



# DIGITAL PAYMENTS- ANALYSIS OF IT'S PRESENT STATUS IN INDIA

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**Abstract :** Digitalization is the talk of the day. In digitalization, digital payment plays very important role because of its uses to the country as well as to its individuals. Digital payment has provided an opportunity for India to empower its people and make them to use it and overcome the outdated banking system. RBI has taken diverse steps to persuade the people to opt for digital payment and improve the financial inclusion by using digital platforms for payment. At this juncture, it has become essential to understand and review the present status of digital payment. This study has analyzed present status of different digital payments by using secondary data and found that there is a sharp increase in use of digital modes in the last five years. But, still cash play a major role due to lack of proper infrastructure and technical challenges which needs to be addressed immediately. The study is intended to seek the attention of policy makers so that the benefit of digitalization reaches everyone.

**Index Terms:** Digitalization, Digital Payments, Indian Economy, Opportunities And Challenges, Banking Sector, Technology.

## INTRODUCTION

Due to technological advancement digital forms of payment have become more and more in common. Especially, due to the rapid growth of electronic commerce (e-commerce), new needs for comfortable and secure methods of payment have had to be developed (Bećirović, 2014).

Sardana & Singhania (2018) states that The commencement of the age of digital business has been disrupting the business environment and breaking out innovative and singular ways of doing business. Technology has radically impacted the functioning of most of the business organizations as well as on our lives, one of these being the business of banking. Adopting digitalization in bank is known as digital banking. Digital banking not only includes using internet to access the banking service, but also comprise whole array of banking service delivered or consumed using technology (Sardana & Singhania, 2018). Some of those examples are internet banking, Mobile/Phone banking, Automated Teller Machines, Plastic Cards, Electronic Clearing Service and Electronic fund transfer. Digital Banking has become an essential element of banking in India. The concept of digitalization is of fairly recent origin in India. The Indian government enacted the IT Act, 2000, with effect from the 17th October 2000 to initiate the operation internet banking. The traditional system which was prevalent in Indian banking seems to be replaced by modern technologies (Sonia Dara, 2018).

## REVIEW OF LITERATURE

(Gogoski, 2012) stressed the importance of Payment systems as the fundamentals to the functioning of all monetary economies whether they are developed economies or developing economies.

Kushwaha et al., (2018) in their paper titled "Impact of Demonetization on Indian Economy: A Critical Study" states that Demonetization's motto was to encourage the cashless/digital economy. More and more cash-less or less-cash transactions will lead to more disclosure of income which will increase the direct tax collections. With a reduction in cash transactions, alternative forms of payment will more in demand. Electronic mode of payment like online transaction, payment through applications, E-wallets E-banking, usage of debit and credit cards etc. will surely see the substantial increase in demand.

Nilekani et al., (2019) defines “Digital payment’ means a payment transactions made through digital / electronic modes wherein both the originator and the beneficiary use digital / electronic medium to send or receive money.”

Digital payments are considered as an important means of economic development and also to achieving financial inclusion. The task of deepening digital payments is time consuming but not unattainable. It needs concerted effort of all the stake holders to work jointly with the aim of achieving a digitally included society(Nilekani,et al.,2019).

Bećirović (2014) viewed that technological innovation caused that the use of paper money has been declining, where digital forms of payment have become more and more common, due to rapid growth of electronic commerce (e-commerce). They have concluded that e-money, which wants to be accepted in the market has to be secure, provide anonymity, portability and enable usage at low costs.

Reddy & Rakesh (2019) states that that most of the customers have started using new technologies and are happy with the services provided by their banks and digitalization in banking played an important role in shaping the new era in banking sector and move towards the cashless economy.

Pichler et al.,(2018) have discussed the economic function of paper money and digital money and have come to the conclusion that the digital money will never be able to perform the economic functions of paper money. They also stated that digital money do not simultaneously serve as a medium of exchange, a store of value and a unit of account.

(Tomi Dufvaa,Mikko Dufvab, 2019) argued that in order to grasp the nature and future of a digitalized society, an personified understanding of digitalization is needed. Such an understanding should use ways of knowing other than rational thinking.

Pizzol et al.,(2018)states that as society become more digitalized, new possibilities of combining data arise. This study describes the attempt to combine the information on digital expenditures obtainable from bank accounts with LCA-like data to calculate personalized and consumer-specific environmental footprints of consumption patterns. They have illustrated the concept with examples representing different modes of being and doing at the interface of the digital and physical(Tomi Dufvaa,Mikko Dufvab, 2019).

## RESEARCH METHODOLOGY

This study has used descriptive method. Data collected was from secondary sources through Articles, Journals, Books, websites, survey reports, committee reports and government published data. Research methodology used was descriptive one. Data was analyzed by using percentages, CAGR and depicted through tables and bar chart.

