

A Comparative Study on Analysing the Impact of UPI on Debit Cards Transactions

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Abstract- Fintech refers to emergence of the technology in finance and this advancement has transformed the functioning of the market and simultaneously influences the life of millions of people. Fintech has gone beyond our imagination. While it emerges as a disruptor but the revolution and transformation it brings to the economy have symbolized it as a facilitator rather than a disruptor. Fintech has broadened the horizon and the emergence of UPI (Unified Payment Interface) and various third-party payment apps is an apt example of it. The launch of UPI has brought the digital revolution and also impacted the different modes of payment. UPI has got mass acceptance. In May 2021, it had over 10 crore monthly active users and a transaction value of 8.31 lakh crore was recorded in Jan 2022 which was expected to cross 1 trillion in FY 2022. It is a simple tool that was created by NPCI and is based on the IMPS system.

The research paper attempts to analyze the status and significance of UPI in the digital ecosystem and share different apps in UPI payments. It also tries to evaluate the impact of UPI on debit card transactions. The study is based on the secondary data collected from the Government websites like RBI, NPCI, Ministry of Finance, etc. Descriptive and correlational analysis has been used for analysing the data and deriving a conclusion.

Keywords: Debit card, Digital ecosystem, Digital revolution, Fintech, National Payment Corporation of India (NPCI), Unified Payment Interface (UPI).

I. INTRODUCTION

In today's world, the wave of digitalization is at its peak. Every nook and corner of society is endowed and updated by the emerging innovations of technology. Growth and development are always the primary consideration of any economy which would be possible only when three activities are carried in a loop; production, consumption, and distribution. While undertaking all these activities exchange plays a significant role because nothing is available without cost. For purchasing any goods or availing any services consideration (payments) is essential. Payment became an integral part of human life.

When we look over the development of the payment mechanism, the system was started from a popularly known practice called the Barter system. In this system, goods are exchanged for goods and such an economy is called C to C economy. Further, the precious metals were used as an exchange medium. But both of these methods suffered from several drawbacks which led to the evolution of money as the medium of exchange. However, with the rapid development of information and technology, a sharp transition has been witnessed in the payment mechanism and its settlement. The widespread use of mobile phones and the availability of internet facilities at a nominal rate promoted the development of electronic payments (payment through the digital or online mode with the help of payment-enabled programs or applications).

The policy of demonetization announced by the Government of India on 8 November 2016 removed the legal tender of Rs 500 & 1000 Rs notes to curb the menace of corruption and black money. This decision of the government to some extent proves disruptive and drastic for the mass population because they had to stand in a queue at ATMs and banks to get the new notes and to exchange the old ones. This extreme situation of cash crunch and faulty disbursement and exchange of currency notes paved the way for digitalization. The scheme for Digitalisation and Go Cashless has been extensively promoted by the government through its Digital India Initiative.

India is the fifth largest economy in the world consisting of different types of activities which result in an uncountable number of transactions in a day. Apart from that it has an edge in terms of the population as well. Being the second most populous country in the world with the huge masses of the people the occurrences of a high number of the transaction are inevitable. The market of digital payment is positively affected by the fact that more than 80 percent of the population in the country is having a smartphone which inculcates the use of new applications and technology in life and the availability of the internet at subsidized rates provides an amicable ground for the development of digital payment system.

Though the digital payment system was existing in India before 2016 the measure of demonetization has given a big boost to it. The period of the pandemic proved to be a great expansionary phase for the digital-based payment system in India. Digital Payment consists of two words – “**Digital**” which means something done through a virtual medium and “**Payment**” which refers to a financial transaction. Hence, the digital payment system is the mechanism of executing and settling financial transactions via a virtual platform or online medium. When it comes to making payments via digital system number of options are available like – Banking apps, Mobiles wallets, Unstructured Supplementary Services, Debit /Credit cards, and Unified Payment Interface (UPI). This wave of digitalization has led to the emergence of the FinTech era (a time phase where innovation and automation are reflected in the financial sector) as a good number of third-party apps and payment gateways have been incorporated which are popularly called FinTech companies.

