

Comparative Study of IMPS and UPI as Payment Options in India with Special Reference to COVID 19

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Abstract: Covid 19 has aided the growth of digital and contactless payment. All over the world Government has expanded digital financial transfers to serve the harm caused by Covid 19 on sources of income and economy due to which many people has shifted from physical cash to contactless Payment. The Indian Banking sector was struggling hard to popularize digital payments and it gained its thrust after demonetization and Covid 19. To achieve paperless and cashless economy UPI and IMPS is contemporary way of transferring fund. This Research paper is based on the secondary data derived from the website of Reserve Bank of India. The data was extracted from the source. The research is based on graphical representation of data and time series analysis of data. The jamovi software has been used to analyze the data. The main implication of study is that the popularity of Unified Payment Interface has increased during and post COVID period. The other popular mode of cashless transfer of funds like IMPS have shedded in their usage both volume wise and the value wise.

Keywords: UPI, NPCI, IMPS, PMJDY, Digital Payments

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I. INTRODUCTION

UPI is a process that equates multiple bank accounts into a single mobile application consolidating different banking features, seamless fund routing and merchant payments into one hood. By keeping above paragraph in mind, With 21 member banks, Pilot launch was conducted by NPCI. The pilot launch was on 11th April 2016 by Dr. Raghuram G Rajan, Governor, RBI at Mumbai. From 25th August, 2016 onwards Banks have started to upload their UPI enabled Apps on Google Play store. UPI works on a technology called open API (Application programming interface). It is a type of interface where parties can be linked with each other easily. What makes UPI unique?

➤ *UPI is Unique Because it has Some Unique Feature*

- It Provide immediate money transfer facility round a clock 24*7*365 through mobile devices.
- QR code facility
- It is the best answer to cash on delivery hassle
- There is a single mobile application for using different bank accounts.

UPI is the actual time payment system which emerged through National Payment Corporation of India which facilitates interbank transactions and this interface is

regulated by using RBI. Demonetization has paved a special way for recognition of virtual transactions

IMPS provide real time fund transfer for 24*7*365 which could be accessed on multiple. Mode like mobile Internet, ATM, SMS. IMPS provide systematic service by which funds are transferred directly within bank accounts across India, which is not only secured but also reasonable. NPCI provides this facility through its existing NFS switch. Those banks can participate in IMPS which have valid banking or prepaid payment instrument license from RBI (Reserve bank of India. For doing transactions through IMPS authentic mobile number and MPIN is required. The pandemic covid 19 has boosted the growth of digital and contactless payment. Many people in India have shifted from physical cash to digital and contactless payment instrument. These payments include online banking, mobile banking app, or automated transfer. As social distancing is increasing day by day digitalisation of payment is becoming the need of the hour in many countries and India is one of them. Governments all over the world expanded digital financial transfers to serve the harm caused by Covid 19 crisis on economies and source of income. It has also motivated the Central bank to develop their Central Bank digital currency (CBDC).

II. LITERATURE REVIEW

The contactless payment system is preferred against other methods of payments, which has led to the development of digital payment system, mainly in the retail payments. Unified Payment Interface has become preferred mode of payment. The status of digital payments and UPI states that there are several payment options for digital payments and transfers like credit cards, internet banking, debit cards and unified payments interface. Many people in India are moving towards cashless transactions. The reason behind this is the preference of less cash in hand, however it also has some disadvantages like UPI can be used by only those who have bank accounts. Data was analyzed using SWOT analysis during the digital payment. The method used during the research was explanatory research method and data was collected from the secondary sources that are government report, RBI report and some of the published research work (Mahesh A. & Bhat, 2021).

The UPI is the most problem solving and immediate payment system facilitated by the National payment corporation of India. The UPI has created a simple and easy way for virtual transactions. The study found out that UPI is convenient and secured transactions and also provides many benefit to people as compared to traditional method. And it was concluded that only education factor has impacted on the adoption of UPI as there was no significant difference noticed by the respondents on the basis of other demographic factors (gender, age, profession and annual income) (Gupta & Kumar, 2020).

