

# **A STUDY ON THE GROWTH AND CHALLENGES OF PAYTECH IN THE FINTECH INDUSTRY OF INDIA**

**Project Report**

*Submitted by*

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*Under the guidance of*

**Dr. Jency Treesa**

*In partial fulfillment of requirements for the award of the degree of*

***Bachelor of Commerce***



**ST. TERESA'S COLLEGE (AUTONOMOUS), ERNAKULAM**

**COLLEGE WITH POTENTIAL FOR EXCELLENCE**

**Nationally Re-Accredited at 'A++' Level (Fourth Cycle)**

**Affiliated to**

**MAHATMA GANDHI UNIVERSITY**

**Kottayam-686560**

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## **CERTIFICATE**

This is to certify that the project report titled '**A STUDY ON THE GROWTH AND CHALLENGES OF PAYTECH IN THE FINTECH INDUSTRY OF INDIA**' submitted by **ELIZABETH JAMES NIDHIRY, JESLIN MARIA VARGHESE, LIZ ROMAINE L** towards partial fulfillment of the requirements for the award of the degree of **Bachelor of Commerce** is a record of bonafide work carried out by them during the academic year 2022-23.

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**Place: Ernakulam**

**Date: 31-03-2023**

## **DECLARATION**

We, **ELIZABETH JAMES NIDHIRY, JESLIN MARIA VARGHESE, LIZ ROMAINE L** do hereby declare that this dissertation titled, '**A STUDY ON THE GROWTH AND CHALLENGES OF PAYTECH IN THE FINTECH INDUSTRY OF INDIA**' has been prepared by us under the guidance of **Dr. Jency Treesa**, Assistant Professor, Department of Commerce, St Teresa's College, Ernakulam. We also declare that this dissertation has not been submitted by us fully or partly for the award of any Degree, Diploma, Title, or Recognition before.

**Place: Ernakulam**

**ELIZABETH JAMES NIDHIRY**

**Date: 31-03-2023**

**JESLIN MARIA VARGHESE**

**LIZ ROMAINE L**

## **ACKNOWLEDGEMENT**

We wish to acknowledge all those persons who helped us in completing our project on the topic, '**A STUDY ON THE GROWTH AND CHALLENGES OF PAYTECH IN THE FINTECH INDUSTRY OF INDIA.**'

First, we thank God Almighty for his blessings showered upon us in the conduct of the project study. We are also indebted to Dr. Jency Treesa, Assistant Professor, Dept. of Commerce, St. Teresa's College, Ernakulam for her guidance and encouragement for the proper completion of the study.

We express our sincere thanks to the Provincial Superior and Manager, Rev. Sr. Dr. Vinitha, Director Rev. Sr. Emeline CSST, Principal Dr. Alphonsa Vijaya Joseph , and to Ms. Ann Thomas Kiriyanathan, Head of the Department of Commerce and all other faculties of the Department of Commerce, St. Teresa's College, for their support and valuable suggestions.

We would like to express our thanks to all the respondents and colleagues who were associated with this study for their sincere contributions toward the successful completion of the project.

We also extend heartfelt thanks to our family for their constant encouragement without which this project would not be possible.

**ELIZABETH JAMES NIDHIRY**

**JESLIN MARIA VARGHESE**

**LIZ ROMAINE L**

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# **CHAPTER - 1**

## **INTRODUCTION**

New financial technologies (FinTech) have erupted around the world. FinTech or Financial Technology refers to a firm merging the upcoming technological trends to provide better financial solutions to its clients in the form of digital payments and transactions. The Indian fintech industry has seen numerous startup entrants in the past few years. With each startup, the industry has grown a lot and is making a name globally. As per CB Insights Latest reports, these are the 20 Indian fintech startups that have been listed among the 250 global promising startup companies UPI, BHIM, Payment wallet, digital bank, and many other services are available and we are using them every day on a big scale. This reflects how finances and technology play a crucial role in our lives is amongst the fastest-growing FinTech markets in the world. India ranked the highest globally in the FinTech adoption rate with China. Digital payments value of \$65 bn in 2019 is expected to grow at a CAGR of 20% till 2023.

Fintech in India FinTech firms in India is setting new benchmarks for financial services in the country. In India, the fintech industry is encouraged by various government initiatives such as Jan Dhan Yojana, Aadhaar, and the emergence of UPI which provide a good foundation to boost financial inclusion in India and Demographically, Males & females adopting FinTech applications stood at 88% & 84%, respectively, while age-wise people between 25 and 44 are highest adopters of FinTech's at around 94% while globally in the same age bracket FinTech adoption is seen at around 73%. India is amongst the fastest-growing FinTech markets in the world. India ranked the highest globally in the FinTech adoption rate with China. Digital payments value of \$65 bn in 2019 is expected to grow at a CAGR of 20% till 2023. Multiple factors differentiate markets world-over, and the FinTech sector is not an exception. India, with its own set of challenges and opportunities, stands out as a unique market for FinTech, especially the payments community.

