

An Analysis of India's Notable Growth in Digital Payments using Credit Cards

Ravi Bhushan¹ and Dr. Vineeta khemchandani²

¹School of Computer Science and Engineering, Galgotias University, Gr. Noida
Email: ravi.bhushan_phd2019@galgotiasuniversity.edu.in

²School of Computer Applications and Technology Galgotias University, Gr. Noida
Email: vineetakh05@gmail.com

Abstract— This article demonstrates how the usage of credit cards for digital payments at both public and commercial banks, along with technological developments and the sector's computerization, have contributed to the expansion of the Indian financial sector.

The significance of money and credit doesn't need to be overstated. Everybody on the earth now depends on technology, which has fundamentally altered people's lifestyles. Technology has taken front stage in service sectors like banking, retail, healthcare, and education. New "technology-driven" services have emerged as a result of the integration of technology with financial services, which has also increased the general efficiency of customer care in the banking sector.

To satisfy the needs of its customers, banks combine credit flow and technology in their credit card facilities. As civilization advanced, new techniques and technologies led to changes in the support systems of the community.

Banking is one of these support systems. The banking industry has evolved from a manual, outdated method to a contemporary, tech-driven enterprise. In this change, the credit card plays a crucial role.

Credit card usage is still relatively low in India, despite having one of Asia's fastest-growing economies.³ The Indian credit card industry continued to rise in late 2018 and early 2024. ⁴ A consumer's increasing standard of living and lifestyle are reflected in their use of credit cards. The use of credit cards is significantly influenced by the rising incomes of the upper middle class. India has seen a rapid rise in the use of digital payments throughout the last ten years. In CY-2024, there were approximately 20,787 crore digital transactions valued at ₹2758 lakh crore, a 94-fold increase in volume and a nearly 3.5-fold rise in value compared to 222 crore transactions worth ₹772 lakh crore in CY-2013.

Understanding credit card usage trends would be crucial for credit card businesses looking to enter the Indian market. Many Indians have expressed a great deal of interest in both private and public sector bank credit cards. Men's and women's purchasing power has been significantly impacted by credit cards, which have also encouraged the use of plastic money instead of paper money.

The demand for credit cards in the Indian banking industry has increased dramatically in recent years. A rapid transition of the global financial industry has been occurring in recent years.

Keywords— Banking System, Digital payment, credit card, advantage.

I. INTRODUCTION

Technology makes it feasible for small-value transactions, improves affordability, and expands access to the financial system. Through a variety of distribution channels, technological innovation offers exceptional comfort and speeds up transactions. Technology increases efficiency and production, expands options, and opens up new possibilities. Growth and progress are multiplied when technologies are used effectively. This shift has been embraced by Indian banks. The purpose of this study was to ascertain how consumers felt about using a private sector bank's credit cards. Demonstrating the technical advancements in the Indian financial sector is the aim of the analysis content. Many Indian financial institutions appear to be looking at more contemporary methods, like online banking, to make their clients' financial experiences more effective, efficient, and comfortable. The physical exchange of paper money and currency between locations or even between individuals has significantly decreased due to the widespread use of the internet in the financial industry, which lowers expenses for financial institutions. Another name for it is digital finance. It can include wire transfers, digital currency exchanges, and financial institution cards and debit cards. Online banking allows users to conduct basic and sophisticated transactions without physically being in a financial institution. Clients can submit applications for various solutions, raise concerns about their balance, and send instructions to the lender. They can also electronically exchange funds for consideration, pay bills, and conduct other financial transactions online. It also enables financial institutions to offer new goods and services, as well as to expand their markets for conventional deposit taking and credit score expansion activities. Better tracking and responsibility fulfilment, as well as different delivery programs for online clients, have been made possible by technological advancements.

Recent developments in financial systems, e-banking, information technology, and credit cards are crucial. Banks also offer highly helpful services like debit cards and smart cards. Banks and customers both save time because to new technology. The majority of urban dwellers are aware of smart card usage and new technology, whereas those in rural regions are less familiar with credit cards, smart cards, new technology, and bank services. India has seen a remarkable surge in digital payments in recent years. From Initially consisting mostly of conventional card-based digital payments, the emerging digital payment ecosystem has evolved into one that provides a wide range of digital payment choices to meet the needs of Indian consumers. This paper's primary goals are to research and comprehend the many digital payments that are being adopted by the banking industry today. Using a credit card allows someone to buy goods or services without having to pay for them right now. To determine consumer awareness of the new credit card-driven digital payment products and services that Indian banks have introduced Current Indian banks' digital payment system offerings are covered in the study. More precisely, it encompasses cutting-edge, creative goods and services offered by all Indian banks. For instance, AI-based, ML-driven robotics, IoT goods, blockchain, big data analytics, mobile banking apps, and products linked to online banking. Secondary data is used in the study. The secondary data came from websites, online news portals, academic journals, periodicals, and RBI annual reports.