This paper found out that how financial stability and trust plays an important role in determination of financial inclusion and economic development. And it is also said that UPI provide secured transaction to people having PMJDY account, which has also helped in economic development and financial inclusion in the economy. Due to covid crisis the digitalization of payment service has increased enormously. This study implied that just by providing UPI

service is not enough; rather government should check that this services are offered to beneficiary in cost effective way. Secondly, infrastructure for digital payment should be strong enough that there should be proper availability of internet speed and electrification and financial literacy program should be provided by the government through the institution who are providing financial services and finally, customer care center should be established to listen the grievances of the people so that trust can be build up (Rastogi et al., 2021).

UPI is developed by National Payment Corporation of India, facilitating the interbank transaction. It was also pointed out that customer preference towards unified payment interface. To analyze the data, regression analysis was used test ANOVA was used to test the hypothesis. This study concluded that UPI services has served positive attitude towards customer and it was found that there is direct relation between financial literacy and usage of UPI services as literate people are more indulge in using UPI services, smart phones and internet viability in such area has also helped in increasing the usage of UPI service (Philip, 2019). UPI is a system that has multiple bank accounts integrated into a single mobile application. The UPI allows consumers to execute transactions directly through their bank accounts with a unique UPI identity which is backed by Andhra Authentication. The payment is settled using encryption technology. Hence, Andhra platform is one of India's accomplishments which has aided the country to digitize its payment services (Thomas, 2017).

III. RESEARCH OBJECTIVES

- To understand the pattern of change in the electronic payments in India.
- To compare UPI and IMPS as preferred payments options.
- To understand the change in the payment behavior in India post COVID19.

Table 1 Analysis of IMPS vs. UPI Payments Post-COVID

| | |
|-------------|---|
| Ho1: | IMPS payments are preferred over UPI post COVID |
| Ho2: | The volume of IMPS payments have increased as compared to UPI payments over the COVID years |
| Ho3: | The value of payments using IMPS have increased as compared to UPI payments over the COVID years. |

IV. RESEARCH METHODOLOGY

➤ Sampling

The Research is based on the secondary data derived from the website of Reserve Bank of India. The data is published data and is available free for the general public.

➤ Methodology

The data was extracted from the source. Then the data cleaning and data manipulation was done using the jamovi

software. The research is based on graphical representation of data and time series analysis of data.

V. DATA ANALYSIS

The below table shows the total volume and value of transactions which happened using UPI and IMPS as payment options during the COVID times.

Table 1 Growth of UPI and IMPS Transactions During COVID-19 (2018-2021) (Volume in million, Value in Rs. Billion)

| | IMPS | IMPS | UPI | UPI |
|------|--------|---------|---------|---------|
| | Volume | Value | Volume | Value |
| 2018 | 1009.8 | 8925.0 | 912.9 | 1094.3 |
| 2019 | 1752.9 | 15902.6 | 5390.0 | 8767.0 |
| 2020 | 2579.2 | 23375.4 | 12517.6 | 21315.5 |
| 2021 | 3278.3 | 29415.0 | 22329.6 | 41034.8 |