Indian FinTech companies could address a few of the critical structural issues afflicting Indian financial services-increase outreach, improve customer experience, reduce operational friction, and foster adoption and usage of the digital channel. Legacy-prone processes and higher operating cost models of incumbent banks and financial service providers will give digital FinTech companies an edge, as banks play catch-up with these more nimble and innovative start-ups. The opportunity for FinTech lies in expanding the market, shaping customer behavior, and effecting long-term changes in the financial industry.

Mobile payments are possibly the most important fintech innovation in the payments industry. With the proliferation of smartphones and mobile apps, it is now possible to pay for goods and services using mobile devices.

This has transformed the payments industry by enabling consumers to make payments whenever and wherever they want, without the need for cash or physical cards. Apple Pay, Google Pay, and Samsung Pay are examples of mobile payment apps that allow users to store their credit and debit card information on their smartphones and make payments by tapping their phones on payment

terminals. Additionally, these apps provide additional security features, such as biometric authentication and tokenization, making mobile payments more secure than traditional card payments.

## **STATEMENT OF THE PROBLEM**

FinTech has had a significant impact on the global financial services industry over the last decade. India is recognized as a strong FinTech hub globally, and as the Indian entrepreneurial landscape continues to evolve, more Paytech use cases-led businesses will be developed, and more investors back these businesses. The fintech industry has seen tremendous growth in India over the last decade since it caught pace after the expansion of internet services in the country. With a fintech adoption rate of 87% against the global average of 64%, India is one of the fastest-growing fintech markets in the world.

The ongoing trend in digital payments and investments in FinTech innovations resulted in a highly competitive market. Paytm, Amazon Pay, and Pay Pal have emerged as popular fintech companies in the digital payment segment. Certain structural challenges hinder the growth of digital payments including security concerns, data breaches, poor internet connectivity, and failures on payment platforms. These factors weaken consumer faith in digital payments and companies have to come up with a plan to provide quality service to customers without breach of data privacy. There is hope that India's startup ecosystem will be able to address these challenges in the coming years. Also, despite registering unprecedented growth in the last few years bolstered by the rapid internet penetration, India still has the second largest population without access to banking services with 190 million unbanked people. Therefore, there is a need to extend technology-based financial services across the length and breadth of the country in a secure manner. This research thus aims to study and analyze the emergence and growth of Fintech and its effect on the payments Industry and the different factors that hinder its expansion in the economy of India.

## **OBJECTIVES**

1. To study the impact of Financial Technology on the traditional payment industry.
2. To study the role of UPI in the overall Paytech Industry.
3. To study the importance of payment gateways in Fintech.
4. To study the customer perception of the services offered by paytech industry.
5. To analyze the challenges faced by the Indian Paytech Industry in the current scenario.

## **SIGNIFICANCE OF STUDY**

As technology continues to play an increasingly larger role in finance, it has revolutionized how customers make financial decisions for themselves. The Internet and smartphones are slowly replacing other forms of monetary transactions. With the increase in the penetration of smartphones, traditional methods are slowly turning into digital ones. Conducting transactions online is now as simple as sending a text message and the FinTech sector offers endless possibilities. The country is increasingly moving towards a cashless economy, with transactional transparency and competitive service charges, among other perks. The digitized payment habits of Indian consumers and retail providers have led to an influx of diverse payment solutions within the country.

Through this project, we are able to grasp a clear understanding of the impact of Fintech on the payments industry and how it has revolutionized conducting payments in the economy. The growth of major players in the payments industry over the years, different remitter and beneficiary bank performances in executing digital payments, volume and value of P2P and P2M transactions in online payments, the impact and usage of digital payments by citizens, and the problems they faced are further discussed in this project.

## **SCOPE**

The study aims to review the current state of the Indian financial technology market and addresses the technological changes with its application in different FinTech segments. It also provides an outlook on potential future trends in the overall FinTech and PayTech market in India. In this project we also provide a survey of recent developments in the Paytech (Payments Technology) industry, focusing on the operational structures, the technologies involved, and the operational risks associated with the new systems. It also aims to study the best payment gateways for the users and the current Indian payment solution landscape has numerous players rendering different services.