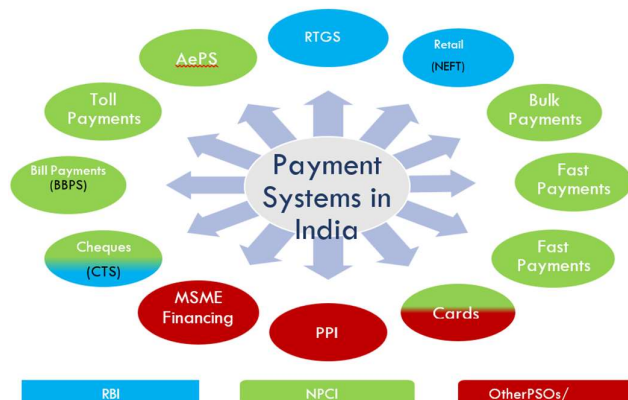


Fig 1

II. INDIA'S DIVERSE NEW DIGITAL PAYMENT SYSTEMS

India has seen a remarkable surge in digital payments in recent years. The emerging digital payment ecosystem, which was mostly made up of traditional card-based digital payments, has evolved into one that provides a wide range of digital payment choices to meet every Indian consumer's requirement.

- systems for instant payments (UPI, IMPS),
- PPI and UPI Lite are examples of small value payment systems.
- RTGS, or large value payment
- payment of bills (BBPS),
- payment in bulk (NACH),
- Payment offline (UPI Lite X),
- payments from the government (NACH, APBS),
- among many other things, toll payments (NETC)

In India, retail digital payments have increased by around 100 times over the past 12 years, from 162 corer transactions in the fiscal year 2012–13 to over 16,416 corer transactions in the fiscal year 2023–24.

The Reserve Bank has given equal consideration to consumer protection and the safety and security of the payments ecosystem throughout its growth. Payment security features like two-factor authentication, which are, incidentally, still optional in many developed nations, have been encouraged.

By offering a framework for overall information security readiness with a focus on cyber resilience, the Digital Payment Security Controls for Payment System Operators (PSOs) aim to improve the safety and security of payment systems. These controls cover the fundamental cyber and information security measures for PSOs and guarantee safe and secure digital payment transactions.

Cross-border transfers are still costly and slow, even if domestic payment systems have gotten cheaper and faster. In order to provide a smooth and affordable cross-border payment experience, the Reserve Bank is concentrating on connecting its fast payment systems (FPS) with those of other nations.

The Reserve Bank has always made an effort to stay on the cutting edge of payment systems. The Bank has made it a policy to support innovation in the payment industry. RBI regularly interacts with PSOs and makes an effort to create a supportive atmosphere. Thanks to innovation and regulatory assistance, our payment systems are now among the most advanced in the world.

The foundation of any economic activity is payments. By making sure that economic advantages are distributed to all societal sectors, they are becoming more and more acknowledged as a way to achieve financial inclusion. The Payments and Settlement Systems Act of 2007 (PSS Act) served as the legislative basis for the regulation of payment systems. In order to safeguard consumer interests and maintain the safety, security, efficacy, and efficiency of the payment ecosystem, the Reserve Bank of India (RBI) licenses, regulates, and oversees payment system operators. The RBI Governor serves as the chair of the Board for Regulation and Supervision of Payment and Settlement Systems (BPSS), which establishes guidelines for the regulation and oversight of all forms of payment and settlement systems, establishes standards for current and future systems, authorises payment and settlement systems, establishes requirements for membership in these systems, and makes decisions regarding membership renewal, termination, and rejection.

Over the past ten years, digital payments in India have expanded rapidly. Compared to 222 crore digital transactions worth ₹772 lakh crore in CY-2013, the volume and value of these transactions have climbed by 94 times and more than 3.5 times, respectively, to over 20,787 crore transactions valued at ₹2758 lakh crore in CY-2024.

There are several different alternatives available in India's payments environment from both banks and non-banks. The payment ecosystem has rapidly expanded in the past ten years in terms of infrastructure acceptance, user uptake, and availability.