II. CONCEPTUAL FRAMEWORK

Digital Payment mechanism is widely accepted because it has numerous advantages such as convenience, ease to use, 24*7 accessibility, no need to share crucial details like account number, IFSC code, etc, and can be used anywhere, anytime without any geographical and time constraints. This paper focuses on UPI as an emerging way of transaction and analyses the impact of this innovation on the transactions carried through debit cards.

Although debit card payments have been common for so many years the acceptance rate in India has been lower as compared to the other developed nations. As per the data published by RBI, there were about 661.8 million debit cards and 24.51 million credit cards in March 2016. However, the number of transactions carried out in the same period was just 72.22 million and 112.87 million which was amplified because of the demonetization.

It is generally seen that people are skeptical and dubious regarding the use of debit cards because of several reasons. Though debit cards are seeming to be an elite and popularised medium of transacting transaction it is not free. Several card issuing companies either nominalise or wave off the charges on online terminals and POS and claim to be free for a lifetime but the reality check is that such card usage charges are higher than the others. Though the company allows an interest-free period for some days after which an interest rate ranging between 2.5 to 3 percent is generally levied which when annualized reaches between 30 to 40 percent. If the minimum due is not paid the cardholder is charged with the penalty as well. Along with all this, the cardholder is charged if he asks for a duplicate statement. Moreover, the replacement of a damaged card due to its regular use is also chargeable. Apart from this excessive use of a card also impacts CIBIL score and some surcharge is also imposed if the card is used for making the payment for fuel. In such a situation where such cards are fledged with bundles of charges or fees, UPI seems to be a better choice over them.

Unified Payment Interface (UPI)

UPI is an open-source program interface that is regulated by RBI and is used to transfer funds via a mobile platform. It is a real-time payment interface developed by NPCI (a body of the Government of India) which allows the user to link his multiple bank accounts and facilitate the transfer of funds on a seamless basis round the clock without entering details like cardholder/ Account holder name, account number, IFSC, etc.

UPI allows QR-based payment where the QR code can be scanned by the camera of the phone through the app and the instant payments and receipt can be made possible without any formality and complexity. It is a simple tool that is based on the IMPS system. It can operate on a smartphone and an id called VPA which acts as a

payment identifier for receiving and making payments through a single click. UPI is the fastest-growing digital payment system because of the numerous advantages it has over the other method of payment -

- It offers a 24*7 round-the-clock facility.
- It is quite easy and convenient to use.
- It facilitates payment via mobile apps.
- Payments can be made only by entering the Virtual Payment Address (VPA) without entering any details like bank account number, IFSC, etc.
- It allows QR-based payment.
- It facilitates instant payment and a faster settlement mechanism.

Number of the banks on UPI has increased from 35 in 2016 to 323 in May 2022. In May 2021, UPI had more than 10 Crore monthly active users. Through the platform transaction of about 8.31 Lakh Crore has been recorded in Jan 2022 which is expected to cross \$ 1 trillion in FY 2022. It facilitates the payment or transfer of funds between any UPI-enabled banks. NPCI manages its app called BHIM App. Apart from BHIM, there are various other third-party -apps like Phonepay, GooglePay, AmazonPay, etc and recently WhatsApp is also added. NITI Aayog has predicted that UPI is going to overtake Visa and Mastercard by 2023.

III. LITERATURE REVIEW

(Tungare, 2019)The study was based on the primary data and it was found that UPI recently emerges as a convenient way of payment that facilitate quick transfer and settlement. It provides customers a way through which they get amazing discounts and cashback with the facility of a flexible system and payment trackability. It allows instant hassle-free transfers without entering details like Account number, IFSC, etc. The availability of smartphones and universal banking are some elements that have encouraged and positively motivated customers to adopt UPI.

(Angelin & Poullose, 2019)UPI was introduced by the Government of India to initiate the cashless economy. It is an updated version of IMPS. The emergence of the internet, smartphones, and social media has played a significant role in digitalizing the youth. It has become the best alternative to net banking because of the advantages like faster and smooth technology, quick settlement, convenience, etc. Several UPI firms (fintech companies) are offering competitive services and competing among themselves for providing a technically updated and easily accessible platform for providing competitive services.