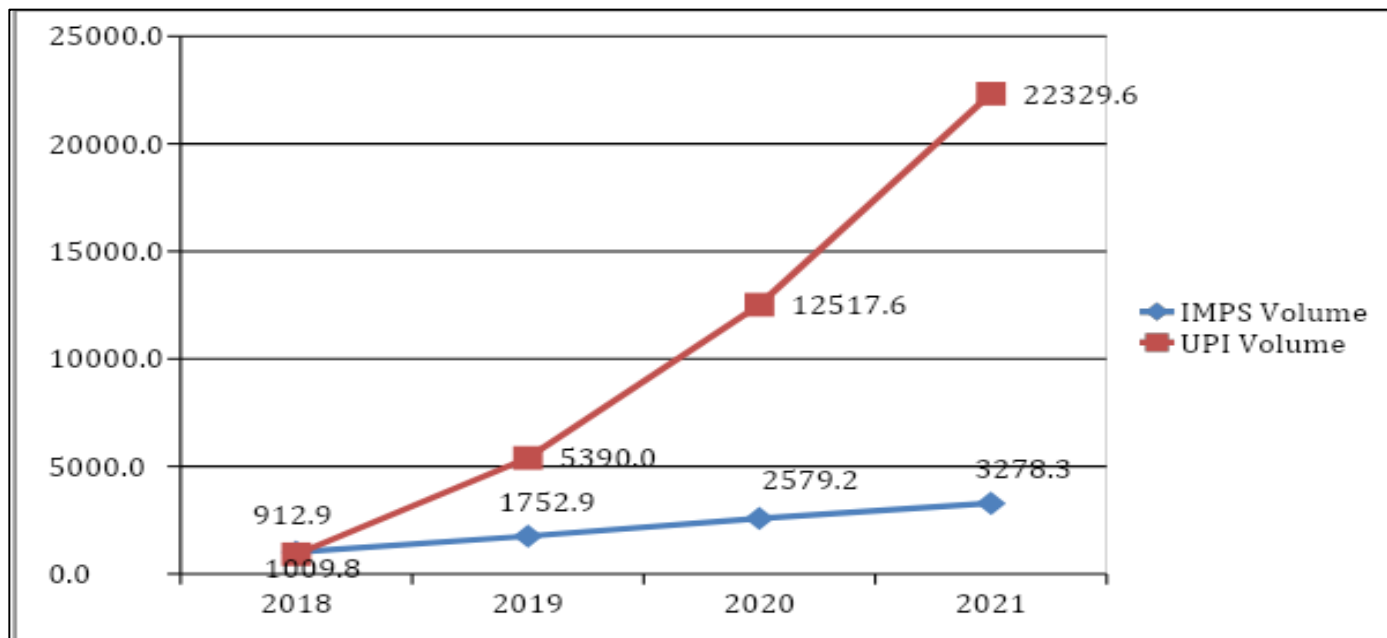


Fig 1 Trends in UPI and IMPS Transactions (Volume & Value) During 2018-2021

From the above chart, it can be seen that in the year 2018 i.e. before covid outbreak IMPS was the preferred mode of payment volume wise but after that use of UPI mode of payments increased exceptionally. In the year 2019 UPI mode of payment increased by almost 67% and in the year 2020 which was the acute time of covid outbreak, when our economy was moving towards cashless economy which

can be seen from the above chart, the increase in UPI transaction gain a spike and it rose up to 79% and since then it continuously goes on rising and in the year 2021 UPI transaction was at its highest as it raised almost about 85%. From which it can be concluded that the increase in the volume of UPI transactions has increased manifold times during the COVID years.