The expansion of PPI payment systems and credit and debit cards is also covered by the portal. Compared to December 2019, when there were 5.53 crore credit cards in use, the number of credit cards has more than doubled to around 10.80 crore by the end of 2024.

A. Legal foundation

All of the nation's economic activity depends on payments, which are increasingly seen as a way to achieve financial inclusion and guarantee a fair distribution of economic gains. The combination of strong legislative frameworks and technology innovation has enabled the broad adoption of digital payment systems, revolutionising the country's financial environment.

The development of the legal framework supporting the nation's payment systems and its current trends are briefly covered in this section. As technology has advanced and the financial sector's dynamics have changed over time, India's legal foundation for payment systems has also changed.

The history of payments and settlements is a classic tale of human trade of goods and services. However, as civilisations became more complicated, so did their demands for payments and money. From basic bargaining, society evolved to create a wide variety of coins and monetary notes. Later, as people's mobility increased, trade

between various communities increased as well, necessitating the creation of more effective payment systems that did not involve carrying large amounts of coinage. The phrase "promise to pay" was thus replaced with "an order to pay." These pay instructions resemble modern drafts or checks quite a bit. Local language bills of exchange, or Hundis, were the most significant type of credit instrument to emerge in India. It would have been challenging to enforce such letters given the nascent judicial system of the time.

Later, as the financial system developed, the Negotiable Instruments Act of 1881 (NIAAct) was passed, formalising the use and properties of instruments such as the promissory note, bill of exchange, and cheque. The legal foundation for non-cash paper payment methods in India was established by the NIAAct and is in place today.

The introduction of computers and the nationwide development of financial services provided the groundwork for Electronic Funds Transfer (EFT), a more extensive electronic payment system. However, when EFTs were first introduced, there was no law created expressly to support and regulate them. Contracts governing the parties' respective rights and responsibilities were draughted in order to arrange the services. A distinct law that addressed all features of the payment system, including payment finality, the rights and responsibilities of the parties participating in electronic funds transfers, netting aspects, etc., was required.

In order to facilitate the orderly growth of the payment ecosystem in the nation, India passed a separate law for payment and settlement systems. For the first time, payments were acknowledged by the Payments and Settlement Systems Act, 2007 (PSS Act) as a distinct function from a bank's primary duties, which include lending and deposit acceptance. Under the terms of the PSSAct, the RBI established the Board for Regulation and Supervision of Payment and Settlement Systems (BPSS), a central authority with the power to control and oversee payment and settlement systems. The following are the main characteristics and clauses of the Payments and Settlement Systems Act of 2007:

The RBI is in charge of overseeing and regulating India's payment systems. It has the authority to establish norms, policies, and practices for the appropriate and effective administration of payment systems.

The RBI is authorised by the PSS Act to grant payment system operators licenses and authorisations. Prepaid Payment Instrument (PPI) issuers, Instant Money Transfer Operators, Clearing Corporation of India Ltd. (CCIL) (Financial Market Infrastructure - Central Counterparty), National Payments Corporation of India (NPCI) (retail payments organisation), card payment networks, cross-border inbound money transfer operators, ATM networks, Trade Receivables Discounting System (TReDS) platform providers, Bharat Bill Payment Operating Units (BBPOUs), Payment Aggregators, and others are among these operators.

The RBI is in charge of supervising and keeping an eye on payment systems to guarantee their efficient, secure, and safe operation. It has the power to request any papers and information, examine the systems, and take remedial action when required.

The PSSAct ensures that settlements in payment systems are final. A settlement is deemed final and irrevocable if it has been reached in compliance with the established protocols. The Act also contains clauses pertaining to payment system consumer protection. It lists the responsibilities and rights of those who run payment systems.

The Act establishes penalties for non-compliance and lists offences associated with breaking the PSSAct, Regulations, Orders, and Directions. These sanctions could include jail time and fines. The legislation additionally stipulates the establishment of a committee within its central board, called the Board for Regulation and Supervision of Payment and Settlement Systems (BPSS), to carry out its responsibilities and exercise its authority.

The legal framework for payment systems is influenced by the PSS Act as well as additional rules and recommendations that the RBI has developed in accordance with its provisions. By using the authority granted by the Act, the RBI periodically publishes circulars, notifications, and guidelines to address new problems and encourage the growth of safe and effective payment systems throughout the nation.