## **RESEARCH METHODOLOGY**

The project has analyzed the prospects and challenges of Paytech in the Fintech landscape of India both from a macro and micro perspective. Firstly, the study attempts the macro analysis of Paytech firms in India by analyzing the volume and value of transactions, remitter bank performance and transaction categories. It studies the impact of Fintech on the growth of the payments sector, the project also discusses the constraints faced in digitalizing the payments sector of India. Secondly, it has investigated the customer perception on Paytech by analyzing the mode of payments, apps used, purposes for which it is used, satisfaction level and rating.

**Research design:** A Case- study method was chosen to conduct this exploratory study. Case studies are associated with the development of detailed information relating to a specific business phenomenon, with phenomena across similar organizations or settings, or with one specific case (person, organization, or setting). Case study method may draw on a number of methods to gather data, such as observation, experiments, structured interviews, questionnaires, and/or documentary analysis.

**Sources of data:** The study is conducted based on secondary and primary data obtained. Secondary data was used to obtain information relating to Fintech Payment Applications - UPI-centered, Remitter Banks, Merchant Category Classification of Paytech based on consumer usage is also explored more through this project.

**Sampling method used:** Convenience sampling method was used in the study. It involves selecting individuals that are easiest to access at random until the desired sample size is reached. Google forms were used to source primary data for a centered analysis of customer satisfaction over digital payments.

**Data presentation:** Percentages are used to express the growth and stages. Graphs and charts are used to compare and analyze data. The most common type of data visualization used in this project includes trend line charts, pie charts, line graphs, and bar graphs.

## LIMITATIONS

- The analysis and derived conclusions are based on the secondary data sources for a limited period of 2 years.
- The study is centered on the impact of Paytech on the Fintech industry of India, which is only an aspect of the whole industry.

## CHAPTERISATION

### CHAPTER - 1

**Introduction:** The chapter provides a brief introduction to the subject, its importance, scope, problem statement, the methodology used, study objectives, and study limits.

### CHAPTER - 2

**Review of Literature:** This chapter evaluates the available literature in our chosen topic area i.e.. A review of FinTech in India specializing in the Payment Industry and its significance and challenges in the current scenario.

### **CHAPTER - 3**

**Theoretical Framework:** This chapter deals with the structure that can hold or support the theory of our research study. The theoretical framework introduces and describes the theory that explains why the research problem under study exists.

### **CHAPTER - 4**

**Data Analysis and Interpretation:** This chapter analyzes data collected from secondary sources using different graphs and tables.

### **CHAPTER - 5**

**Summary, Findings, Recommendation:** This chapter explains the findings and summary on Paytech in India and the conclusion about different aspects of Paytech, its expected growth, challenges, and how to resolve them.



**CHAPTER - 2**

**LITERATURE REVIEW**

## INTRODUCTION

Fintech innovations in the payments industry provide opportunities for businesses to streamline payment processes, reduce costs, and improve customer experiences. Businesses can remain competitive in a rapidly changing payments landscape by embracing these innovations.

Fintech innovations in the payments industry are transforming the way we make payments, providing consumers and businesses with convenience, speed, and security.

As the payments landscape evolves, fintech firms will become increasingly important in driving innovation and shaping the future of payments. While these innovations have risks, the benefits they provide are too significant to ignore.

### 1. Review on “Fintech in India”

**C.Vijai (2019)** Fintech is financial technology; Fintech provides alternative solutions for banking services and non-banking finance services. Fintech is an emerging concept in the financial industry. The main purpose of this paper is to assess the opportunity and challenges in the fintech industry. It explains the evolution of the fintech industry and presents financial technology (fintech) in the Indian finance sector. Fintech provides digitalization transactions and is more secure for the user. The benefits of fintech services are reduced operation costs and friendly users. The fintech services in India are the fastest growing in the world. The fintech services are going to change the habits and behavior of the Indian finance sector.

**P. Krishna Priya, K. Anusha (2019)** India is a growing market for Fintech with a population of nearly 1.3 billion. A huge percentage of the unbanked and under-banked population is making India an exhilarating global space for financial technologies. Fintech is regarded as a game changer and disruptive innovation which is capable of shaking up the traditional financial markets. Fintech has been growing rapidly in India in the last five years and is expected to grow further in the near future. At this outset, the article focuses on the basic types of financial technologies and their functions and also discusses the opportunities and challenges it has in the Indian business environment.

