposited. The initiative taken by government called JAM (Jan Dhan, Aadhar, Mobile) integrates the bank account, people and technology, which provides for easy transfer of funds. The Unified Payments Interface (UPI) launched by National Payments Corporation of India (NPCI) provides the platform for easy payments, be it banks or payments banks. Bharath Bill Payments System (BBPS) is owned and operated by NPCI provides the platform for easy payments of the bills.

V. The Emergent Payment Services Providers (PSP): The PSPs can be classified as

A. *Bank led PSPs*

Earlier banks provided only mobile banking solutions but due to tough competition from the Fintech companies made them enter E-wallet services. E-wallets provide more seamless, quicker and flexible transactions than mobile banking. Even customers prefer E-Wallets than Mobile banking. Some of the E-wallets provided by banks include Buddy by State Bank of India, Pockets introduced by ICICI Bank, Lime of Axis Bank, Payzapp app of HDFC Bank etc.

B. *Telecommunication led PSPs*

Even the telecom service providers also entered the wallet market. These Telco led PSPs are mainly for mobile recharge and remittances. Some of the examples include Airtel Money, M-Pesa introduced by Vodafone, Idea Money of Idea, mRupee of TATA and most recent Jio Money app introduced by Reliance.

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C. *Prepaid Payments Instruments (PPI)*

From 2009 to 31/10/2016 RBI had issued around 77 PPI licences. The PPIs are of three types, m-wallet, PPI cards and Paper Vouchers. The m-wallets include Paytm, Mobikwik, Citrus, Oxizen, Freecharge etc. Which are majorly used for paying bills, online transfer, online ticket booking, Point of Sale payments etc. The prepaid cards are very similar to mobile prepaid cards, which provides the subject of pay now and use at convenience. The PPI cards are issued by many of the banks. Many of the tech firms are acquiring these PPI's, be it m-wallets or PPI cards. For e.g, Snapdeal's acquisition of Freecharge, Flipkart's FxMart now offers Flipkart money with wallet, Ola and Uber have their own wallets, Bookmyshow has it's online wallet to provide online payment services to their users.

D. *Payment Banks*

Payments banks are the special banks which undertake certain banking activities. These banks should differentiate from normal banks, and should use the name "payments bank". Should accept a restricted deposit of 1 lakh rupees. Cannot issue loans and credit cards. Can issue Debit cards, online banking and mobile banking. Airtel is one of the first companies to launch payments bank in India. Till now RBI has given licences to 11 firms, in that, 3 firms have already surrendered their licences. The 11 firms are: Nuvo of Aditya Birla, M-commerce services of Airtel, Department of Posts launched it's India Post Mobile Banking, PayTech app by FINO, Jio Money of Reliance, Paytm of Vijay Shekhar Sharma and M-Pesa with many others offering online payment platforms to businesses and individuals. The 3 firms which withdrew their ideas to start payment banks are; Cholamandalam Distribution Services(CDS), Dilip Shanghvi, Sun Pharmaceuticals and Tech Mahindra. Businesses have recognised the demand of the hour to establish a good online platform for their customers who want faster, superior and convenient experience from the web and mobile payment applications. The millennial generation do not want to stand in big queues for their banking transactions. They want convenience so they are going online for each and every need of theirs. This demand from the customers made many e-commerce companies to provide discounts, cash backs, offers etc.

VI. Statistical Analysis of Indian Payment System

Indian payment system is slowly moving from the paper based transactions to electronic based transactions. With the strict regulations by the RBI both the large value as well as small value transactions are taking the digital route. To ensure smooth, safe and faster online transaction RBI has given the guidelines and continued its efforts in making India payment and settlement systems more secure and efficient. The data is collected from the RBI website (https://dbie.rbi.org.in) to analyse the trends in major payments systems.

A. *RTGS-(Real Time Gross Settlement)*

RTGS is a payment system operated by RBI, which facilitates payments from a bank to other in a real-time. RTGS is the fastest way of transferring funds through a bank channel. The RTGS includes Customer transactions, Inter-bank transactions and Interbank settlements. The major chunk of RTGS is from Customer transactions.