III. THE SELECTION AND USAGE PATTERNS OF HOUSEHOLD CREDIT CARDS

Following the lead of other economies, India has also been quickly entering the plastic money market. Credit cards are frequently used in today's economy. These cards have grown in popularity in India over the last few decades. The risk of carrying cash or a chequebook is eliminated for the holders. Compared to other nations like China, Saudi Arabia, and Turkey, credit card use has been slower to take off in India. Nonetheless, it is hoped that the recent addition of security measures to credit cards may encourage Indians to use them more.⁸ The fact that approximately 40% of Indians lack a bank account is one of the main issues with credit card use. With a 25–30% growth rate, there were 3.8 million cardholders in the Indian credit industry between 1987 and 2000.⁹ But the situation has drastically changed in the recent past. Credit cards are now issued by a far greater number of

private and nationalised institutions. In addition to being essential components of consumers' lives in major cities, credit cards have also become popular among citizens of smaller cities and villages. The aggressive approach taken by both private and nationalised banks to market their card products in smaller cities and towns is to blame for this. Compared to overseas banks, these banks have a much greater presence and reach in smaller cities and villages. They took advantage of this to play a significant part in increasing the quantity and usage of credit cards in smaller towns and cities.

A credit card is a device that allows its users to travel, buy products, and eat at hotels without having to pay for them right away. For a period of 50 days, the cardholders can use the cards to obtain free bank credit. Customers no longer have to worry about carrying cash thanks to the credit card, which also guarantees security. It is a formality-free extended credit convenience. A credit card is a plastic card with a magnetic strip that is issued by a bank or company that permits the holder to purchase products or services on credit. As a result, it is a passport to "safety, convenience, prestige, and credit." A credit card given to charge bills is any card, plate, or coupon book that may be used repeatedly to borrow money or purchase products and services on credit.³ The majority of retail establishments take credit cards. Customers can use credit cards to make purchases without having to establish credit with specific retailers or pay cash right away. They do away with the necessity of collecting money from individual clients and checking credit scores. The terms of the card, such as the interest rate, annual fees, penalties, grace period, and other characteristics, are set by the issuing organisation. Generally speaking, credit card debt is an unsecured debt. It is difficult for the lender to repossess property in order to guarantee payment. Banks have frequently set product prices based on the assumption of greatest risk exposure. A credit card is a tool that lets its owner buy products from certain suppliers on credit. In certain situations, the cardholder must pay the annual subscription fee, and suppliers must pay the bank or card issuer a commission on sales. While the holder makes a single monthly payment to cover all of the purchases for that period, the suppliers are paid on time and are therefore shielded from bad debts. Only once the applicant's credit worthiness has been deemed adequate are credit cards granted. The credit card holder may be granted a certain amount of credit each month based on their credit rating.⁵ As the name suggests, a credit card gives the holder access to credit from the issuing bank for a certain amount of time following the purchases. A bankcard is used to make an electronic withdrawal from monies deposited in a bank, such as when making purchases or obtaining cash advances. The cardholder is permitted to use the card to incur further charges during this time. In India, credit cards are among the most widely used payment methods for consumer products and services.

B. Credit Card Features

Modern credit cards have been a huge success because of their features, which include owner identification, a credit limit for cardholders and a floor limit for merchant establishments, convenience and safety to increase the value of the cards, increased use or popularity worldwide, and a reliance on technology to keep operating costs to a minimum.

In addition to providing quick access to credit, credit cards give users a simple way to keep track of their spending, which is essential for tracking personal spending as well as business-related expenses for taxation and reimbursement. Credit cards are widely accepted and come with a wide range of credit limits, repayment plans, and other benefits (such reward programs that allow points gained from using the card to buy more products and services or credit card cash back). A consumer's liability for fraudulent transactions resulting from the loss or theft of their credit card is limited in several nations, including the United States, the United Kingdom, and France. A credit card is a component of a payment system that gets its name from the tiny plastic card that system users are given. The consumer (or user) is given a line of credit by the card issuer, from which they can borrow funds to pay a merchant or receive a cash advance. A credit card is not the same as a charge card, which demands that the entire amount be paid each month. Credit cards, on the other hand, let users "revolve" their balance, but doing so comes with a fee. According to the ISO 7810 standard, the majority of credit cards are issued by nearby banks or credit unions and are the same size and shape.

