



Performance Of Upi During Pre And Post-Pandemic Period- A Comparative Study

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Abstract

This study is about the impact of the covid-19 pandemic on UPI transactions. It is a comparative study on the UPI transactions during the pre and post-pandemic period. The main objectives of the study are to evaluate the performance of UPI during the pre-pandemic and post-pandemic periods and to analyze the trends of UPI during the pre-pandemic and post-pandemic periods. To conduct the study two samples have been chosen the pre-pandemic period starting from May-2018 to March-2020 and the post-pandemic period starting from April-2020 to February-2022. Analyzing the data researcher found that the covid-19 pandemic has created a boom in UPI.

Keywords: UPI, covid-19 pandemic, pre and post-pandemic period, value of UPI transactions and trends of UPI transactions

Introduction

The word UPI stands for Unified Payments Interface. It was launched by former RBI governor Dr. Raghuram Rajan in April 2016 for the first time. Banks started uploading their UPI applications into the Google play store in August 2016. UPI is an application that is being used to transfer money from one bank account to another bank account instantly online. It also has some banking features. It facilitates seamless fund routing. It also caters to the “Peer to Peer” collect request which can be scheduled and paid as per requirement and convenience. National Payments Corporation of India is taking care of UPI. It is getting popular not only in India but also in foreign countries. Many think tanks have started considering UPI as the best alternative to Visa and MasterCard to counter their monopoly. UPI has some certain unique

features and they are; immediate transfer of funds, 24/7 service for 365 days, accessing multiple bank accounts with the single application, 2- step authentication, unique UPI id, QR code scanning, cashless transaction, payment of various bills, buying gold, buying an insurance policy, investment in SIP and Mutual funds and direct registration of complaint using the application. It completed its 6 years of successful running in India. During covid-19 pandemic people adopted this cashless payment method to transfer their funds which supported its success story.

Review of literature

Sudha, Sornaganesh, Thangajesu, Chellama (2020), “Impact of the covid-19 outbreak in digital payments” pandemic forced to adopt digital medium for making payments, digital transactions are 10% of Gross Domestic Product of the country.

Agan (2020), “The impact of the covid-19 pandemic process on digital payment system: the case of Turkey” found that the number of sectors with online card payments increased 1.5 times last year. The amount of online card payments has increased by 14 percent compared to the same period of last year. During this lockdown period, all banking sector has given services like online or telebanking.

Chaudhari and Kumar (2021), “Study on the impact of the covid-19 outbreak on digital payments system” found that covid-19 has positively impacted the digital payments system in the retail segment. The volume and value of digital transactions have increased. During the covid-19 pandemic, it recorded 3% growth.

Pawar (2021), “A study on the impact of a covid-19 pandemic on online payments with reference to degree college students in Palghar district” found that almost 100% of students are using online payments system, they faced many payment-related issues during the pandemic, it is very difficult to use for the parents of the students.

Sachdev and Jain (2021), “Study on the impact of covid-19 on acceptance of digital payments” found that there is a significant correlation between selected digital banking services and demonetization along with covid -19 factor. Banking transactions like NEFT, RTGS, and Mobile Banking have increased after Demonetization in 2017 and during Covid-19 times from January 2020 onwards people were diverted to Digital transactions as lockdown forced them to stay indoors

Significance of the study

Now UPI is creating its hegemony not only in India but also in foreign countries. Covid-19 pandemic pushed public to make online transaction to maintain social distancing. So it becomes very important to be studied. There are also some other reasons that make it very important and they are listed below.

- i. It may help in creating cashless economy.
- ii. It may push digital India mission.
- iii. It may enhance transparency in transaction.

- iv. It may help in decreasing tax evasion.
- v. It may push the development in banking sector.

Objectives of the study

Every research has some specific objectives, these are listed below.

- 1) To evaluate the performance of UPI during pre-pandemic and post-pandemic period
- 2) To study the differences between the performances of UPI during pre-pandemic and post-pandemic period
- 3) To analyze the trends of UPI during pre-pandemic and post-pandemic period
- 4) To study the differences between the trends of UPI during pre-pandemic and post-pandemic period

Hypotheses

- 1) **H₀**: There is no significant difference between the value of UPI transactions taken place during pre-pandemic and post-pandemic period.
- 2) **H₀**: There is no significant difference between the trend of pre-pandemic period and post-pandemic period.