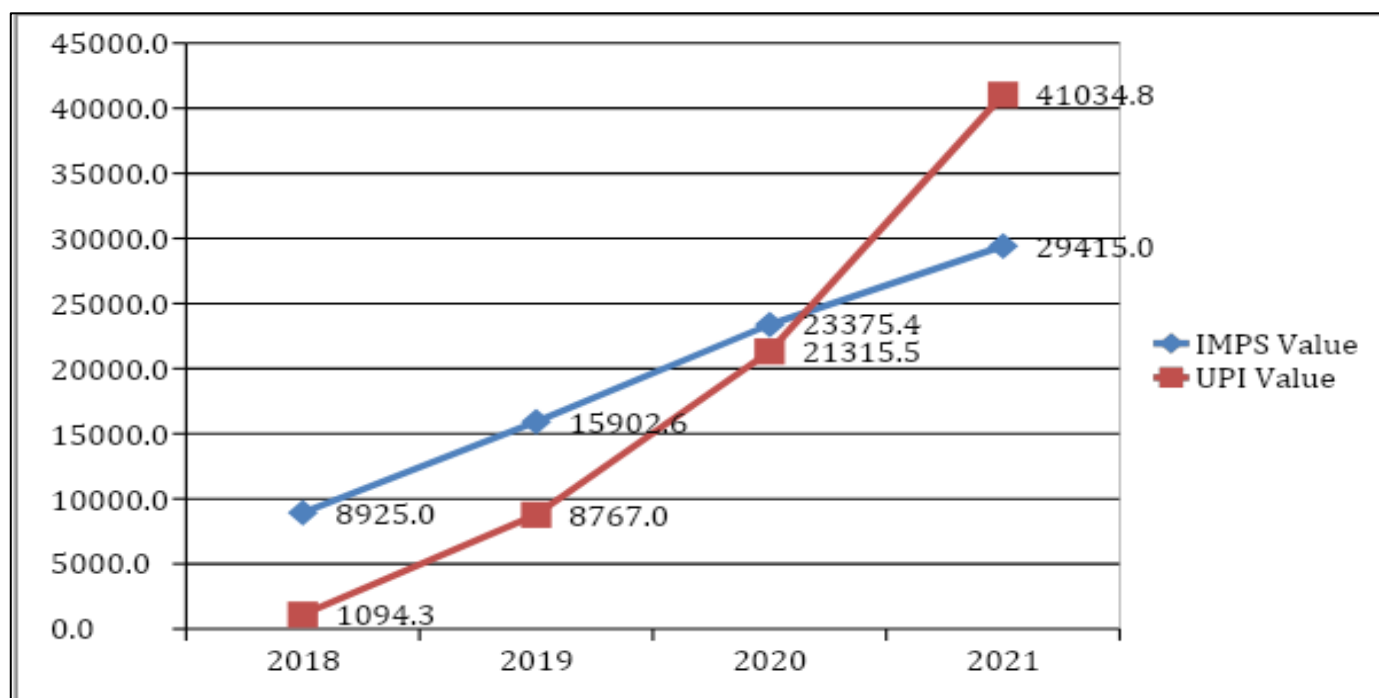


Fig 2 Trends in UPI and IMPS Transactions (Volume & Value) During 2018-2021

From the above chart, it can be seen that the value of IMPS payments was much higher in the years before COVID i.e. 2018, 2019 and it continued to remain at spike till 2020 but after that it fell down extraordinarily in the year

2021 nearly about 28%. From this it can be concluded that UPI payments has increased acutely during the COVID years.

VI. FINDINGS

Table 2 Comparison of IMPS and UPI Payments Post-COVID

| S.N | HYPOTHESIS | Accept/ Reject | Reason |
|-----|---|----------------|---|
| Ho1 | IMPS payments are preferred over UPI post COVID | Rejected | IMPS payments are less preferred over UPI post COVID. |
| Ho2 | The volume of IMPS payments have increased as compared to UPI payments over the COVID years | Rejected | The volume of IMPS payments have decreased as compared to UPI payments over the COVID years. |
| Ho3 | The value of payments using IMPS have increased as compared to UPI payments over the COVID years. | Rejected | The value of payments using IMPS have decreased as compared to UPI payments over the COVID years. |

VII. CONCLUSIONS

It can be concluded from the above study that the popularity of Unified Payment Interface has increased during and post COVID period. The other popular mode of cashless transfer of funds like IMPS have shedded in their usage both volume wise and the value wise.

From the above data analysis, it can be seen that in the year 2019 UPI mode of payment Volume wise increased by almost 67% and in the year 2020 which was the acute time of covid outbreak, when our economy was moving towards cashless economy which can be seen from the above chart, the increase in UPI transaction gain a spike and it rose up to 79% and since then it continuously goes on rising and in the year 2021 UPI transaction was at its highest as it raised almost about 85%.

It was also found that the value of IMPS payments was much higher in the years before COVID i.e. 2018, 2019 and it continued to remain at spike till 2020 but after that it fell down extraordinarily in the year 2021 nearly about 28%.

- [5]. Thomas, R. (2017). Unified Payment Interface (UPI): A Catalyst Tool Supporting Digitalization – Utility, Prospects & Issues. 4(2),2–5.

REFERENCES

- [1]. A., M., & Bhat, G. (2021). Digital Payment Service in India - A Case Study of Unified Payment Interface. International Journal of Case Studies in Business, IT, and Education, 5(1), 256–265. <https://doi.org/10.47992/ijcsbe.2581.6942.0114>
- [2]. Gupta, S., & Kumar, D. (2020). UPI - An Innovative Step for Making Digital Payment Effective and Consumer Perception on Unified Payment Interface. The International Journal of Analytical and Experimental Modal Analysis, 12(1), 2482–2491.
- [3]. Philip, B. (2019). Unified Payment Interface-Impact of UPI in Customer Satisfaction. Online Journal of Multidisciplinary Subjects, 12(4), 124–129
- [4]. Rastogi, S., Panse, C., Sharma, A., & Bhimavarapu, V. M. (2021). Unified Payment Interface (UPI): A digital innovation and its impact on financial inclusion and economic development. Universal Journal of Accounting and Finance, 9(3), 518–530. <https://doi.org/10.13189/ujaf.2021.090326>