IV. KNOWLEDGE OF CREDIT CARD DIGITAL PAYMENTS AND PAYMENT SYSTEM STATISTICS

A. Chargebacks and Card Transactions

Generally speaking, credit cards might be convenient, but they can also result in debt due to poor decisions or unavoidable circumstances like emergencies. Read terms and conditions carefully, take precautions against fraud, and avoid accruing too many credit card debts in order to mitigate the dangers associated with using them. Because of the way they utilise their credit cards, people are negatively impacted by these products. Customers believe that using their credit cards for online purchases or other essentials is a good thing, but they are mistaken

since it is a terrible thing. They might have to settle the credit card overdraft and be unaware that someone is stealing their money. Customers may keep rolling over the balance for several months, which is another adverse effect. Additionally, late penalties and interest are assessed when customers miss credit card payments, which adds to their debt load. Little research has been done on chargebacks, despite the fact that they are thought to be one of the main expenses associated with retailers accepting card payments. This study generates comprehensive statistics on chargebacks for signature-based transactions in order to close that gap and depict the current chargeback environment. Chargebacks for Visa and MasterCard transactions typically amount to 1.6 basis points (bps) of sales volume and 6.5 bps of sales value for merchants. The majority of chargebacks—between 70 and 80 percent—are settled as merchant liability. Fraud is the most frequent reason for chargebacks, making up roughly half of all chargebacks. The loss rate from merchant fraud is 2.6 bps in value and 0.7 bps in quantity. The overall and fraud chargeback rates are a little lower for transactions made with American Express and Discover. Compared to card-present transactions, card-not-present transactions have much higher overall and fraud chargeback rates across all four networks. They also differ in that businesses and consumers alike are demanding faster payments. Faster payments have already been achieved or are currently being developed in several nations, although their availability in the US is dispersed. Participants in the private sector are encouraged to offer quicker payment services by the Federal Reserve's newly published document. However, unless system governance reflects wide public interests, private-sector quicker payments systems will have a difficult time meeting public policy objectives of efficiency, safety, and ubiquity. The Federal Reserve can influence the governance of private-sector systems through its leadership role in the merchant category, which is one approach to better align private-sector interests with those of the public. In general, our fraud findings align with other existing fraud data. One of the main moral dilemmas facing the credit card sector is fraud.

B. The Kind of Fraud that Credit Card Firms or Banks Encounter

The primary goals are to first identify the various forms of credit card fraud and then examine other fraud detection methods that have been employed. Presenting, contrasting, and evaluating recently released research on credit card fraud detection is the sub-aim. In addition to defining frequently used terminology in the context of credit card theft, this article emphasises important data and statistics. Various actions can be taken and put into place, depending on the kind of fraud that banks or credit card firms are dealing with. The suggestions presented in this paper are probably going to be advantageous in terms of time and money savings. The reduction of credit card fraud is the main benefit of using the strategies discussed here. However, when legitimate credit card users are mistakenly labelled as fraudulent, ethical concerns persist. Fraud in the credit card industry happens when a borrower offers a loan to a lender, who then believes that the borrower's credit card account would cover the cost of the purchase. Ideally, there won't be any payment. The credit card issuer will return the money if the payment is made. Nowadays, 50% of all credit card theft is committed online due to the growth of e-commerce. Fraudsters typically have ties to the company they are targeting. Although it is more likely to be an external party, it can be an internal party in the credit card industry. Fraud is committed by an external party who is either an existing or potential customer or a supplier.

According to Phua et al. (2005), there are three distinct characteristics of external fraudsters: average, criminal, and organised crime. Average offenders act dishonestly when presented with opportunities, when they are suddenly tempted, or when they are experiencing financial difficulties. On the other hand, because they frequently conceal their true identities and/or change their methods over time to approximate legal forms and to evade detection systems, individual criminal offenders and organized/group crime offenders (professional/career fraudsters) are the more dangerous external fraudsters (Phua et al., 2006; Phua et al., 2004). Manually verifying the identity and activities of the vast majority of external parties can be prohibitively expensive for many businesses that occasionally deal with millions of them. In fact, they incur a direct overhead fee for each suspicious transaction in order to investigate it. Even if a transaction appears suspicious, it is not worth looking into if the amount is less than the overhead cost (Chan et al., 1999; Oscherwitz, 2005). Different strategies might be used to prevent these overheads, depending on the kind of fraud that was committed. The idea behind cross-matching is that if someone has successfully committed fraud, they will try to do it again with a different lender; this allows cross-matching to identify identity crimes. As a result, some lenders have started sending application information to a central data bank, where matching algorithms are used to find commonalities. It is recognised that a large number of false-positive cases will be found, and numerous matching rules will be used (Thomas et al., 2004). Phua et al. (2006), who create a method for producing numerical suspicious scores on credit applications based on implicit ties to one another, have suggested cross-matching strategies. The goal is to instantly provide a precise suspicion score for each and every incoming application, whether it be new or existing (Phua et al., 2006). Solutions: The authors integrated suspicious behaviour and pair-wise matching to