## OBJECTIVE OF THE STUDY

1. To analyze the present status of digitalized payments in India.
2. To understand the challenges involved in digital payment.
3. To provide suggestions and recommendations to overcome the challenges.

## LIMITATIONS OF THE STUDY.

The study is performed on secondary data only and it was limited to five years. The study is also restricted to analyze the present status of RTGS,ECS,NEFT,Credit card, Debit card,POS, IMPS and Mobile banking for past five years.

## SCOPE OF THE STUDY

Indian government implemented digital India to make our economy as data based economy and cashless economy. Digital payment is one of the important technologies introduced in the bank. This Study covers the different digital and electronic modes used by the customer to make payments. Past five year data has been taken to analyze the present status of digital payments in India.

## PRESENT STATUS OF DIGITALIZED PAYMENTS IN INDIA.

(Sunil Rongala,Jackulin Sheela,Manish Kohli, 2019) states Indian customer once standing “in line” to make the payments have slowly moving towards “on line”. There is a shift towards modern banking from traditional banking. Efforts are being made in this article to understand the present status of digital payment in India. Past five years data has been taken to arrive for the conclusion.

### Analysis of data

2019 was the month with highest number of transactions in volume and value. Following are the highlights for highest digital payments(Sunil Rongala,Jackulin Sheela,Manish Kohli, 2019).

#### Top 10 states with the highest transactions in 2019:

Maharashtra, Karnataka, Tamil Nadu, Delhi, Andhra Pradesh, Gujarat, Kerala, Uttar Pradesh, Haryana and West Bengal.

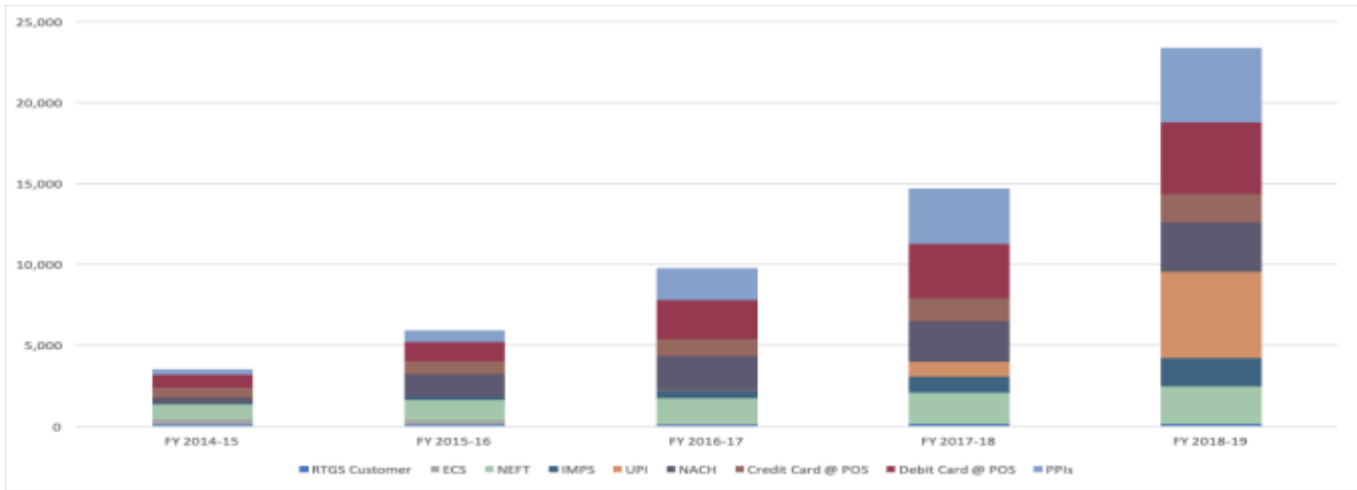
#### Top 10 cities with the highest number of transactions in 2019 :

Bengaluru, Chennai, Mumbai, Pune, Hyderabad, Delhi, Kolkata, Gurgaon, Coimbatore and Ernakulam.

**Total digital payments done through RTGS,ECS,NEFT,UPI,NACH,Credit card, Debit card,POS and PPIs for past five years(In volume).**