(A. & Bhat, 2021) this study emphasized that to achieve the objective of a cashless economy, UPI has emerged as the best solution for transferring and receiving funds via VPA (Virtual Payment Address). UPI is tech-enabled platform which allows the transfer of funds from one bank account to another. It was also observed that numerous options are available for digital payment like Internet banking, Mobile banking, AEPS (Aadhar Enabled Payment Services), UPI, etc. But UPI offers advantages over and above the others. The most common disadvantage which was associated with it is that it remains ignorant and silent regarding the unbanked rural areas.

(Subaramaniam et al., 2020)It was observed that with the rapid development of the internet, the payment mechanism of customers changes drastically, and payment via e-wallets is most popular among them. It is slowly taking over cash and credit card because there is no involvement of transaction fees. It also found that card payments are generally made or preferred for the purchase of expensive items. However, many customers of the old generation still prefer cash in hand as the safer option than e-wallets.

(Bal et al., 2020) It was found that UPI is the most preferred payment mode in India in perspective of the volume of the transaction as compared to IMPS and card payments. It was pointed out that UPI will dominate the payment market with a stake of 59 percent of the total payment by 2024 -25. However, the three most popular apps are GooglePay, Phonepay, and Paytm but GooglePay is preferred for high-volume transactions. The study found that the introduction of UPI in 2016 has become a significant factor in contributing to the paperless economy. Being the pioneer of digital payment mechanisms its contribution toward the total digital

payment is increasing remarkably and the objective of 30 billion transactions will be met shortly. The two dominant participants in the UPI system are Phonepay and Gpay. UPI transaction has grown to 110 percent in volume and 109 percent in value between the period of June 2020 to June 2021.

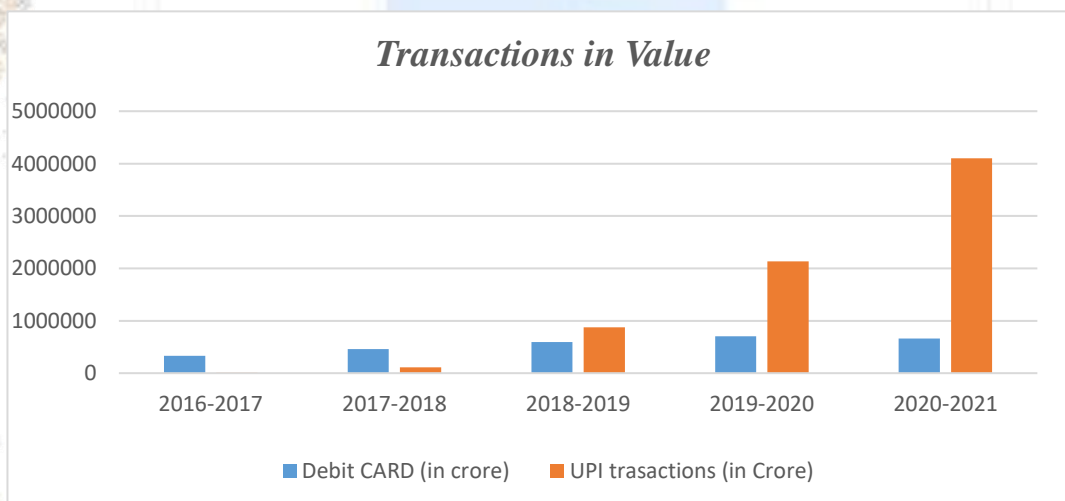
IV. OBJECTIVES OF THE STUDY

1. To understand the status of the UPI as an emerging payment mechanism.
2. To analyze its position in the digital ecosystem.
3. To analyze the impact of the UPI on debit card transactions.
4. To analyze the major apps on the UPI platform and their stakes in total transactions.

