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Making UPI Sustainable: A Model to Charge the Transactions

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Abstract
Unified Payment Interface or simply put UPI is a product of NPCI that allows for instant money transfer between bank accounts without the need of entering the account number and IFSC Code. The transfer can be done by scanning a QR code or with the help of a virtual payment address. UPI witnessed a pilot launch on 11th April 2016 by Dr. Raghuram G. Rajan, Governor, RBI at Mumbai. 21 member banks were selected for the pilot project and now down the line, we have more than 320 member banks (PSP and Issuer) on the UPI platform. Currently, the money transfers done using UPI cost nothing as they are free of cost. This paper focuses on understanding the Pros and Cons if the regulators start charging a minimal number of charges for the transfers along with a model that can be used to charge the users.

Keywords: UPI, BHIM, Digital Payments, Digital Economy, Cashless Economy.

1. Introduction

Theoretical Background

Digital payments help ease money circulation and at the same time, they help us to keep transparency. If any country wants to become a digital economy, then a robust and reliable electronic payment system is required. This is what we have got in India, UPI checks all the boxes that are required to become a reliable electronic payment platform.
The COVID-19 pandemic gave a boost to the adoption of the UPI platform and now this platform is used to transact around Rs. 6,94,324.26 Cr every month. (Average value of total transactions value per month from January 2021 to May 2022) The platform has received such an overwhelming response because of multiple reasons.
At the same time regulators, due to a number of reasons decided not to charge anything for the transactions done using the platform till today. This was an essential decision to make sure more and more people were on-board the platform so that the country moves even closer to becoming a digital economy.
There are other modes of electronic payments in India as well. And they are IMPS, NEFT, RTGS, and others. Among all these UPI takes the legacy of IMPS forward which is the instant money transfer from one bank account to another. But at the same time, UPI also made the process much easier.
While making an IMPS transfer the initiator of the transfer has to add the receiver's account as a beneficiary (by entering the name, account number, and IFSC Code) using internet banking or mobile banking. It takes time for the activation of the beneficiary only after which the funds can be transferred from the initiator's account to that of the beneficiary.
The beneficiary activation time differs from bank to bank. Some banks do it within 30 minutes while others can take up to 2 hours. There is a way around transferring money without adding the beneficiary and that is the service of ―Quick Transfer‖ or ―One-time transfer‖. Using this service, the initiator can transfer up to a certain limit which differs from bank to bank.
But there is a maximum cap on the amount that can be transferred in a single transaction using quick transfer. At the same time using UPI the initiator can transfer maximum up to Rs. 1,00,000 per transaction without adding a beneficiary. All needed for the transfer is a

registered mobile number (if using the same UPI-enabled app), virtual payment address, or QR code of the receiver. (If using different UPI enabled apps)

On December 16, 2019, in a circular of RBI with the subject ―Furthering Digital Payments – Waiver of Charges – National Electronic Funds Transfer (NEFT) System. RBI indicated the banks not to levy any charges on the NEFT and the RTGS transfers that are done online using internet banking and the mobile banking application by the customers of Savings Bank account.

But there are no such directions given by RBI for the IMPS system. There are a few banks like Axis Bank, ICICI Bank, and HDFC Bank among many that charge the customers for the IMPS funds transfers. (Source: official websites of the banks) While there are a few like State Bank of India and Punjab National Bank who don't charge their customers anything for the IMPS transfer done online using internet banking and the mobile banking app.

At the same time if the fund transfer is initiated offline by visiting the branch of the bank using NEFT, RTGS, and IMPS the banks are allowed to charge the customers as per the set standards.

Making the UPI platform available to everyone and making it free, no doubt was a great move by the regulators to make the platform as successful as it is now by helping people adapt to this platform. But now maybe it is time for the regulators to start charging a minimal charge for the transactions to make the platform sustainable for the parties involved.

For a UPI transaction to happen there are multiple parties involved and they are NPCI, PSP Bank(s), TPAP(s), Initiator's bank, and the receiver's bank. All these parties work together to make instant fund transfers possible. But none of them generate any revenue from the UPI services they are providing.

On **September 20, 2019**, in a circular of RBI with the subject ―Harmonisation of Turn Around Time (TAT) and customer compensation for failed transactions using authorized Payment Systems‖. RBI issued this circular as a part of the monetary policy statement dated April 4, 2019.