Figure 1

Total Digital transactions by volume



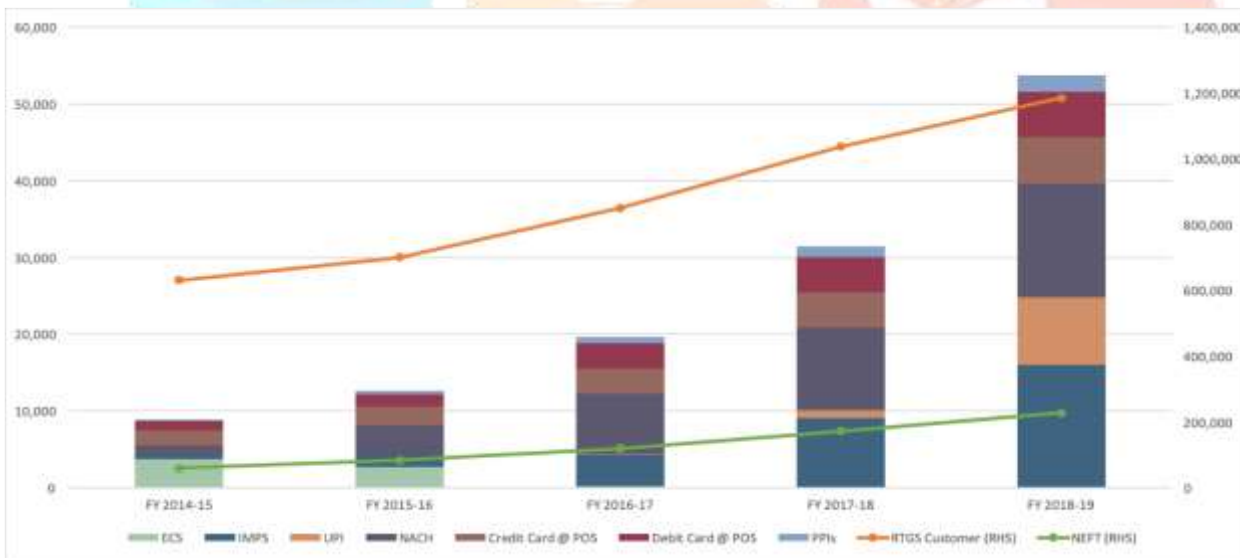
Source: RBI Annual report (No of transactions in millions)

The above chart shows volume of transactions for past five years which includes RTGS, ECS, NEFT, UPI, NACH, Credit card, Debit card, POS and PPIs. The above chart shows that there is tremendous increase in the digital payments with regard to volume of transactions.

Total digital payments done through RTGS, ECS, NEFT, UPI, NACH, Credit card, Debit card, POS and PPIs for past five years (In value).

Figure 2

Total Digital transactions by value



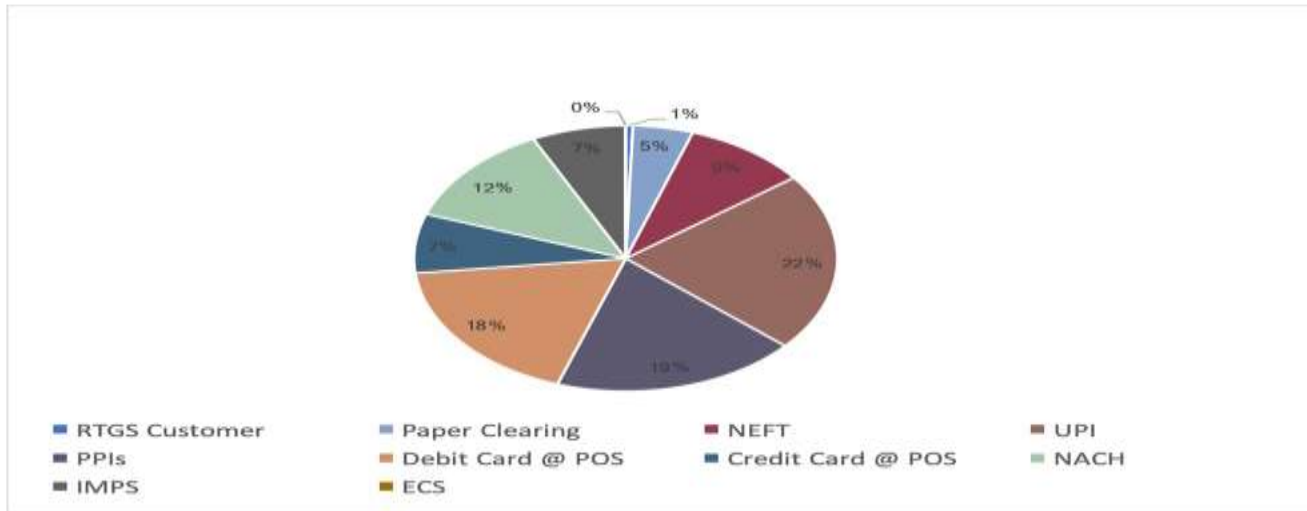
Source: RBI Annual report (Value in billions of rupees)

The above figure shows the quantum of money transacted through each digital media. There is sharp increase in the value of transactions in the financial year 2018-19.