V. RESEARCH METHODOLOGY

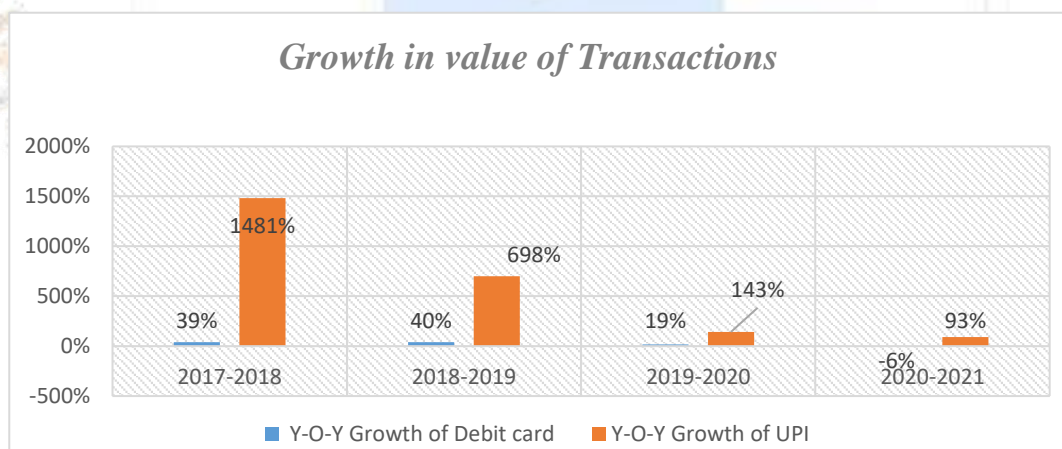
The study is based on the secondary data collected from reliable sources like RBI websites, NPCI, and the Ministry of Finance website. The study was further supplemented by the data provided available on the websites like Statista & Survey reports or financial data published by the authenticated entity. The period of which data are considered under the study ranges from 2016-17 to 2020-21. The data is collected from the different sources analyzed with the help of correlational analysis and descriptive statistics are used for the interpretation of the data and deriving conclusions.

VI. ANALYSIS AND INTERPRETATION



Source- RBI & NPCI

Fig. 1



Source- RBI & NPCI

Fig. 2

To analyze the impact of UPI on the transactions using Debit cards, the data were collected from the NPCI and RBI and a simple observational analysis was made using the graphical representation of the data. It can be concluded that as the UPI was launched in the year 2016, previously the debit was the widely used transaction medium but after the launch of UPI it can be seen that the people have adopted UPI on a mass scale. **Fig. 1** shows the number of transactions in different years starting from 2016-2017, the value of transactions via UPI

has grown in a large proportion witnessing a very sharp growth in UPI adoption, whereas the transactions using the Debit card are increasing at a slower pace. It is increasing at a diminishing rate despite the wide acceptability and growth of the infrastructure of digital payment.

