



A STUDY OF DIGITAL PAYMENTS IN INDIA

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Abstract

Digital payments provide a facility to the customers to make payments 24*7 and this gives an added advantage to them to remain connected with the digital payment system whenever there is a need. The footfall in the banks has also been reduced to some extent for cash withdrawal though for depositing cash, they might visit some or the other bank branch. The digital payments mechanism has made it very easy for the bankers as well as the customers as the payments have become easy and now the customers are not dependent on the banks during a limited time or they do not lead to stand in long queues for transferring of funds or making cash withdrawal. This study aims to understand the digital payment system and recognize its advantages and evaluate the growth in digital transactions in India during the period from 2020 – 2023. Data has been analyzed taking into consideration the number of onsite and Offsite ATMs, POS, number of transactions of Debit card and Credit card and also the volume of transactions in lacs. There has been an increase in the number of on-site ATMs, though the number of off-site ATMs have declined. The number of POS has also increased during the selected period.

Keywords: Digital payment, ATM, Debit card, Credit card

1. Introduction

Digital Banking is considered a new view by people which has been offering many advantages to the banks and even to the customers. It has made payments very simple and provides efficiency and other benefits. Digital payments provide a facility to the customers to make payments 24*7 and this gives an added advantage to them to remain connected with the digital payment system whenever there is a need. The footfall in the banks has also been reduced to some extent for cash withdrawal though for depositing cash, they might visit some or the other bank branch. The digital payments mechanism has made it very easy for the bankers as well as the customers as the payments have become easy and now the customers are not dependent on the banks during a limited time or they do not lead to stand in long queues for transferring of funds or making cash withdrawal. Before a few years, when digital payment mechanism was in the initial stage, the people were bit hesitant to accept a new system of payments, where debit card and credit cards were being issued for making online payments, but now the customers have accepted the change and adopted this new mechanism. Sometimes the customers should track the charges which are being levied on them while they are making use of the online payment options. They are advantageous in some ways but there are certain reasons which actually makes it difficult for them to use.

Debit card when being used lead to certain disadvantages when it is being used frequently and involves a lot of expenses, in a similar manner credit card also increases amount of charges when people make use of it to the full extent and do not consider the limit of the card or do not pay the amount of money back. There are high charges involved when credit card is used for cash withdrawal. People should always visualize the amount which they are spending on the card and clear all the dues which they have created in a credit card.

It is important that the customers ensure that they are making use of such digital payment options in a wise manner and do not get engaged in over spending as it would lead to heavy charges.

The customers should realize before using digital payment system, whether it is providing comfort or advantages or they would lead to pressure and certain extra charges. Government has initiated Digital India program and it can be referred to a leader plan having a dream to change our country into a digital and informational economy. Some digital payment services providers are also offering some discounts and other benefits so as to increase the number of transactions being initiated through the different modes of digital payments. Though there are certain dis-advantages of digital payment system like there is a danger of frauds also and this has led to decrease in the number of payments as sometimes the customers get scared with the frauds and hence stop the use of digital payments.

1.1 Digital Payments

Digital payments can be referred to a method of payment wherein payment is made through a digital mode. In the digital payments, the payee and payer both make use of digital mode for sending and getting cash. It is said to be electronic payment. While payments are being made digitally, there is no involvement of physical money. All exchanges take place through digital mode of payment and digital payments are completed on the web. It is said to be advantageous as people could easily make payments and the way it could be done is a user friendly process. When money payments are discussed, it is important that the customers should understand the risk involved in using digital payment mechanism for making payments and also the frauds which are taking place while digital transactions are taking place.

Digital payments indicate that payment is a circular process where the customers get money from the organizations where they are working through online mode, then this money is transferred to the vendors from whom they are buying certain items for them and then since the vendors are also using POS at their shops, the money gets transferred immediately to the account of vendors. The flow of money keeps on continuing in this way and the online payment mechanism has actually become very easy.

Similarly, a business man accepts payments in digital form from the customers. During the phase of e-commerce, when majority people are selling their products and services online, there is more use of digital payment system for exchanging of funds. Currently majority customers have shifted to the online mode of payment and this has become really an added advantage for the customers as this provides any time payment.