Payment systems share in volume for the financial year 2018-19

Figure 3

Payment systems share in volume for the financial year 2018-19



Source: RBI Annual report (No of transactions in millions)

The above figure shows different payment systems share in volume. Maximum of 22% share by ECS, 19% share by IMPS and 18% share by Debit card. Least of 5 %share by Papr clearing.

RTGS

Real Time Gross Settlement system helps to transfer of money from one bank account to another on gross basis and on real time basis. This service window is available to the bank from 8 am to 4:30 pm on weekdays (Monday to Friday) and on working Saturdays for settlement at the RBI’s end. RTGS is operated by RBI.

Figure 4

RTGS -Growth in volume, and value for customer transactions over the last 5 years



Source: RBI Annual report (No of transactions in millions)

Table -1

RTGS-Growth and CAGR

Year	Volume	Value	Transaction Size	Growth	CAGR
FY 2014-15	88.39	6,31,050.74	71.4 lakhs	51%	11%
FY 2018-19	133.30	11,84,368.12	88.9 lakhs		

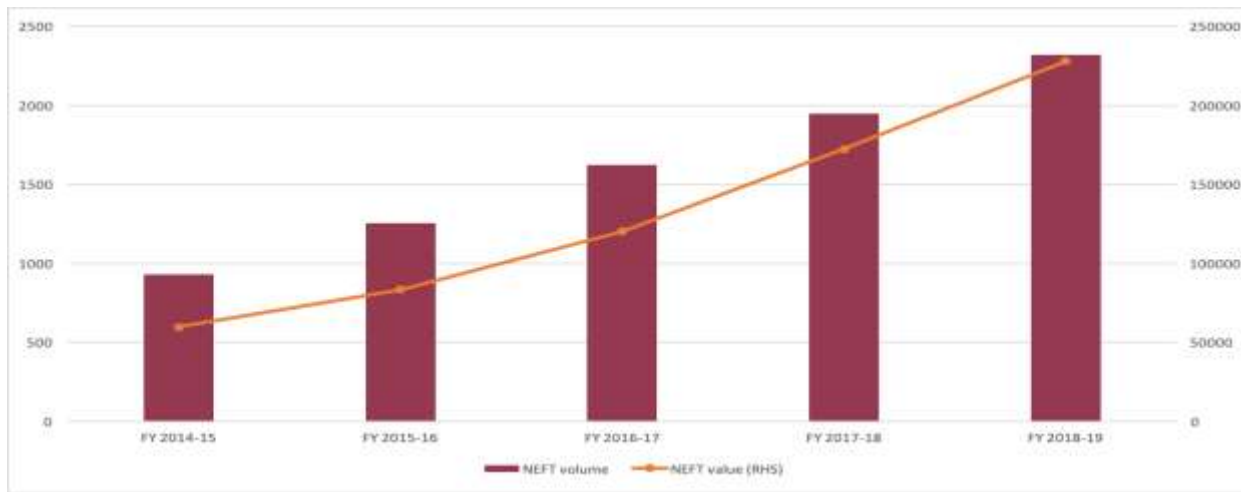
The growth rate is 51% over the past 5 years. The usage of RTGS in CAGR is 11%. The number of transaction is less but the volume of transaction is very large.

**NIFT**

National Electronic Funds Transfer (NEFT) facilitates funds transfer across all computerized branches of banks (member / sub-member of NEFT) across the country. Presently, NEFT operates in half hourly batches – there are twenty-three settlements from 8 am to 7 pm on weekdays (Monday through Friday) and on working Saturdays. NEFT is operated by RBI.

**Figure 5**

**NIFT -Growth in volume, and value for customer transactions**



Source: RBI Annual report (No of transactions in millions)

**Table -2**

**Growth and CAGR for NIFT**

Year	Volume	Value	Transaction Size	Growth	CAGR
FY 2014-15	928	59,804	64.5 thousand	150%	26%
FY 2018-19	2319	2,27,936	98.3 thousand		