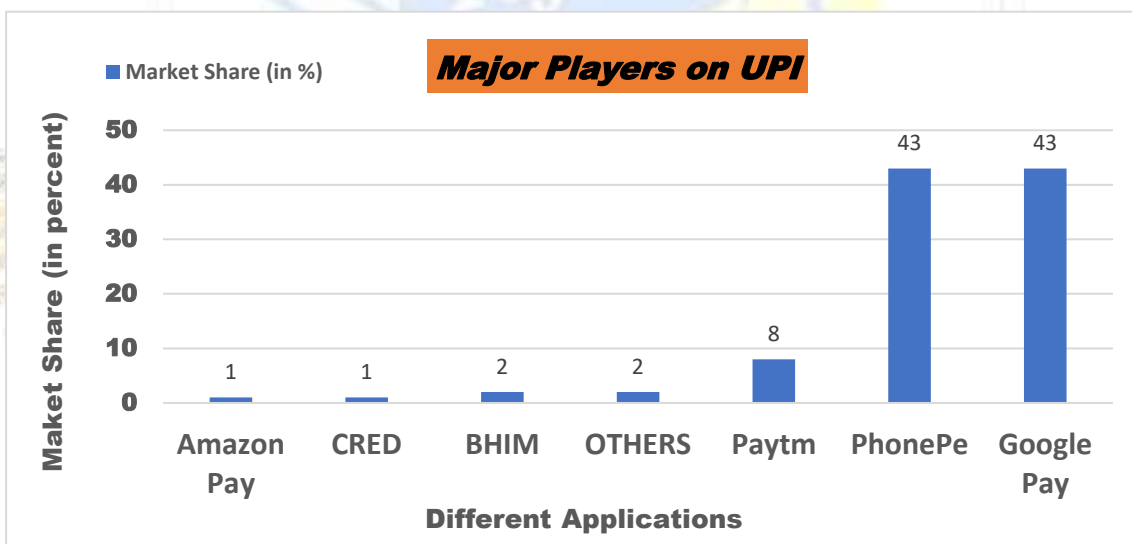
Fig. 2 shows the year-to-year growth in the value of transactions of both the UPI and debit cards. It shows that by taking 2016-2017 as the base year in which the UPI came into existence, in the year 2017-2018 UPI registered 1481% growth whereas only 39% growth can be seen in the value of transactions using the debit card. Similarly, the growth in value of transactions using UPI and debit cards was 698% & 40% in the year 2018-2019, 143% and 19% in the year 2019-2020, and 93% & -6% in 2020-2021 respectively. It can be concluded that UPI as a payment mechanism has been adopted by people more than that debit cards. Due to its easy, flexible, low-cost infrastructure requirement, UPI transactions have grown over the years. Whereas, transactions using the debit card at POS are registering growth due to an expansionary trend towards digital transactions but the growth is minimal in comparison to transactions carried out using the UPI.

| YEARS | Debit CARD (in crore) | UPI trasactions (in Crore) |
|-----------|-----------------------|----------------------------|
| 2016-2017 | 329907.225 | 6947 |
| 2017-2018 | 460069.966 | 109832.09 |
| 2018-2019 | 593475 | 876961 |
| 2019-2020 | 703920 | 2131730 |
| 2020-2021 | 661385 | 4103658 |
| CORELL | | 0.77335713 |

Source- RBI & NPCI

Table. I

Table. I show the transactions in value terms for UPI and debit cards. By calculating the correlation (CORELL) among the value of transactions, it is found that there is a positive and high degree of correlation among them which is 0.77. This shows that with the growing trends of digital payments both type of methods is being used by the people.



Source: statista.com

Fig. 3

In Q1 UPI recorded over 14.55 billion transactions in volume and Rs.26.19 trillion in terms of value. The volume & value of the transaction has doubled from last year’s record. From the information given in **Fig. 3**, it can be observed that the top UPI apps are PhonePe and GooglePay, the major players on the UPI platform. It was found that more than 90 percent of the transaction are accounted for by PhonePe, GooglePay & Paytm. The market share of the BHIM app though launched by the Government unit NPCI is quite insignificant on the UPI platform. GooglePay and PhonePe are dominating the market. However, the launch of WhatsApp as a payment app may reduce the share of these two apps in the future and prevent the duopolistic situation in the market.

VII. CONCLUSION

Fintech has been reshaping the economy. The emerging blend of technology with finance has a positive impact on the lives of millions of people and the evolution of the different UPI-enabled payment applications is an example of it. The launch of UPI in 2016 by NPCI proves to be a major step in transforming the way of payment in the market. This paves the way for the digital market which does not mandate the availability of liquidity in hand in the form of cash. Rather digitalization emphasizes “Go cashless”. As a result, a transition has been witnessed from a traditional to a digital economy. It was found that after the introduction of the UPI, positive growth has been witnessed in digital transactions and UPI overtook the debit card as the medium of payment. Though both of them have recorded an increase in the volume of the transaction during the period of 2016-17 to 2012-22 rate of growth is lower for transactions done via debit cards. The debit card is existing in the market as a payment option earlier than the UPI still it does not get the mass acceptance as received by the UPI. GooglePay and PhonePe emerged as the major holder on the UPI platform, despite having third-party apps they received mass acceptance by the general public in comparison to BHIM, Amazon Pay, Paytm, etc.

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