enhance the pair-wise matching method. For example, one technique to identify suspicious behaviour is to look at the quantity of applications. The quantity of active cards that match the combination of fields is another criterion. Defining pertinent fields is the problem. Effective and efficient pair-wise matching design is essential for dynamic applications (Phua et al., 2006). The address is a crucial component in the credit card industry. The card will be sent there. Fraudsters can only obtain multiple cards by picking them up at one or more addresses. It can be challenging to detect application fraud when the cards are distributed to different addresses under different names.

C. Essential for Preventing Applications that Commit Fraud

Once the fraudsters have used the cards and behaved in a way consistent with their profile (above their limit, off-line transactions, anomalous transactions, delinquency status, etc.), they will be detected. Nonetheless, it is possible to identify people who provide the same address under several identities. Pairing the number of apps, address, postal code, and active cards is an idea that has been tested. The first stage in doing pair-wise analysis is to "clean" the applications. Take a German address, for example. The system must be designed so that "Hauptstr.29" will pair with "Hauptstrasse29" or "Heidestrasse85" will pair with "Heidestr.85." For the postal code, the second step is the same: "77756" must be pair-wised with "D77756." Preparing the data is essential to preventing applications that commit fraud. Since fraudsters are constantly looking for new ways to circumvent the system, those control checks must be updated as frequently as feasible. Level 1: "high risk" consists of all individuals with the same address and postal code and at least one active card listed ten or more times; level 2: "medium risk" consists of all individuals with the same address and postal code and at least one active card listed at least five times but less than ten times; and level 3: "low risk" consists of all individuals with the same address and postal code and at least one active card listed at least twice but less than five times. This is a suggestion for the various fraudulent behaviour. Applications: In 2006, a German bank provided a complete application data set for the approach to be used on. Only a summary of the findings is shown below due to banking confidentiality. Upon using this method, a small number of cases with a high likelihood of being fraudsters are included in the level 1 list. Because of their high risk profile, all of the people on this list had their cards closed to prevent any risk. For the other list, the issue is more complicated.

The level 2 list is still sufficiently limited to be examined individually. Half of the cases on this list, according to credit and collection officers, might be regarded as questionable fraudulent activity. The task is quite heavy for the largest and final list. Of such clients, less than one-third are suspicious. Adding a new element to the query—such as the password, email address, or the five first digits of phone numbers—can optimise time efficiency and reduce overhead costs. For instance, the new queries can be applied to the level 2 and level 3 lists.

Cards: In most jurisdictions, card payments were the most dependable and popular method of making digital payments. But card usage has changed significantly since UPI was introduced and has grown astronomically in recent years. In recent years, credit cards have increased by more than 15% annually, while the use of debit cards has decreased. Since January 1, 2019, the RBI has only allowed the use of EMVChip and PIN-based debit and credit cards. In CY-2024, there were 447.23 crore and 173.90 crore payment transactions using credit and debit cards totalling ₹20.37 lakh crore and ₹5.16 lakh crore, respectively.

Statistics of Payment Systems

D. Significant Regulatory Advancements in India's Payment Systems

Control of Payment Ecosystem Intermediaries

Numerous non-bank intermediaries have surfaced as a result of India's digital payments industry's explosive growth. These organisations help merchants collect payments from consumers in e-commerce, export/import, and in-person transactions. Regulatory monitoring has been put in place for the various means of payment because of the crucial role these intermediaries play in processing consumer payments to merchants and managing cash that must be transferred to merchants.

In March 2020, Payment Aggregators (PAs) were reclassified as Payment System Operators (PSOs) and placed under the RBI's regulatory purview. The RBI's Bi-Monthly Monetary Policy Statement of September 2022 announced that the current regulations would also apply to offline PAs. This measure is expected to bring in synergy in regulation covering activities and operations of PAs aside from convergence on standards of data collection and storage. These regulations, however, were applicable to PAs processing online or e-commerce transactions. They do not cover offline PAs who handle proximity/face-to-face transactions and play a significant role in the spread of digital payments.