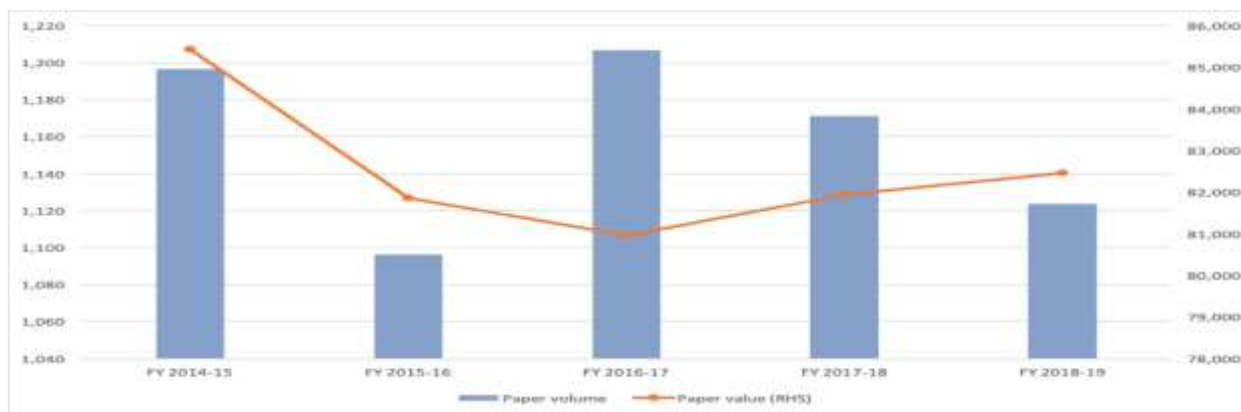
The usage of NIFT in CAGR is 26%. The number of transaction is less but the volume of transaction is very large. The growth rate is 150% over the past 5 years.

**Paper (Cheque)**

Cheque is another mode used by customer to make payment. Following figure shows the use of cheque in volume and value.

**Figure 6**

**Paper (Cheques) Volume and Value**



Source: RBI Annual report (No of transactions in millions and Value in billions of rupees)

Table -3

## Growth and CAGR for Cheque

Year	Volume	Value	Transaction Size	Growth	CAGR
FY 2014-15	1,197	85,434	71 thousand	-6%	-2%
In FY 2018-19	1,124	82,461	73 thousand		

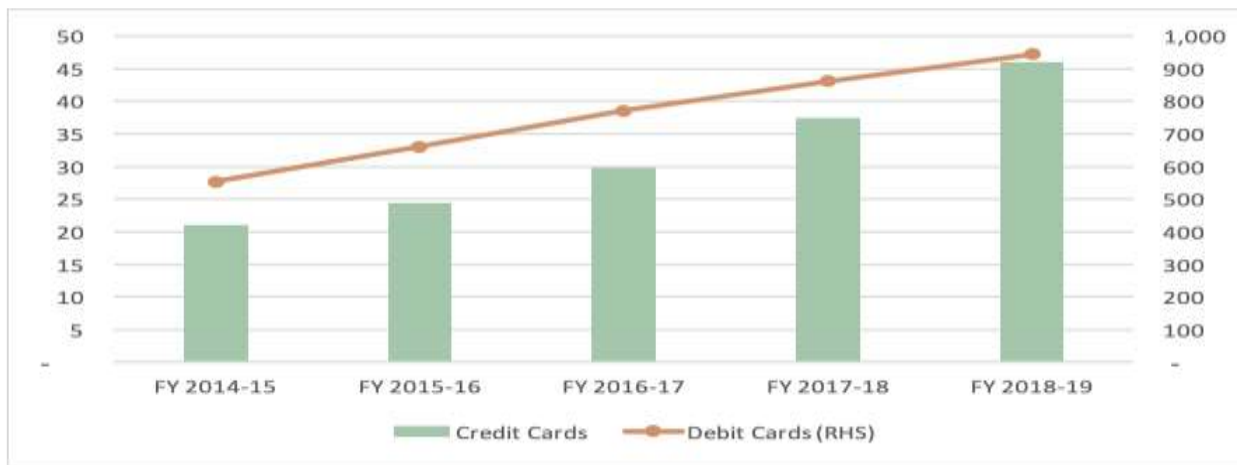
Due to the demonetization effect the number of cheque transactions has reduced. Over the past five years the size of transactions varied between 70,000 to 75000.

## Credit and Debit Cards

Credit and debit cards are other common modes in digital payments. The following figure shows the number of credit and debit cards issued to customers.

Figure 7

## Cards Issued (Debit / Credit)



Source: RBI Annual report (No of transactions in millions)

Table -4

## Growth and CAGR for Credit Cards and Debit cards ( In Numbers)

Year	Credit Cards			Debit Cards		
	Number	Growth	CAGR	Number	Growth	CAGR
FY 2014-15	21	123%	22%	554	67%	14%
FY 2018-19	47			925		