Research methodology

It is an analytical study. This study is based on secondary data, collected from various publications of NPCI. Here two samples have been taken the pre-pandemic period and the post-pandemic period. The pre-pandemic period comprises 23 months, starting from May-2018 to March-2020. The post-pandemic period comprises 23 months, starting from April-2020 to February-2022. To evaluate the performance descriptive statistics have been used. To test the hypotheses t-test has been used. Accounting methods like trend percentage and incremental percentage have been used. To represent the trends trend lines have been drawn using line charts. Statistical calculations have been performed using SPSS and MS Excel has been used. Plagiarism has been checked by using Grammarly.

Limitations

This study suffers from some limitations and they are listed below.

Only secondary data have been used which are available in the NPCI website and some data provided on NPCI website may not be correct. Volume of transactions have not been taken into account

Analysis and interpretation

The following is summary of pre-pandemic and post-pandemic period value of UPI transactions and their respective trend percentages.

STATEMENT SHOWING THE VALUE AND TREND OF UPI TRANSACTIONS					
PRE-PANDEMIC PERIOD			POST-PANDEMIC PERIOD		
MONTHS	VALUE (in Billion)	TREND PERCENTAGE	MONTHS	VALUE (in Billion)	TREND PERCENTAGE
May-18	332.6	100	Apr-20	1511.3	100
Jun-18	408.1	126.5	May-20	2183.8	144.5
Jul-18	518.2	160.6	Jun-20	2618.2	173.2
Aug-18	541.9	168.0	Jul-20	2905.2	192.2
Sep-18	598.1	185.4	Aug-20	2982.9	197.4
Oct-18	749.6	232.3	Sep-20	3290.1	217.7
Nov-18	822.1	254.8	Oct-20	3860.9	255.5
Dec-18	1025.7	318.0	Nov-20	3909.8	258.7
Jan-19	1099.1	340.7	Dec-20	4161.6	275.4
Feb-19	1067.2	330.8	Jan-21	4311.7	285.3
Mar-19	1334.4	413.6	Feb-21	4250.5	281.2
Apr-19	1420.2	440.2	Mar-21	5048.7	334.1
May-19	1524.3	472.5	Apr-21	4936.5	326.6
Jun-19	1465.5	454.3	May-21	4906.2	324.6
Jul-19	1463.7	453.7	Jun-21	5473.7	362.2
Aug-19	1544.9	478.9	Jul-21	6062.8	401.2
Sep-19	1614.4	500.4	Aug-21	6391.2	422.9
Oct-19	1913.4	593.1	Sep-21	6543.5	433.0
Nov-19	1892.2	586.5	Oct-21	7714.4	510.5
Dec-19	2025.1	627.7	Nov-21	7684.4	508.5
Jan-20	2162.3	670.3	Dec-21	8268.5	547.1
Feb-20	2225.0	689.7	Jan-22	8319.9	550.5
Mar-20	2064.5	640.0	Feb-22	8268.4	547.1

(Sources: NPCI and researcher's data sheet)

According to the above summary value of UPI transaction was Rs. 332.6 billion which became Rs. 8268.4 billion in February 2022. It describes the tremendous growth in the value of UPI transactions in India. To evaluate the performance of UPI descriptive statistics of the value of UPI transactions has been calculated.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PRE-PANDEMIC	23	332.60	2225.00	1296.20	596.43
POST-PANDEMIC	23	1511.30	8319.90	5026.27	2067.19
Valid N (listwise)	23				

(Sources: SPSS calculation)

According to the above summary, the means of the UPI transaction values for the pre-pandemic and post-pandemic periods are Rs.1296.20 billion Rs. 5026.27 respectively. If the increment in the value of UPI transactions is calculated by comparing the means of the UPI transaction values of the pre-pandemic and post-pandemic period, then it will be as follows.

$$\text{Increment} = [(5026.27 - 1296.20) / 1296.20] * 100 = 288\%$$

This difference can be proved by testing the following null hypothesis.