1.2 Advantages of Digital Payment system

- 1 **Time Saver** – Digital payment could help in saving a lot of time as money could be transferred quickly some or the other payment mode and it does not require the use of cheque for payment.
- 2 **Availability** – This payment is available to the customers anytime and anywhere and there is no need to go to the bank for any kind of transaction.
- 3 **Easy Purchasing-** Purchasing becomes very easy when payment can be made with the use of ATM, POS, Debit card and credit card.
- 4 **Use of Wallet** -Digital Payment system also include digital wallet which make the payments easier and people could even avail discount and cash back.
- 5 **Written record** – Keeping a written record of the transactions being made becomes very easy through online payment mechanism and it helps in keeping a track of the expenses during a regular duration.

6. **Less Risk** – Digital payments help in maintaining security as there is a requirement of OTP for validating each and every transaction.

2. Objectives of the Study

- To understand the digital payment system and recognize its advantages
- To evaluate the growth in digital transactions in India during the period from 2020 – 2023

3. Literature Review

Bhagat D. (2020) have indicated that India is going digital and people have started using digital payment system considering their advantages and the way it has benefitted the people. There has been a paradigm shift in the real financial economy after demonetization and people have starting being dependent more on digital cash instead of focusing on physical cash. Digital transactions have increased since then and there has been huge growth in the digital payments and people have accepted making payments through ATM, POS, credit card and Debit cards. The use of smart phones has also increased and has supported adoption and growth of different means of digital payments.

Singhal R. (2020) have mentioned in the study about digital banking as a new world. It has made payments very simple and provides efficiency and other benefits. Digital payments provide a facility to the customers to make payments 24*7 and this gives an added advantage to them to remain connected with the digital payment system whenever there is a need. The footfall in the banks has also been reduced to some extent for cash withdrawal though for depositing cash, they might visit some or the other bank branch.

Pandey (2022) have indicated in the study that the system of digital payments has been quite promising and it has been driven by technological developments and policy initiatives. There has been significant increase in usage of various digital payment methods. Digital payments can also be referred to as electronic payments and it is said to transfer of money among different accounts. Transferring of funds could take place through the use of different channels used for communicating in a digital manner. Generally Indians use different forms of digital payment like mobile money, bank transfer etc. IMPS has been launched by NPCI in the year 2010 and later in the year 2016, UPI was introduced. This study helped in understanding the impact of digital payment system in the entire country.

Tyagi G. et al (2022) have mentioned about different applications which are being used for digital payments. There have been dynamic changes which have come up in UPI sector. The area of this study is Pune. A sample of 82 respondents have been considered. This data has considered only secondary data sources such as Journals, websites etc. Digitalization has gained popularity in the financial segment. UPI was launched in 2016 by the National Payments Corporation of India (NPCI) and it allows users for transferring funds based on real time.

4. Research Methodology:

This study aimed to understand the digital payment system and recognize its advantages and evaluate the growth in digital transactions in India during the period from 2020 – 2023. Data has been analyzed taking into consideration the number of onsite and Offsite ATMs, POS, number of transactions of Debit card and Credit card and also the volume of transactions in lacs. The growth has been calculated on yearly basis and the percentage of increase or decrease has been understood based on selected parameters like ATM, POS, Debit card and credit card.

5. Data Analysis

Table 5.1 Year on Year growth in on-site ATMs

Year	ATMs	
	On-site	YoY Growth
2020	113271	--
2021	115605	2.06
2022	116794	1.03
2023	123613	5.84

The details about on-site ATMs and their growth has been mentioned in the table above. The data has been considered for four years i.e. 2020 to 2023. The growth in the number of on-site ATMs has been 2.06% in the year 2021 as compared to 2020. The growth in the number of on-site ATMs has been 1.03% in the year 2022 as compared to 2021. The growth in the number of on-site ATMs has been 5.84% in the year 2023 as compared to 2022.

Table 5.2 Year on Year growth in off-site ATMs

Year	ATMs	
	Off-site	YoY Growth
2020	97489	--
2021	97970	0.49
2022	98267	0.30
2023	95893	-2.42

The details about off-site ATMs and their growth has been mentioned in the table above. The data has been considered for four years i.e. 2020 to 2023. The growth in the number of off-site ATMs has been 0.49% in the year 2021 as compared to 2020. The growth in the number of off-site ATMs has been 0.30% in the year 2022 as compared to 2021. There is a decline in the number of off-site ATMs by 2.42% in the year 2023 as compared to 2022.