**Neeta Baporikar (2021)** This study focuses on how India is transitioning into a dynamic ecosystem offering Fintech start-ups a platform to grow into billion-dollar unicorns. From tapping new segments to exploring foreign markets, Fintech in India is pursuing multiple targets. The traditionally cash-driven Indian economy has responded well to the Fintech opportunity, primarily triggered by a surge in e-commerce, and Smartphone penetration. However, India's growth is still not comparable in scale to its global counterparts but is stacked well, due to a strong talent pipeline in the tech workforce. Hence, adopting an exploratory approach, based on an in-depth literature review, the chapter aims to identify the challenges and deliberate on the outlook for Fintech in India.

## 2. Review on "Fintech payment gateways"

**D. A. Nursansiw** (2022) This study tries to pinpoint how fintech payment gateways are evolving into a commercial approach for enhancing MSMEs' performance in NTB. The study's findings suggest that MSME actors are using online transactions as part of their overall business plan to increase the performance and sustainability of their organizations. This is due to the fact that a payment system using a payment gateway can transact easily, quickly, precisely, efficiently, and effectively, enabling actors to provide excellent service to their clients. Additionally, this is supported by and in line with the preferences of consumers from the millennial generation and generation Z, who are predominant in transactions using fintech and saving money using E-wallet, so clients prefer to transact online with a payment system using a payment gateway.

**Erithiana Sisjoan Koesnadi, Maya R. A. Setyautami, Ade Azurat** (2022) The study conveys that financial technology (fintech) has a chance to enhance and automate financial services and transactions as a result of the industry's transition to digitalization. A payment gateway is a form of fintech that offers payment services by fusing users' business processes with multiple banks and financial organizations. The implementation of the payment gateway involves taking into account the needs of diverse users as well as a number of environments and payment channels. A domain requirement engineering approach called SPLE's initial step examines the payment gateway's unpredictability. The domain requirement engineering methodology for the payment gateway is presented in this article. To assess the feature variation, we look at the current payment gateway. The result is a feature model that represents the variability of the payment gateway system. The reusable components can be created to develop the payment gateway product line based on the feature model.

**Anupam Saxena, Dr. Shalini Nath Tripathi** (2021) Digital payment platforms have profited from the present Covid-19 outbreak. The ease of conducting transactions and protection from viruses and germs brought about by this digitization have raised severe concerns about how secure these transactions are, even as their use has increased. This worry served as a catalyst for the discovery of mobile payment hazards. From the standpoint of customers (Gen Y), the study largely focuses on data privacy and security issues related to mobile payments. The results showed that there were numerous aspects involved in digital money transactions, and it is important for app developers to keep them in mind: foster user trust and provide security by implementing unique technological interventions. The study that was performed, which found that data privacy was a top concern and necessitated action from both app developers and the government, further supported this.

**Wierik, S.L.** (2019) "describes the process of buying, selling, transferring, serving, or exchanging products, services, or information via computer networks, including the Internet," has grown significantly, going from a zero-sum game to a €1.96 billion business-to-consumer and a €14.2

trillion business-to-business juggernaut that has significantly altered business firms, markets, and consumer behavior. FinTech is a new financial sector that uses technology to enhance financial activities. It makes sense that FinTech solutions would also be developed for e-commerce companies to streamline the payment process. Due to the significance of e-commerce in the modern world, the growing influence of FinTech, and the dearth of literature on the effects of fintech payment technologies on the business models of e-commerce companies, this paper examined the effects of various payment solutions on the business models of e-commerce businesses. In particular, the payment component of the business model will be examined, and an emphasis on the value proposition will be placed.

**Kedar Bhide (2019)** The world is experiencing rapid growth in smartphone technology, internet data accessibility, internet usage, and Fintech investment. The term "Financial Technology Innovation" refers to the developing nexus between financial services and technology. Digital payment gateways, such as those that accept debit and credit cards as well as UPI-based eWallets, have fueled the growth of e-commerce, online money transfer services, insurance, brokerage, the agricultural industry, and other industries. The author of this study article went into detail on the influence of fintech on digital payment gateways, including its growth and driving factors. This essay also explains how the growth of transparent, cashless logistics involves the sharing of prominent digital channels.

**Percy Venegas (2021)** The author offers a technique to evaluate the counterparty risk of non-banking financial firms that function as fiat-crypto gateways in the financial infrastructures of blockchain and distributed ledger technologies. The risk scores can be used to assess fintech enterprises as well as conventional money service providers (including cryptocurrency payments and blockchain systems operators). Since non-banks are frequently less regulated than other financial organizations, banks, investors, and companies that must evaluate counterparty risk across jurisdictions and in the face of uncertainty are the main users. The research's methodology and conclusions apply to any decentralized financial infrastructure with centralized elements, such as fiat on/off ramps, where counterparty risk evaluation is required for operational, investment, and regulatory reasons.