H₀: There is no significant difference between the value of UPI transactions taken place during pre-pandemic and post-pandemic period.

Independent Samples Test											
		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper	
VALUE	Equal variances assumed	24.17	.000	-8.31	44	.000	-3730.07	448.62	-4634.21	-2825.94	
	Equal variances not assumed			-8.31	25.64	.000	-3730.07	448.62	-4652.86	-2807.28	

(Sources: SPSS calculation)

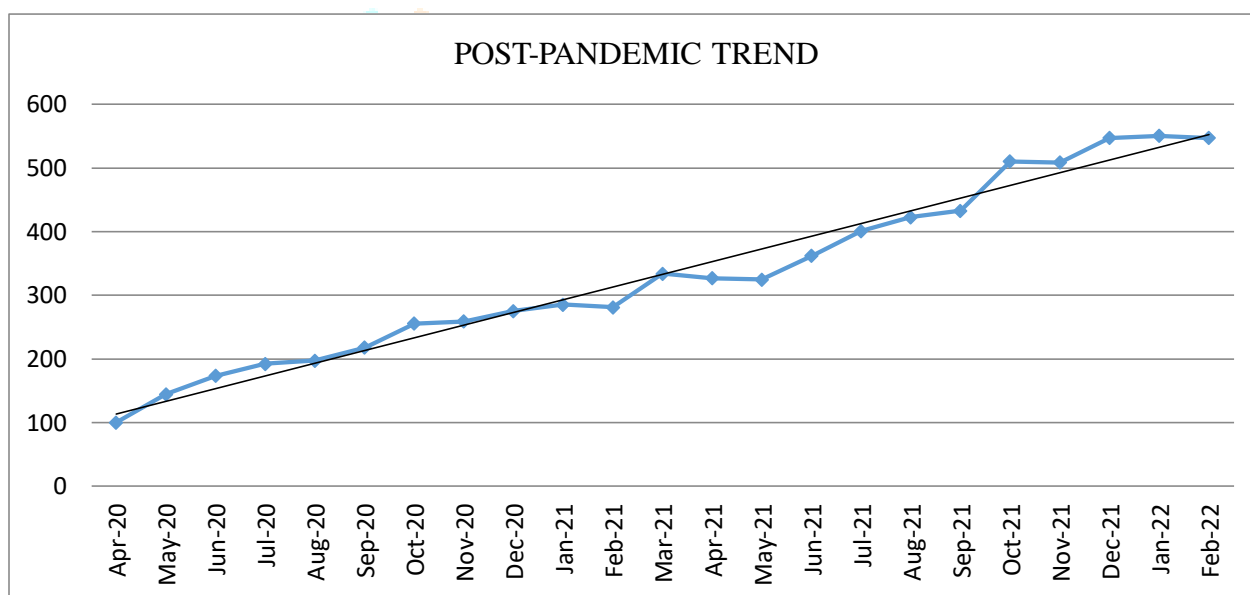
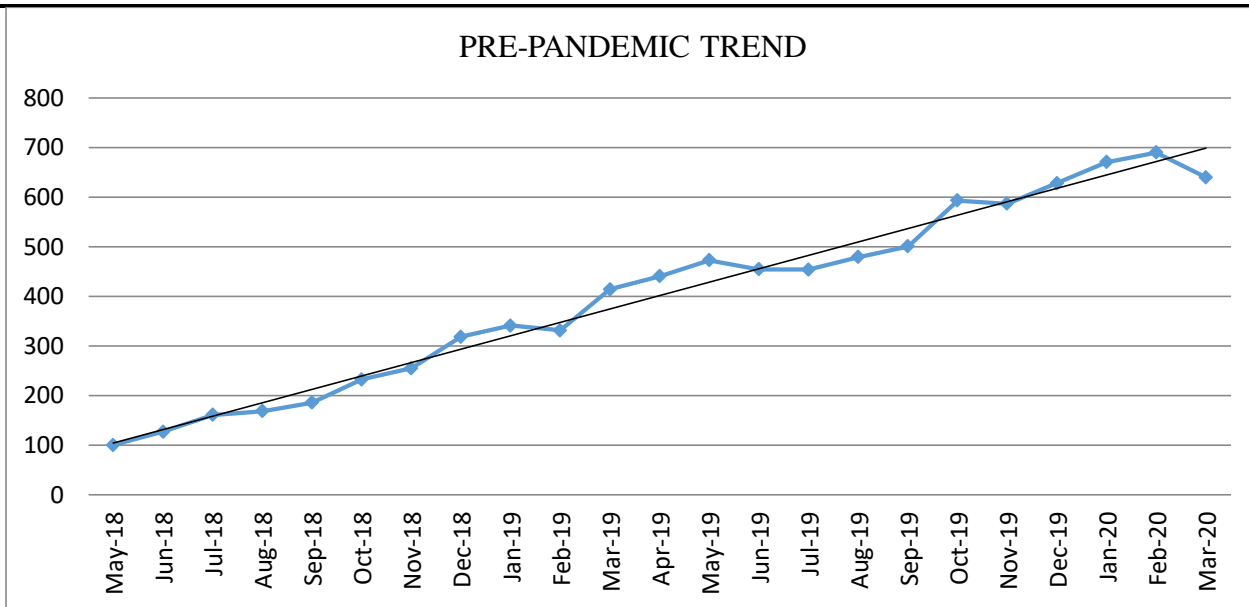
According to the results of the t-test, the p-value is 0.00 which is less than 0.05. So the null hypothesis will be rejected. Hence alternatively it can be said that there is a significant difference between the value of UPI transactions taken place during the pre-pandemic and post-pandemic periods.