- In addition, all organisations that facilitate cross-border payment transactions for the import and export of goods and services were placed under direct regulation of the RBI with effect from October 31, 2023, in

light of the developments that have occurred in the field of cross-border payments. These organisations are referred to as Payment Aggregator-Cross Border (PA-CB) entities.

- The rules mainly require non-bank intermediaries that manage consumers' money to be sent to retailers to get Reserve Bank of India (RBI) permission as a Payment Aggregator. They also set corporate governance standards, risk management procedures, customer grievance redressal procedures, and baseline technology guidelines as part of good regulatory practice. The regulations require the use of specifically designated accounts in order to guarantee that these companies manage monies on behalf of their merchants.

Payment System Wise Breakup of Digital Payments - Volume
(in Crore) for H2:2024

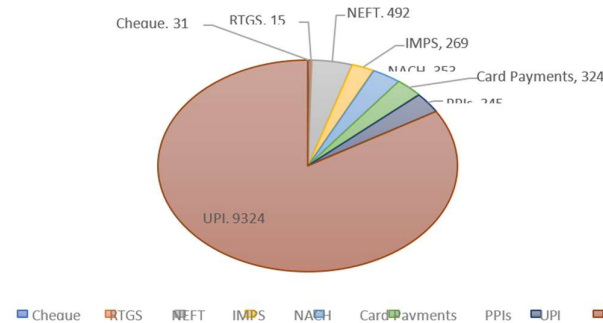


Fig 2. Payment System Wise Breakup of Digital Payments Volume for H2:2024

Payment System Wise Breakup of Digital Payments - Value
(in ₹ Lakh Crore) for H2:2024

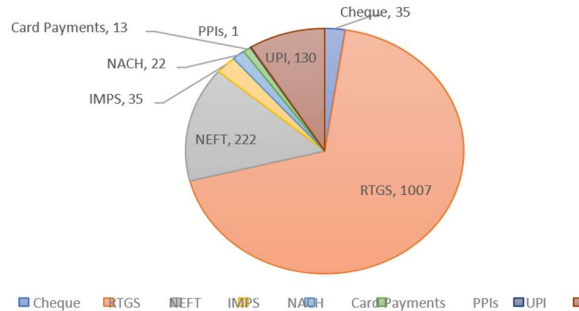


Fig-2 Payment System Wise Breakup of Digital Payments Value for H2:202

TABLE I: PAYMENT SYSTEM STATISTICS

	Transaction Volume (in Lakh) *			
	2024	H1-2024	H2-2024	Daily Average
Total Payments	2084927.34	968808.02	1116119.32	5696.52
Paper-based Instruments	6259.35	3208.90	3050.45	17.10
Digital Payments	2078667.99	965599.12	1113068.87	5679.42
RTGS	2952.90	1464.87	1488.03	8.07
Retail Payments	2081974.44	967343.15	1114631.29	5688.45
Retail Digital Payments	2075715.09	964134.25	1111580.84	5671.35
AePS(Fund Transfers)	3.76	1.92	1.84	0.01
IMPS	59383.40	32488.78	26894.62	162.25
NACH	67709.35	32445.60	35263.75	185.00
NEFT	92684.34	43526.24	49158.10	253.24
UPI	1722080.18	789706.74	932373.44	4705.14
BHIM Aadhaar Pay	235.96	117.83	118.13	0.64
NETC (linked to bank account)	1617.71	791.37	826.35	4.42
Credit Cards	44723.01	20463.70	24259.31	122.19
Debit Cards	17389.59	9208.27	8181.32	47.51
Prepaid Payment Instruments	69887.79	35383.81	34503.98	190.95

TABLE II

Transaction Value (in ₹ crore) *				
	2024	H1-2024	H2-2024	Daily Average
Total Payments	283034223.49	136442436.65	146591786.83	773317.55
Paper-based Instruments	7180913.79	3708208.84	3472704.95	19619.98
Digital Payments	275853309.70	132734227.81	143119081.88	753697.57
RTGS	193821267.31	93092224.42	100729042.88	529566.30
Retail Payments	89212956.18	43350212.23	45862743.95	243751.25
Retail Digital Payments	82032042.39	39642003.39	42390039.00	224131.26
AePS (Fund Transfers)	206.77	119.14	87.63	0.56
IMPS	7070902.52	3545347.11	3525555.41	19319.41
NACH	4215078.14	2013610.56	2201467.58	11516.61
NEFT	43278676.46	21079662.55	22199013.91	118247.75
UPI	24682520.82	11663789.32	13018731.50	67438.58
BHIM Aadhaar Pay	6895.29	3228.19	3667.10	18.84
NETCv (linked to bank account)	2425.14	1223.04	1202.10	6.63
Credit Cards	2036614.45	960385.12	1076229.33	5564.52
Debit Cards	515510.52	260422.51	255088.00	1408.50
Prepaid Payment Instruments	223212.28	114215.84	108996.44	609.87