With this circular RBI has put in place a framework on the Turn Around Time for the resolution of the customer complaints regarding the failed transactions. According to this circular, the banks and the other operators should endeavor for the quick resolution of the complaints in the prescribed time.

If in case the banks and other operators fail to resolve the issue i.e. in the case of a failed transaction the money should reach the account of the originator or the beneficiary within the prescribed time. If the issue is not resolved the bank has to pay the penalty to the customer who has initiated the transfer or the beneficiary as the case may be.

Here the term bank also includes the non-banks that are authorized to operate. This circular also includes the payments that are done using the UPI Platform. In case of a failed transaction, If it is a P2P transaction then the auto-reversal has to take place within T+1 day. And in the case of a merchant transaction then the auto-reversal has to take place within T+5 days.

If the auto-reversal does not take place in the prescribed time. Then the party responsible for the delay has to pay the customer Rs. 100 per day beyond prescribed time. The parties involved here are the initiator's bank, the payment service provider's bank, and the beneficiary's bank. The problem here is none of the parties is earning any revenue by facilitating the UPI transfer.

But still, in case of a delay, (which is very rare) the party responsible has to pay the penalty. Hence if there is a minimal charge applied for the UPI transfers, a new stream of revenue will be opened for the parties. And also, they can compensate the customers using the revenue generated in case of failed transactions.

On November 19, 2021, in an interview done by Mint, with the title ―The UPI Ecosystem has to be Made More Sustainable‖, Ambarish Kenghe, who is the Vice President of Product Management, Google Pay. Responded to a question regarding his take on the zero merchant discount rates. (MDR)

He said, ―I definitely think that we need to make the (UPI) ecosystem sustainable. There are various ways, and I think it's hard to say whether MDR is the right way of doing it or if there are other means‖. Further, he added, ―We need to make it (UPI) more sustainable and find ways as we want to figure this out‖. This statement of his probes for further research on UPI charges.

This interview of Ambarish Kenghe hints to us that TPAP(s) like Google Pay are also interested in generating revenue with the UPI money transfers. Because he also added,

―Similar to the role we play in UPI, where we are transferring money but the money goes to the banks‖.

On December 8, 2021, RBI Governor Shaktikant Das, while unveiling the bi-monthly monetary policy he said that ―RBI will soon float a discussion paper on the reasonableness of the charges on the digital payments‖. Here the term digital payments include the payments done using credit cards, debit cards, prepaid instruments like e-wallets, and also the UPI. (Unified Payment Interface)

He said ―This paper will seek feedback on the issues related to the convenience fees and surcharges, etc. And the measures that are required to make digital transactions affordable to the users and economically remunerative to the providers. The paper will be released in a month's time‖.

Literature Review

Mahesh, A. & Ganesh Bhat, (2021) in a paper named ―Digital Payment Service in India - A Case Study of Unified Payment Interface‖, the researchers have done a SWOT analysis of the UPI platform and also explained how it eliminates the need for sharing the details like account number, IFSC code, and the name of the beneficiary. This paper also puts light on the impact of the COVID-19 pandemic on the rise of digital payments in India.

Dinesh M. Kolte and Dr. Veena R. Humbe (2020) in a paper by the name ―Study of UPI/BHIM Payment System in India‖, have concluded that the students (200) who were included in the study extensively used the UPI platform to make the payments. It is observed that 80% of them use the platform to make payments of up to Rs. 10,000. And the rest of them use it to make payments above Rs. 10,000. It is also observed that the students are using the TPAP(s) i.e. third-party application providers the most and not the BHIM app.

Siddharth Kalra (2020) in a study by the name ―Insights into the Use of UPI Payment Applications by Management Students in India‖, done with a valid response from 102

Management Students has analyzed the factors that affect the behavior of students while using the UPI applications. The factors that were found are Performance Expectancy, Security, Effort Expectancy, and Social Influence. This study also finds that the student habits of the students do not have any effect.

Pragya Chawla, Arun Singhal & Pawan Bajaj (2019) in a study by the name ―A Study on Awareness and Adoption Of Unified Payments Interface (UPI) For Digital Payments‖, have found out that the frequency of making a payment via UPI is found to be highest in the people of the age group of 20 to 35. And is found to be least in the people of age above 40.

Gochhwal, R. (2017**)** in a paper by the name ―Unified Payment Interface—An Advancement in Payment Systems‖, Gochhwal R, has explained the robust architecture, APIs, and the ample amount of security that power the UPI network. This study also concludes that the UPI is the most advanced payment system in the world.