TABLE I. Cumulative Average Growth Analysis of RTGS Value and Volume from 2010 to 2020

Year	**Value (Crore) (in ₹)**	**Volume (Lakh)**	**Value growth from previous year(%)**	**Volume growth from previous year(%)**
2010-11	7841994.417	41.06	-	-
2011-12	8998254.833	45.875	14.74	11.72
2012-13	8552917.083	57.098	-4.94	24.46
2013-14	7541400.417	67.590	-11.82	18.37
2014-15	7744440.667	77.319	2.69	14.39
2015-16	8629596.917	81.950	11.42	5.99
2016-17	10447100.67	89.88	21.06	9.67
2017-18	12228599.92	103.713	17.05	15.39
2018-19	14296005	113.857	16.9	9.78
2019-20	14998741.57	121.071	4.91	6.33
Average growth			**8**	**12.9**

Note. This table analyses the trend in the value and volume of RTGS 2010-2020, this data has been taken from publications of RBI, Data Warehouse. (2011–2019). Reserve Bank of India. https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home.

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From the Table 1, it is inferred that the average growth in volume and value are 8 percent and 12.9 percent and there was a negative growth in the year 2012 and 2013. However the volume growth from the previous year has shown a decreasing growth there is a scope to understand the reasons for the decline. If we look at the RTGS from 2011 to 2019, even though there are fluctuations in the value of transactions, but volume of transactions is growing steadily.

The RTGS transactions were 41.06 million in 2010-11, which rose to 121.07142 million transactions in 2019-20. According to KPMG the cumulative average growth rate(CAGR) of non-cash transactions is around 12.78%. If we see the RTGS transactions which includes large amount transactions, therefore volume of transactions will be lower. It is observed from the above graph that, there is a steady increase in the RTGS transactions. The first two quarters of the current financial year 2019-20 has seen the RTGS of ₹1499.874 billion at a volume of 1.210 million transactions.

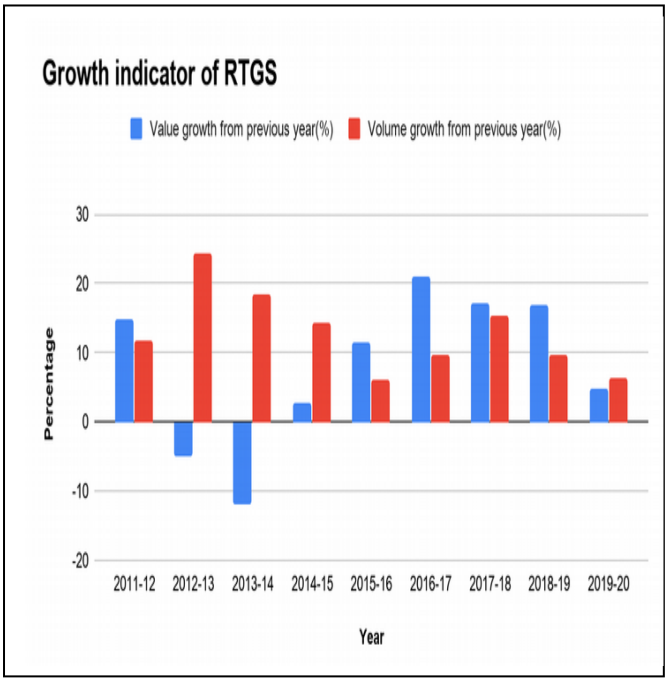

Fig. 1. Ten year pattern analysis of RTGS in terms of value and volume.

This graph indicates a steady increase in the RTGS transactions. In the year 2019-20 the total RTGS transaction of ₹149987.42 billion at a volume of 1.210 million transactions. The data is collected from the RBI website (https://dbie.rbi.org.in). The RTGS transactions were 41.06 million in 2010-11, which rose to 121.07142 million transactions in 2019-20. According to KPMG the cumulative average growth rate(CAGR) of non-cash transactions is around 12.78%. If we see the RTGS transactions which includes large amount transactions, therefore volume of transactions will be lower. It is observed from the above graph that, there is a steady increase in the RTGS transactions. The first two quarters of the current financial year 2019-20 has seen the RTGS of ₹1499.874 billion at a volume of 1.210 million transactions.