Table 5.3 Year on Year growth in POS

Year	POS	
	On-line	YoY Growth
2020	4434514	--
2021	4720077	6.44
2022	6070142	28.60
2023	7789512	28.33

The details about POS and their growth has been mentioned in the table above. The data has been considered for four years i.e. 2020 to 2023. The growth in the number of POS has been 6.44% in the year 2021 as compared to 2020. The growth in the number of POS has been 28.6% in the year 2022 as compared to 2021. The growth in the number of POS has been 28.33% in the year 2023 as compared to 2022.

Table 5.4 No. of transactions (actuals) of Credit card on ATMs

Year	Credit Card	
	No. of transactions (Actuals)	
	ATM	YoY Growth
2020	755039	--
2021	592315	-21.55
2022	679817	14.77
2023	826490	21.58

The details about number of transactions (actuals) of Credit card on the ATMs and their growth has been mentioned in the table above. The data has been considered for four years i.e. 2020 to 2023.

There is a decline in the number of transactions (actuals) of Credit card on the ATMs has been 21.55% in the year 2021 as compared to 2020.

The growth in the number of transactions (actuals) of Credit card on the ATMs has been 14.77% in the year 2022 as compared to 2021.

The growth in the number of transactions (actuals) of Credit card on the ATMs has been 21.58% in the year 2023 as compared to 2022.

Table 5.5 No. of transactions (actuals) of Credit card on POS

Year	Credit Card	
	No. of transactions (Actuals)	
	POS	YoY Growth
2020	164669913	--
2021	188726583	14.61
2022	113433127	-39.90
2023	140459965	23.83

The details about number of transactions (actuals) of Credit card on the POS and their growth has been mentioned in the table above. The data has been considered for four years i.e. 2020 to 2023.

The growth in the number of transactions (actuals) of Credit card on the POS has been 14.61% in the year 2021 as compared to 2020. There has been a decline in the number of transactions (actuals) of Credit card on the POS has been 39.9% in the year 2022 as compared to 2021. The growth in the number of transactions (actuals) of Credit card on the POS has been 23.83% in the year 2023 as compared to 2022.

Table 5.6 Volume of transactions (in Lacs) of Credit card on ATMs

Year	Credit Card	
	Volume of transactions (Lakh)	
	ATM	YoY Growth
2020	36038	--
2021	30664	-14.91
2022	34375	12.10
2023	40152	16.81

The details about volume of transactions (in lacs) of Credit card on the ATMs and their growth has been mentioned in the table above. The data has been considered for four years i.e. 2020 to 2023. There is a

decline in the volume of transactions (in lacs) of Credit card on the ATMs has been 14.91% in the year 2021 as compared to 2020. The growth in the volume of transactions (in lacs) of Credit card on the ATMs has been 12.10% in the year 2022 as compared to 2021. The growth in the volume of transactions (in lacs) of Credit card on the ATMs has been 16.81% in the year 2023 as compared to 2022.

Table 5.7 Volume of transactions (in Lacs) of Credit card on POS

Year	Credit Card	
	Volume of transactions (Lakh)	
	POS	YoY Growth
2020	5069650	-
2021	7231876	42.65
2022	3877695	-46.38
2023	5092020	31.32

The details about volume of transactions (in lacs) of Credit card on the POS and their growth has been mentioned in the table above. The data has been considered for four years i.e. 2020 to 2023. The growth in the volume of transactions (in lacs) of Credit card on the POS has been 42.65% in the year 2021 as compared to 2020. There is a decline in the volume of transactions (in lacs) of Credit card on the POS has been 46.38% in the year 2022 as compared to 2021. The growth in the volume of transactions (in lacs) of Credit card on the POS has been 31.32% in the year 2023 as compared to 2022.

Table 5.8 Number of transactions (Actuals) of Debit card on ATMs

Year	Debit Card	
	No. of transactions (Actuals)	
	ATM	YoY Growth
2020	541624607	-
2021	601188008	11.00
2022	592787053	-1.40
2023	587888749	-0.83

The details about number of transactions (actuals) of Debit Card on the ATMs and their growth has been mentioned in the table above. The data has been considered for four years i.e. 2020 to 2023. The growth in the number of transactions (actuals) of Debit Card on the ATMs has been 11% in the year 2021 as compared to 2020. There is a decline in the number of transactions (actuals) of Debit Card on the ATMs by 1.4% in the year 2022 as compared to 2021. There is a decline in the number of transactions (actuals) of Debit Card on the ATMs by 0.83% in the year 2023 as compared to 2022.