**Peri A Manaf (2019)** Fintech firms in Indonesia are managing demand and potential brought about by the growth of the country's digital finance (fintech) industry. Market acceptance is influenced by providers and stakeholders. Their contributions to the fintech ecosystems are not, however, rigorously recorded. The role of the provider and stakeholders in promoting the usage of digital payment services is addressed in this essay. This essay focuses on the context of their behaviors and roles as the ecosystem for digital payments develops. This study uses the example of electronic wallets to compile past research on fintech concepts (e-wallets). According to the findings of the literature analysis, there are enormous prospects in the Indonesian payment services sector, particularly for non-cash payment methods like e-wallets. In addition, there has been a rapid

transformation as a result of the underlying demographic and economic factors. Cashless payments have grown significantly in Indonesia, and the study concludes that local fintech firms may take advantage of these developments by offering better chances through their alternative payment systems.

### **3. Review on the effect of fintech on banking**

**A V Thakor (2020)** Reviewing the literature on fintech and how it interacts with banking is the purpose of this essay. Fintech encompasses advancements in insurance, credit markets, including peer-to-peer lending, and payment systems (including cryptocurrencies), with a focus on smart contracts that are supported by Blockchain technology. The article defines fintech, looks at a few numbers and stylized facts, and then explores the theoretical and empirical literature. Four primary research questions form the framework for the review. The conclusion of the report poses further research-related queries after summarizing our current understanding of these issues. Reviewing the literature on fintech and how it interacts with banking is the purpose of this essay. Fintech encompasses advancements in insurance, credit markets, including peer-to-peer lending, and payment systems (including cryptocurrencies), with a focus on smart contracts that are supported by Blockchain technology.

### **3. Review on “Effect of Paytech Applications in reshaping the payments landscape”**

**Vasyl Soloshchuk (2019)** This chapter provides examples of potential inspiration sources for PayTech entrepreneurs, regardless of whether their objective is to create a disruptive product or enhance the current environment. Yet developing a PayTech product that is actually valuable requires more than simply an original concept. The success of a company may depend on its capacity to comprehend the inner workings of the industry. Unfortunately, many FinTech startups think about their ideas exclusively from the perspective of the consumer and make assumptions about how the system runs rather than discussing the problem with industry professionals. After identifying the specifics of the problem they're attempting to solve, producing a minimum viable product, and confirming their business model, a PayTech startup faces additional difficulties.

#### **Bruna Jachemet Esin (2019)**

Electronic payments could be made faster and more widely available with the help of payment innovation and related technologies. The ecosystem of payments has been impacted by the introduction of non-financial players and non-fiat currencies, which has increased or created new threats to the stability of the financial system. In terms of e-payments regulation, nationalism takes the form of limiting participation by foreign parties and defending national currencies. By, for example, displacing antiquated paper-based tasks, cutting-edge solutions bring digitization to all

processes within the payments ecosystem. In a setting with high levels of connectivity, compliance is especially important when it comes to prepaid anonymous cards and cryptocurrency payment methods. The adoption of standards is crucial to facilitate the interoperability within the payments ecosystem, but can also improve cost and time, favor competition and improve the user experience.

**Hemlata Chelawat (2014)** The development of new payment methods and related technologies could speed up and expand the use of electronic payments. The emergence of non-financial players and non-fiat currencies has had an effect on the payments ecosystem, increasing or introducing new risks to the stability of the financial system. In terms of e-payments regulation, nationalism Innovative solutions bring digitization to all processes within the payments ecosystem, for instance, by replacing outdated paper-based tasks. Compliance is crucial when using cryptocurrency and prepaid anonymous cards in an environment with high levels of connectivity. manifests itself as restrictions on foreign parties' access and support for home currencies.

**Sudhanshu Shekhar, Shounak Basak, and Bhupesh Manoharan (2019)** use institutional theory to examine the dynamics of market creation in this chapter. Empirically, we look into how the Indian mobile payments market came to be, as well as the dynamic interactions between macro and micro actors during this process. According to our research, institutional contradictions supported by various macro actors are a key component of market creation. When the Indian mobile payments market first started to take off, institutional logics of security and inclusivity, supported by the banking and telecom industries respectively, were in conflict. In order to resolve these contradictions, the other actors—such as regulators and consumers—had to engage in active institutional work. The present study further sheds light on the dynamic interaction between firms and consumers in market creation. Our findings imply that the development of the Indian mobile payments market was significantly influenced by feedback from micro actors like consumers and retailers.