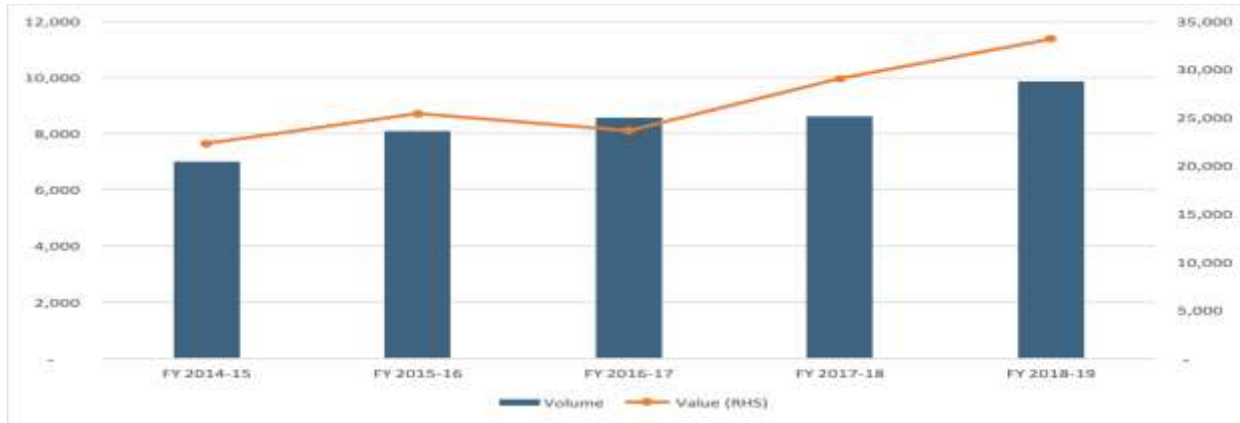
The growth and CAGR for credit card is 123% and 22% respectively. Debit card has shown the record of 67% and 14% for Growth and CAGR. Compared to debit card the credit card has shown tremendous growth.

**Usage of Debit Cards at ATMs**

The following figure shows the volume and value of debit card used for making digital payment.

**Figure 8**

**Debit Cards Volume and Value**



Source: RBI Annual report (No of transactions in millions and Value in billions of rupees)

**Table -5**

**Growth and CAGR for Debit card**

Year	Volume	Value	Transaction Size	Growth	CAGR
FY 2014-15	7001	22303	3.2 thousand	41%	9%
FY 2018-19	9869	33153	3.4 thousand		

With regard to usage of debit card at ATM Growth rate was 41% and CAGR 9%.

**Debit Cards at POS / Ecommerce**

The following chart shows the use of debit cards, to make payment transactions – at a physical POS, or for E-Commerce.

**Figure 9**

**Debit Cards at POS / E-commerce**



**Table 6**

**Growth and CAGR for Debit Cards at POS / Ecommerce**

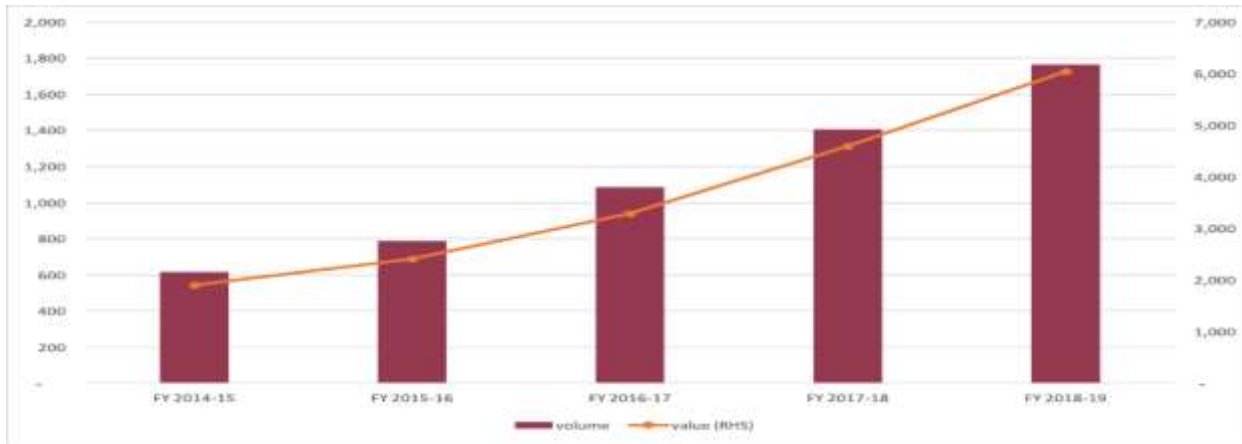
Year	Volume	Value	Transaction Size	Growth	CAGR
FY 2014-15	808	1,213	1.5 thousand	446%	53%
FY 2018-19	4414	5,935	1.3 thousand		

There was tremendous growth found in Point of sale and E-Commerce which was recorded 446% in Growth and 53% in CAGR.

**Credit Cards at POS / Ecommerce**

The following chart shows the growth in credit card usage for payments over 5 years.