TABLE III

Payment System Infrastructures (in lakh)		
	Jun-24	Dec-24
Credit Cards	1038.13	1080.56
Debit Cards	9624.24	9909.48
PPI Wallets	11375.61	8904.25
PPI Cards	3675.69	4381.40
Bank owned ATMs and CRMs	2.21	2.19
White Label ATMs	0.35	0.36
Micro ATMs	15.18	14.67
PoS Terminals	89.67	100.01
Bharat QR	61.64	63.83
UPI QR	5769.48	6334.39

E. Cards and PPI

With an incredible 109.9 crore credit and debit cards in circulation as of December 2024, the financial landscape in India is defined by the extensive use of these cards. These include 99.1 crore debit cards and 10.8 crore credit cards, which have shown different growth paths over the previous five years.

Credit Cards

The credit card market in India has changed significantly, with different bank types adopting different strategies. Public Sector Banks (PSBs) issued more credit cards, from 122.6 lakh as of the end of December 2019 to 257.61 lakh as of the end of December 2024, a more than 110 percent increase. Private Sector Banks (PVBs), which held a 71 percent market share with 766 lakh cards in December 2024, have leaned on digital solutions and co-branded cards to cater to urban and affluent customers. Meanwhile, foreign banks have seen a decline in both numbers—from cards from 65.79 lakh to 45.94 lakh—and in market share, falling from 11.9 percent to 4.3% between December 2019 and December 2024, presumably as a result of high costs and cautious lending practices. With 10.97 lakh cards as of the end of December 2024, Small Finance Banks (SFBs) have joined the market with an emphasis on financial inclusiveness and the underprivileged.

Credit Cards by Bank Group for December 2019 and December 2024

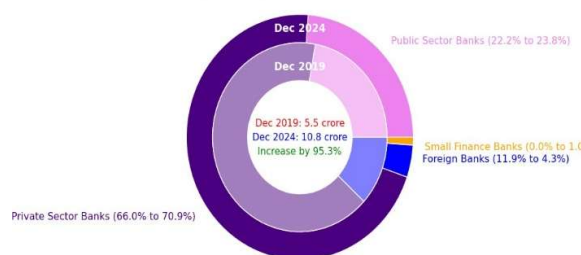


Fig 3

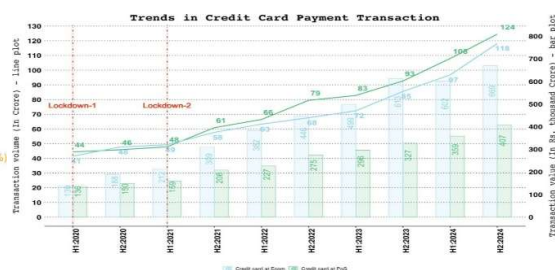


Fig 4

Transactions involving credit cards have also increased, with the volume of transactions skyrocketing from 208.67 crore in CY-2019 to 447.23 crore in CY-2024. Over the same time period, the value of these transactions has also increased significantly, from ₹7.13 lakh crore to ₹20.37 lakh crore. These figures translate into a 5-year CAGR of 16.47 percent of volume and 23.37 percent of value were mostly driven by online spending, which made up almost half of all credit card transactions during the previous fiscal year.

V. CONCLUSION

The working group has correctly pointed out that there is a need for ongoing assessment of various laws pertaining to banking and technology in the field of banking systems because the application of various existing laws and banking practices to new technology is not the least and is still evolving. I want to stress how institutions and incentives play a part in making sure that globalisation benefits everyone. Indians are responsible for the names of the world's largest banks and educational institutions. Indian enterprises and Indians working for international companies supply the greatest technology for the world's most advanced institutions. However, Indian banks do not yet seem to be of the highest calibre. The banking sector is currently growing in notable locations, and residents of those villages are discussing the advantages of these amenities. Private plays are also drawing attention to these areas due to RBI guidelines. Therefore, we may conclude that the Indian banking sector is highly developed, which explains why it is primarily impacted during recessions. The many laws and regulatory bodies are one cause for this. Competition is also a major factor in the banking industry's technological advancements.

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