Table 5.9 Number of transactions (Actuals) of Debit card on POS

Year	Debit Card	
	No. of transactions (Actuals)	
	POS	YoY Growth
2020	363203523	-
2021	377433789	3.92
2022	207845477	-44.93
2023	165234771	-20.50

The details about number of transactions (actuals) of Debit card on the POS and their growth has been mentioned in the table above. The data has been considered for four years i.e. 2020 to 2023. The growth in the number of transactions (actuals) of Debit card on the POS has been 3.92% in the year 2021 as compared to 2020. There has been a decline in the number of transactions (actuals) of Debit card on the POS by 44.93% in the year 2022 as compared to 2021. There has been a decline in the number of transactions (actuals) of Debit card on the POS by 20.5% in the year 2023 as compared to 2022.

Table 5.10 Volume of transactions (in Lacs) of Debit card on ATMs

Year	Debit Card	
	Volume of transactions (Lakh)	
	ATM	YoY Growth
2020	24809660	--
2021	28463553	14.73
2022	28589255	0.44
2023	28494902	-0.33

The details about volume of transactions (in lacs) of Debit card on the ATMs and their growth has been mentioned in the table above. The data has been considered for four years i.e. 2020 to 2023. The growth in the volume of transactions (in lacs) of Debit card on the ATMs has been 14.73% in the year 2021 as compared to 2020. The growth in the volume of transactions (in lacs) of Debit card on the ATMs has been 0.44% in the year 2022 as compared to 2021. There has been a decline in the volume of transactions (in lacs) of Debit card on the ATMs by 0.33% in the year 2023 as compared to 2022.

Table 5.11 Volume of transactions (in Lacs) of Debit card on POS

Year	Debit Card	
	Volume of transactions (Lakh)	
	POS	YoY Growth
2020	4764615	--
2021	6681934	40.24
2022	4076999	-38.98
2023	3522223	-13.61

The details about volume of transactions (in lacs) of Debit card on the POS and their growth has been mentioned in the table above. The data has been considered for four years i.e. 2020 to 2023. The growth in the volume of transactions (in lacs) of Debit card on the POS has been 40.24% in the year 2021 as compared to 2020. There has been a decline in the volume of transactions (in lacs) of Debit card on the POS by 38.98% in the year 2022 as compared to 2021. There has been a decline in the volume of transactions (in lacs) of Debit card on the POS by 13.61% in the year 2023 as compared to 2022.

6. Findings

- There has been an overall growth in the number of on-site ATMs in the year 2023 as compared to 2020.
- The number of off-site ATMs has declined during last four years.
- There was a strong increase in the number of POS during the year 2023 in comparison to 2020.

- The number of transactions (actuals) of Credit card on the ATMs have grown during last four years
- There has been a decline in number of transactions (actuals) of Credit card on the POS
- The volume of transactions (in lacs) of Credit card on the ATMs have increased during last four years.
- The volume of transactions (in lacs) of Credit card on the POS has decreased during the selected period.
- There has been a growth in the number of transactions (actuals) of Debit Card on the ATMs
- There has been high decline in the number of transactions (actuals) of Debit card on the POS during the selected period.
- There has not been much changes in volume of transactions (in lacs) of Debit card on the ATMs.
- The volume of transactions (in lacs) of Debit card on the POS has declined steeply during the last four years

Conclusion

Digital India program and it can be referred to a leader plan having a dream to change our country into a digital and informational economy. Some digital payment services providers are also offering some discounts and other benefits so as to increase the number of transactions being initiated through the different modes of digital payments. Though there are certain dis-advantages of digital payment system like there is a danger of frauds also and this has led to decrease in the number of payments as sometimes the customers get scared with the frauds and hence stop the use of digital payments. Digital payments indicate that payment is a circular process where the customers get money from the organizations where they are working through online mode, then this money is transferred to the vendors from whom they are buying certain items for them and then since the vendors are also using POS at their shops, the money gets transferred immediately to the account of vendors. The flow of money keeps on continuing in this way and the online payment mechanism has actually become very easy. The number of transactions (actuals) of Credit card on the ATMs have grown during last four years. There has been a decline in number of transactions (actuals) of Credit card on the POS. The volume of transactions (in lacs) of Credit card on the ATMs have increased during last four years. The volume of transactions (in lacs) of Credit card on the POS has decreased during the selected period. There has been a growth in the number of transactions (actuals) of Debit Card on the ATMs.

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