VII. Paper Clearing V/S Retail Electronic Clearing

The retail payments of the country comprise of both Paper based as well as Electronic based clearing. Paper clearing consists of Cheque Truncation System (CTS), Magnetic Ink Character Recognition (MICR) clearing and Non-MICR clearing. There were many cheque clearing houses in India for facilitating easy clearing of cheques. There are about 1050 cheque clearing houses in India as of now. 40 out of 1050 cheque clearing houses are kept only for cheque processing centres using MICR technology. But in 2014 the MICR clearing was closed. The Retail Electronic Clearing consists of Electronic Clearing Services (ECS) for both inward and outward transactions, i.e., both debit and credit transactions, Electronic Fund Transfer/ National Electronic Fund Transfer(NEFT) and Immediate Payment Service(IMPS).

A. *Cards Payments*

Card based payment is the part of the plastic money market. Debit and Credit cards are the major players. The Card transactions were the most convenient way of making transactions. Cards are majorly used in Point of Sale (POS) and in ATM for withdrawing money. These card-based transactions provide an easier way of payments without the use of cheque or cash. Even cards are one of the essential elements in e-wallet operations. But the major concern of card based transactions are, fraud, risk of losing cards etc. The card transactions took a leap in 2011-12. The volume of transactions in 2010-11 was only 502.2 million, it jumped to 5731.59 million in 2011-12. Thereafter the volume of card transactions has grown tremendously. The card transaction grew over the past 9 years both in volume and value. This indicates that the usage of card based payments are growing in nature. The volume and value increase from 2011 to 2019 is

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proof for measures taken by RBI to improve the card based transactions. If we look at the growth both in volume and value, there is a good amount of growth. The table indicates the growth of card payments.

From the observations cited in the Table II, average growth in volume is 144.09 percent and value has growth of 171.87 percent till October 2019. There are fluctuations observed in the time series of volume in card transactions. In case of volume growth the percentage records at 16.68% in 2014-15, 19.17% in 2015-16, 20.09% in 2016-17, 10.8% in 2017-18 and 20.11% in the recent 2018-19 financial year. The card value growth is slow when compared to volume growth. This indicates the size of transactions are getting lower. For the financial year 2019-20 (till October 2019) the card volume reached 9,920.62 million and value of card transactions are ₹ 28,631.38 billion.

TABLE II. CUMULATIVE AVERAGE GROWTH ANALYSIS OF CARDS AND THEIR VALUE AND VOLUME FROM 2010 TO 2020

Year	Cards Value (billion) (in ₹)	Cards Volume (million)	Value growth from previous year(%)	Volume growth from previous year(%)
2010-11	1,142.05	502.2	-	-
2011-12	15,510.78	5731.59	1258.15	1041.29
2012-13	18,670.65	6174.48	20.37	7.72
2013-14	22,159.58	7219.13	18.69	16.91
2014-15	25,415.27	8423.49	14.69	16.68
2015-16	29,397.65	10,038.67	15.67	19.17
2016-17	30,214	12,055.86	2.77	20.09
2017-18	38,214.64	13,358.62	26.56	10.8
2018-19	45,122.10	16,046.25	18.07	20.11
2019-20	28,631.38	9,920.62		
Average growth			**171.87**	**144.09**

Note. This table analyses the trend in the value and volume of debit and credit cards used in Point of Sale (POS) and in ATM for withdrawing money and make payments from the year 2011 to 2019, this data has been taken from publications of RBI on Survey of Professional Forecasters on Macroeconomic Indicators– Results of the 56th Round. This data has been taken from publications of RBI, Data Warehouse. (2011–2019). Reserve Bank of India https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home.

VIII. CONCLUSION

Financial technology has potential and scope to transform the financial services to reach the financially excluded ones. The FinTech firms are quick in adopting to the environment where they meet the demands of the population of a country which is globally second most buyer of smart phones. More the numbers of smart phone users will lead to have more prospects for the FinTech firms to approach their customers with attractive offers and convenient methods of payments. The new age banks have rightly adopted to the changing environment when the demand has increased of the growing smart-users and these banks have implemented the services which are assisted by modern technologies. Eventually this step has improved the operational efficiency of banks. The rapid application of technology in banking has helped to reduce the cost of banks as well.

The paper studies the recent growth in the usage of online transactions of Indians through various modes and it is observed that their is a tremendous growth in adoption of online payments like RTGS, Card payments and etc. The paper also studies the trends in services of financial institutions are offered and various services which are increasingly used in the FinTech era of India. The rapid growth of online payments and smart phone users has enabled many financially excluded to avail financial services through their computer and smart phones.

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