#### **Rajesh Krishnamoorthy”(2019)**

Asset management and incoming payments. The payments environment that drives India's asset management sector is described at the beginning of this chapter. National Payments Corporation of India (NPCI), any bank that serves as a sponsor, and the individual savings banks, where millions of clients have current or savings accounts, are the three key participants. 26 million systematic investment plans had been established by January 2019 thanks to a new PayTech that India developed. Via the National Automated Clearing House (NACH) and the NPCI, this was made possible. The Supreme Court's decision forbade the use of the Unique Identification Authority of India's application programming interfaces in the development of eNACH, which caused the mandates for eNACH to be removed as of November 2018. Now, PayTechs has returned to the drawing board to find a solution that will enable investors to contribute to an asset management fund efficiently and profitably in a way that meets regulatory requirements.

#### **4. Review on “Challenges of Fintech Payments”**

**Naomi N Griffin (2023)** Fintech payments leverage large digital platforms to fill gaps in the traditional payment system. They have made great strides in increasing access to payment services in several countries around the globe. At the same time, like any innovation, the new payment models are exposed to risks in their operating environment. We review the main fintech payment models (mobile money, internet-based fintech payment, and digital money) and discuss operational and financial risks as well as the challenges they face. We then explore how public financial management (PFM), especially treasury payments and non-tax revenue collections, could benefit from fintech payments by providing examples of early fintech applications in different countries and discuss the challenges of integrating them into the public sector. The use of fintech in public finance could bring various benefits—including strengthening fiscal transparency, improving budget planning and execution, and upgrading cash management—if public sector institutional and technological capacities are strengthened and risks are adequately mitigated.

## **CHAPTER - 3**

# **THEORETICAL FRAMEWORK**



## **FINANCE**

According to Paul. G. Hastings – ‘Finance is the management of the monetary affairs of the company.’ The word "finance" comes from the Latin word "finis," which means "to terminate" or "to finish." The term "finance" has a wide range of meanings, including "fund," "money," "investment," "capital," "amount," etc.

Business uses finance as a tool to acquire and use money in a variety of departments, including those responsible for manufacturing, purchases, research & development, and other activities. It is generally accepted that a company's finances provide the basis of all of its core operations. When it comes to production and marketing, finance functions much like oil in the operation of machines or blood in the human body. Without money, no one can even think of launching a business, let alone manage its operations and growth. No company can thrive without finance because it is the lifeblood of every organization. It is concerned with the administration of the company's financial affairs, including how to raise capital on the most advantageous terms possible and allocate acquired funds to their optimum purposes. As a result, the nature of finance is related to the arrangement and use of funds.

## **PAYMENTS**

Payment is the transfer of money, goods, or services in exchange for goods and services in acceptable proportions that have been previously agreed upon by all parties involved. Payment can be made in the form of services exchanged, cash, check, wire transfer, credit card, debit card, or cryptocurrency.

The contactless payment technology that has emerged in recent years has made payments easier than ever. The credit or debit card machine—called a point-of-sale terminal (POS)—can read the customer's banking information through the software application that's installed on the mobile device. Once the phone reads the information from the POS terminal, a signal is generated to inform the customer that the payment has been made.

For mobile payments to work, the payer must have a higher-end mobile device with near-field communication (NFC) capability. The user then needs to set up their mobile wallet to contain their existing card information. The bank that issued your credit card often has to approve the new payment platform, and the payee must have the capability to accept mobile payments.

## **TECHNOLOGY**

The two Greek words "techne" and "logos" are the origin of the word "technology." A word, saying, or expression that expresses inner thought is referred to as logos. Techne is the Greek word for art, skill, or craft. Thus, technology refers to the ability to communicate a concept in order to achieve a

goal. The term "technology" today, however, mostly refers to the understanding of tools, machinery, techniques, crafts, systems, and organizational approaches to address a problem. The human species now has the potential to influence and modify their natural surroundings because of technological innovation. Students will gain knowledge of the significance of technology, as well as its benefits and drawbacks, as well as its potential for the future.

A technology known as the modification and manipulation of the human environment is the application of scientific knowledge to the goals of daily life. Since the 20th century, the definition and applications of the word "technology" have undergone a significant transformation, and this development has continued over time. In today's environment, technology is the driving force.

Along with cultural shifts, technological improvement has had a significant impact on the growth of human civilization. Through a variety of clever and inventive methods, technology offers fresh ways of performing labor. All field's production requirements have become more efficient while requiring less effort and time thanks to technology. Our lives are now simpler, cozier, healthier, and more joyful because of it. Finance and business have undergone a revolution as a result.

## **EVOLUTION OF FINTECH**

Financial solutions assisted by technology is referred to as "financial technology," or "FinTech." It is frequently referred to as the modern fusion of financial services and information technology.