According to the above summary there are trend percentages have been calculated both for the pre-pandemic and post-pandemic period. To analyze their trends following descriptive statistics have been calculated.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PREPANDEMIC	23	100.00	689.70	401.65	185.11
POSTPANDEMIC	23	100.00	550.50	332.58	136.79
Valid N (listwise)	23				

(Sources: SPSS calculation)

According to the above descriptive statistics mean for the pre-pandemic and post-pandemic period it is clear that the mean pre-pandemic trend percentage is 401.65% and the mean post-pandemic trend percentage is 332.58%. If these trend percentages are plotted into trend lines they will be as following charts.



According to the above charts, it is very clear that the trend line of the pre-pandemic period is more upward as compared to the post-pandemic period. It means that during the pre-pandemic period value of UPI transactions was growing more rapidly as compared to the speed at which UPI transactions value is growing during the post-pandemic period. To study the differences between the trends these two trends following null hypothesis will be studied.

H₀: There is no significant difference between the trend of pre-pandemic period and post-pandemic period.

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
TREND	Equal variances assumed	3.16	0.08	1.44	44.00	0.16	69.07	47.99	-27.66	165.79
	Equal variances not assumed			1.44	40.51	0.16	69.07	47.99	-27.89	166.03

(Sources: SPSS calculation)

According to the t-test result p value (0.16) is more than 0.05. So the null hypothesis will be accepted. Hence the differences between the trends of both pre-pandemic and post-pandemic period are not different significantly.

Findings

According to the above analysis researcher found some facts which are listed below.

- I. There is boom in value of UPI transactions in India during post-pandemic period.
- II. Increment in value of UPI transaction in post-pandemic period is 288% of the value of UPI transactions during pre-pandemic period.
- III. Value of UPI transactions in post-pandemic period is significantly high than the value of UPI transactions during pre-pandemic period.
- IV. Trends of UPI are upward trends during pre-pandemic and post-pandemic period which mean UPI was growing during pre-pandemic period and it is also growing during post-pandemic periods.
- V. The trends of pre-pandemic and post-pandemic periods are not different significantly.

Conclusion

According to the findings, it is very clear the post-pandemic period witnessed a massive increment in the value of transactions and the increment is significant as compared to the value of transactions during the pre-pandemic period. There is an upward trend in both pre-pandemic and post-pandemic periods. Trends of both pre-pandemic and post-pandemic periods are the same. It can be concluded that the covid-19 lockdown has a huge impact on UPI transactions that created a boom in UPI transactions during the post-pandemic period.

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