**Figure 10**  
**Credit Cards at POS / E-Commerce**



**Table -7**  
**Growth and CAGR for Credit cards at POS / E-Commerce**

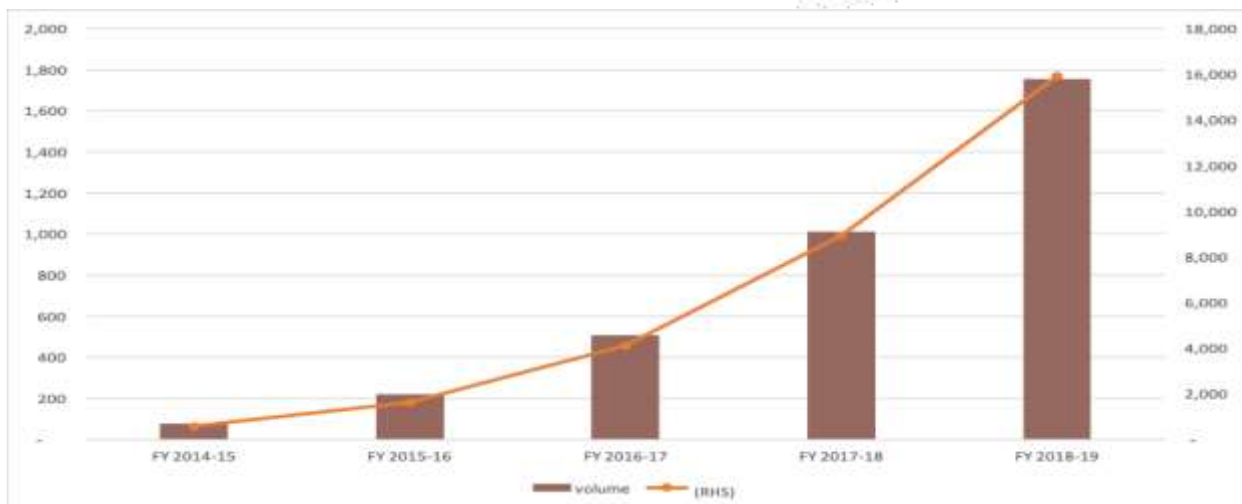
Year	Volume	Value	Transaction Size	Growth	CAGR
FY 2014-15	615	1,899	3.1 thousand	187%	30%
FY 2018-19	1,763	6033	3.4 thousand		

There was significant growth found in usage of credit card at POS/Ecommerce. Growth was at 187% and CAGR at 30%.

**IMPS**

Immediate Payment Service (IMPS) – IMPS is a fast payment system operated by NPCI and is available 24x7. Under this, beneficiary gets funds on a real time basis with the settlement between banks happening on a deferred net basis.

**Figure 11**  
**IMPS Volume and Value**



Source: RBI Annual report (No of transactions in millions and Value in billions of rupees)



Table -8

## Growth and CAGR for IMPS

Year	Volume	Value	Transaction Size	Growth	CAGR
FY 2014-15	78	582	7.4 thousand	2137%	117%
FY 2018-19	1753	15,903	9.1 thousand		

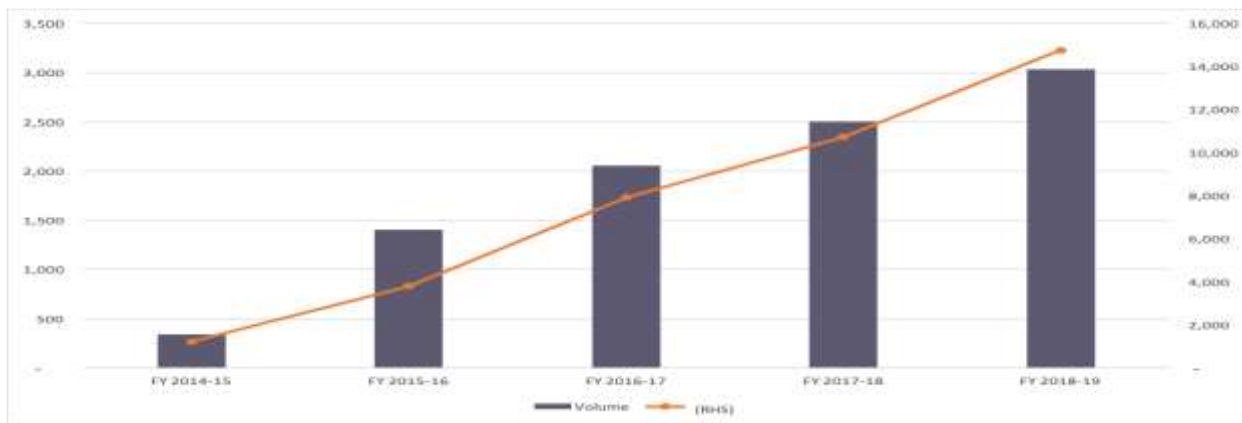
IMPS was allowed for receiving Foreign Inward Remittance. Its growth was 2137% and CAGR 117 %.

## ECS

Electronic clearing system is a service that the bank provides when a customer wants to transfer money from one account to another account electronically. Especially one wants to make periodic payment.