However, there is a long history and three distinct eras to the link between money and technology. In both the developed and developing worlds, a new era of fintech has formed since 2008, first in the analog setting, then with a process of digitization of money from the late twentieth century onward. What defines it in this new era is not how financial goods and services are delivered, but rather who delivers them and how swiftly technology is being applied at the retail and wholesale levels. This most recent evolution of FinTech, led by start-ups, poses issues for regulators and market participants alike, particularly in balancing the potential benefits of innovation with the potential risks of novel techniques. We look at how financial technology has evolved over the past 150 years and make the case against early or harsh regulation of the sector currently.

## **EVOLUTION IN INDIA**

In India, the emergence of a cashless society is currently a popular topic. The successful deployment of demonetization has pushed the economy towards electronic transactions. This invention is being quickly incorporated into systems like IMPS, RTGS, NEFT, E-wallets, Aadhar Pay, Debit Cards, and UPI. We are in a digital wonderland where an ice cream vendor happily accepts wallet payments, someone uses a credit card to pay for a book that costs Rs. 100, a milkman happily provides his Paytm number, and a vegetable vendor uses a QR code. The current era of digitization has opened up new, completely distinct aspects. The prime minister, Mr. Narendra Modi, unveiled two new catchphrases encouraging India's economic growth: "Made in India" and "Digital India." Digitization can be used to meet both immediate and long-term technological and commercial needs.

Modern businesses use digital technology to increase customer satisfaction, deliver the best customer experiences, produce work faster, use big data better, boost operational efficiencies, etc. India was encouraged to pursue sustainable growth and self-reliance through the "Digital India campaign," which was launched to provide India with more digital power. The terms "faceless," "paperless," and "cashless" are frequently used to describe the Indian economy. This report examines the evolution of the financial services industry, the FinTech revolution in India, and the emergence of unicorn fintech companies like Paytm, BillDesk, PhonePe, and PolicyBazaar.

## **CATEGORIES OF FINTECH**

Apps such as Paypal and GPay are classified as fintech, however, they are not the same.

These are the most popular types of fintech:

1. Digital banking.
2. Payment.
3. Trading and cryptocurrency.
4. Insurance.
5. Deposit and lending.
6. Capital raising.

In the following years, the above-mentioned kinds will likely expand or even change completely. For the time being, we can categorize distinct sorts of fintech based on the services they offer.

## **UNDERSTANDING FINTECH CATEGORIES**

FinTech is revolutionizing financial services and changing the way customers engage with the goods these business models provide in a variety of ways. Here are some examples of how FinTech is being used:

### **1. Blockchain and Cryptocurrency**

With the availability of smart contracts, Proof-of-Work, Peer-to-Peer transactions, blockchain-powered trading platforms, decentralized ledgers, and immutable records, FinTech and Blockchain are good examples of how FinTech is affecting the growth of financial services.

Blockchain technology enables more private, secure, and transparent tracking of financial transactions over their entire lifespan. The decentralized and distributed character of cryptocurrencies enabled by Blockchain technology contributes to their acceptance and confidence among business models and consumers alike.

Blockchain technology is still in its early stages, with further advances and breakthroughs being explored through additional study. Various systems leverage Blockchain technology, including Ethereum, Bitcoin, Chain, Bloq, Wirex, and many others

## **2. Payments (Paytech)**

With the development and integration of digital processing applications and different processing networks, FinTech is transforming the payments sector. Wearable technology and smart gadgets are being created for customers to improve digital connectivity and secure consumer identity.

## **3. Insurance (InsurTech)**

With the development of digital financial ecosystems, insurance solutions of high value are developed in the insurance business to improve the client experience. Insurers are integrating smartphone applications, drones, the Internet of Things (IoT), artificial intelligence (AI), machine learning, and other techniques to give greater effect through their services to customers and other entities that use them.

InsurTech is steadily transforming the way clients see insurance products, with several perks such as online markets, more easy and tailored ways, customized profiting, and many more.

Rapid expansion and progress in the insurance sector have been enabled by the use of technology in areas where traditional methods of operating would appear difficult.

## **4. Regulatory (RegTech)**

The Financial Conduct Authority defined RegTech in 2015 as “a subset of FinTech that focuses on technology that may support the delivery of regulatory obligations more efficiently and effectively than existing capabilities.” RegTech refers to the use of cutting-edge technology to improve compliance and the implementation of simple, secure, and cost-effective regulations.

In a world where finance is being taken over by different technological applications, new regulatory frameworks are required to keep up with the innovations. RegTech is primarily employed to standardize and promote transparent regulatory processes that automate the whole compliance system.