How Can the UPI Transactions be Charged?

While charging for the payments of a platform like UPI, the utmost care has to be taken to make sure that the charges don't encourage the users to stop using the platform. So the model used for charging the users should not be very aggressive. The model discussed below suggests charging the users when they perform beyond 10 UPI transactions per month.

The suggested charges are Rs. 5 per month. It is recommended to charge monthly because the burden felt by the users will be considerably less. The maximum amount that will be charged annually is Rs. 60 + taxes as per this model. It should be considered that this model gives estimated revenue figures. There are indeed more than 10 fees that the banks charge the customer as of now.

But at the same time, it is also true that the charges are important for any system to make it sustainable in itself. This model takes into consideration 60% of the total bank accounts in India. The reason why 60% of the accounts are taken into consideration is many people hold multiple bank accounts with multiple banks. And at the same time not 100% of the accounts might be active on the UPI network.

As per the annual report of the Reserve Bank of India 2020-21, there are a total of 252.6 Cr of bank accounts in India.60% of this will account for 151.56 Cr bank accounts.

There are 2 assumptions this model follows and they are,

- 60% of the bank accounts will be used to perform more than 10 UPI transactions per month.
- The bank accounts will have enough balance at the end of the month for the deduction of charges.

Particulars	Figures in Cr
Total Bank Accounts	252.60 Cr
60% of the Bank Accounts	151.56 Cr
Monthly Revenue When Rs. 5 is Charged Beyond 10 transactions	Rs. 757.8 Cr
Annual Estimated Revenue	Rs. 9093.6 Cr

When Rs. 5 per month is charged to the customers who perform beyond 10 transactions the estimated revenue generated will be Rs. 757.8 Cr per month. When estimated annually the revenue will account for Rs. 9093.6 Cr. This is the potential revenue that can be earned by the banking system of India with the help of the UPI platform.

Can this model be bypassed by the users? The short answer is Yes, it can be and the reason is the multiple bank accounts that the users hold. This is where the need for an algorithm arises.

The UPI platform can identify the transactions done by a single user using his or her multiple bank accounts by linking the transactions with the PAN card of the user.

This will help the platform to count the exact number of UPI transactions that are done by an individual or entity using the platform. The reason is no matter how many accounts the user has in any number of banks. The PAN Card is linked or seeded to all the accounts.

Once the algorithm is used to determine the number of transactions (beyond 10) the charges can be deducted from the bank account that was used for the last time having a sufficient balance. If the bank account used for the last time does not have a sufficient balance, the charges can be deducted from the account of the user that has the balance in it.

In this model, the threshold of 10 transactions per month is used for estimation. The regulators can set it to any number of transactions which is beneficial for both the banking system and also the users.

Pros and Cons of the Charges

When we are talking about a decision that can affect the whole economy and the money circulation in any way. We have to make sure that we also take into consideration the pros and cons of the decision. So the same if the charges applied are discussed below.

Pros:

- The banking system can unlock the earning potential of the UPI platform.
- The users are charged only when they perform more than 10 transactions per month using the platform.
- The unwanted transactions that are done only for cashback and rewards can be eliminated resulting in less load on the network.
- This will encourage the banking system to invest more in research and development activities for improving existing products and developing more in the future.
- Allows more time for the development of the mechanism of ―On Device Wallet‖ in UPI applications. (Due to less load on the network)
- The charges this model suggests are less when compared to the other payment systems. In the case of IMPS, some banks are charging for each transaction done. But as per this model, the user has to pay Rs. 5 + applicable taxes per month only.

Cons

- The transaction volume may come down considerably.
- This can encourage the users to switch back to the use of cash again.
- Users deboarding the platform can cause a bottleneck in money circulation and transparency.

- This can reduce the amount of balance in the bank accounts as the customers may look at the cash transactions more.

What Can this Revenue be Used For?

The revenue this model estimates is for the whole banking system. So this revenue can be divided among the parties (NPCI, PSP, TPAPs) that are involved in the UPI transactions in the proportion that the regulators find correct.

In either case,

- The revenue can be used to educate the people about the banking products and services and the precautions to be taken by them while using.
- The revenue can also be used to strengthen the rural banking network and make sure that the people are not just opening the account but also making use of it regularly.
- The revenue can help the bad bank to a certain extent if the government incorporates a bad bank in India. This will relieve the banks from NPAs which will be a huge benefit for them.

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