## Electronic Clearing Service (ECS)

Figure 12



Source: RBI Annual report (No of transactions in millions and Value in billions of rupees)

Table -9

## Growth and CAGR for ECS

Year	Volume	Value	Transaction Size	Growth	CAGR
FY 2014-15	340	1,221	3.6 thousand	792%	73%
FY 2018-19	3,035	14,762	4.9 thousand		

There was also a steady growth found in ECS. Growth was 792% and CAGR 73%.

## Mobile banking payments

Mobile banking is another convenient method of making the payments digitally. By using mobile app customer can make all kind of transactions. It is anywhere and anytime banking.

Table -10

## Growth in mobile banking

Year	Payments in millions
2014-15	171.92
2015-16	389.49
2016-17	976.85
2017-18	1872.26
2018-19	6200.32

Source: RBI Annual report

The total number of mobile banking payments across India in the year 2019 accounted around 6.2 billion. This is the tremendous increase compared to previous years

## FINDINGS

- There is tremendous increase in the use of RTGS, ECS, NEFT, UPI, NACH, Credit card, Debit card, POS and PPIs with regard to volume of transactions as well as value of transactions.
- It was found that 22% share by ECS, 19% share by IMPS and 18% share by Debit card. Least of 5% share by Paper clearing.
- RTGS showed the growth rate is 51%, CAGR is 11% over the past 5 years.
- NIFT showed CAGR at 26% and growth rate at 150% over the past 5 years.
- The growth and CAGR for credit card is 123% and 22% respectively. Growth and CAGR for debit card is 67% and 14%.
- E-Commerce which was recorded at 446% in Growth and 53% in CAGR.
- POS/Ecommerce showed the Growth at 187% and CAGR at 30%.
- IMPS growth was 2137% and CAGR 117%.
- ECS showed Growth rate at 792% and CAGR 73%.
- The total number of mobile banking payments across India in the year 2019 accounted around 6.2 billion.

## CHALLENGES AND RECOMMENDATIONS

Technology has been introduced by most of the banks to provide better services for their customers, these new modes of services have brought better life style to the customers. Customers completely satisfied by the services provided by the banks. The second-generation returns will play a crucial role in further strengthening the system. New technology has particularly been both enabled and in turn fueled by a huge influx of new providers and products (Rammy Reddy, Rakesh C, 2019) but there are certain challenges too which need to be addressed. They are listed below:

### Specific Challenges and recommendations to overcome the problems connected with digitalized payments (High Level Committee on Deepening of Digital Payments, n.d.)

- The committee recommends that users of RTGS/NIFT must have options to make high value digital payments at any time. The RBI may review the usage patterns of RTGS / NEFT on a quarterly basis and adjust the hours of operation.
- Settlement happens in batches, and the system is not available around the clock. There are no technological challenges to operating the system around the clock, and the RBI has recently increased the number of settlements. The committee recommends that users must have options to make high value digital payments at any time.
- ATM networks are important to ensure that people are comfortable that they can access cash when required. However, there is a need to work out a viable model for ATMs in a less cash world. ATM operators must start to explore options, such as reimagining them as an access point for a large number of banking and financial services, and as a channel for customer education, awareness, and support. They can better support the acceleration of digital services.
- The committee suggests that IMPS limits be reviewed periodically and revised according to the usage. In particular, the limit may be revised upwards at the earliest.
- There are issues related to the process of creating, approving and stopping mandates – ECS rely on paper forms, and it is very hard to stop these mandates (it requires the biller to stop presenting the mandate). Even digitally approved mandates can take some time to approve. The committee further recommends that the process of managing mandates be made simpler for the user.

### General challenges and recommendations to overcome the problems connected with digitalized payments

- Many of the rural areas do not have proper infrastructure and technology to adopt digitalization. So care should be taken that benefits of digitalized payments will reach the rural people also.
- There is always a threat to the Privacy and security of information transferred over the network. So proper measures should be taken to prevent Cybercrimes and hacking.
- Banking sector is coming up with new kinds of products/services. But these require various additional legal definitions, such as meaning of electronic signature, and permissions. At the same time, existing legal definitions and permissions are also required to be rethought. (Sardana & Singhania, 2018.)

## CONCLUSION

There is no doubt regarding the benefits of digitalized payments. A digitalized payment saves time, cost and creates the data for documentation to banker as well as to the other users. The study has found out that there is a growth in the phase of digitalized payments, but still cash is playing a dominant role in many of the urban and most of the villages. The reasons may be lack of infrastructure and awareness, presence of unorganized sectors, and security issues with regard to digital payments. So the RBI and Indian banks need to handle the possible negative outcomes of digital payments and implement necessary policies to overcome those challenges.

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