RegTech is being utilized to deliver regulatory solutions in a variety of ways, including regulatory reporting, risk management, transaction monitoring, and compliance. Regis-TR, Provenir, Continuity, and IdentityMind are several RegTech platforms that provide such solutions.

## **5. Lending (LendTech)**

This industry employs technology to provide customers with financing options through more accurate and quicker procedures. To provide error-free outcomes, smart systems employing

Artificial Intelligence and Machine Learning algorithms are employed to process and validate identify credentials.

The use of technology in loan procedures makes it easier to forecast income expectations, evaluate the borrower's track record, appraise collateral value, and foresee changes. Payment Technology secures and simplifies asset management and the processing of various payment transactions (PayTech). PayPal and GPay are among the payment platforms that use PayTech.

#### **6. Trading (TradeTech)**

TradeTech is essentially the use of information technology to lower the information costs of international commerce, streamline trade finance, and promote transparency in trading processes for both business models and consumers. International cooperation is critical for realizing its full potential and advantages. TradeTech uses IT systems in supply chain financing and asset distribution platforms to simplify and support cross-border commerce.

#### **7. Personal Finance (WealthTech)**

This branch of FinTech focuses on improving wealth management and retail investment services by leveraging technology to augment and provide operations in a more efficient and automated manner. These digital solutions are utilized to improve existing solutions and develop new ones to make them available to new groups of investors. Monie is an example of a personal finance app for Egypt.

WealthTech facilitates the streamlining of the investing process, allowing investors to manage their investment portfolios more easily. WealthTech is being incorporated into the finance sector through the use of Micro-Investment, Robo-retirement, Portfolio management systems, and other technologies.

#### **8. Equity Financing**

This is a means of raising cash or capital by selling shares of a firm to the general public, financial institutions, or investors. The funds raised are then utilized to fund new business ventures or to develop existing firms.

Crowdfunding may reach a larger population of investors by utilizing technology. Kickstarter, Pebble, and numerous other crowdfunding sites provide prizes to their participants.

#### **9. Consumer Banking (BankTech)**

Many financial institutions are using digital technology to deliver services in a more streamlined and efficient manner. BankTech is the use of digitized platforms to provide banking solutions and products to consumers. BankTech has several advantages over traditional banking methods, including improved user experience, lower costs, and less operational friction.

## **GROWTH OF FINTECH IN INDIA**

### **India - A global FinTech Superpower**

India has the highest FinTech adoption rate globally. India is amongst the fastest growing Fintech markets in the world. Currently, there are 2,000+ DPIIT-recognized Financial Technology (FinTech) startups in India with this number growing fast the Indian FinTech industry's market size is \$50 Bn in 2021 and is estimated at ~\$150 Bn by 2025.

The Fintech sector in India is expected to be \$1 Tn in Assets Under Management (AUM) and \$200 Bn in revenue by 2023. Payments, Lending & InsurTech stood as the most preferred sectors (2021). The Indian Fintech industry ecosystem sees a wide range of subsegments, including Payments, Lending, Wealth Technology (WealthTech), Personal Finance Management, Insurance Technology (InsurTech), Regulation Technology (RegTech), etc. Indian fintech market has received \$29 bn in funding across 2,084 deals to date (January 2017-July 2022), gaining a 14% share of the global funding and ranked #2 on the deal volume. The Fintech sector in India has seen funding of \$8.53 Bn (in 278 deals) in FY22. As of July 2022, India has 23 Fintech companies, which have gained 'Unicorn Status' with a valuation of over \$1 Bn.

As of September 2022, India's Unified Payments Interface (UPI) has seen the participation of 358 banks and has recorded ~6.8 Bn transactions worth over \$135 Bn.

## **PAYTECH INDUSTRY SCENARIO IN INDIA**

The Fintech segment in India has seen an exponential rise in funding over the last few years; the sector received funding worth ~\$9.8 Bn in 2021, led by the Payments segment (53% share of fintech funding across all fintech verticals in India). Equity funding into Indian FinTech's has grown at a CAGR of 26% over the last 4 years, but more rapidly so from 2020 onwards, fueled by the post-pandemic impact of high growth via increased digital services adoption. The Indian Fintech growth story continues to hold strong, with ~150 deals/quarter. While Payments and Alternative Finance segments constituted more than 90% of the sector's investment flow in 2015, there has been a major shift towards a more equitable distribution of investment across sectors since to include InsurTechs, WealthTechs, etc. India has 23 FinTech's that have gained 'Unicorn Status'. 1/5 Startup Unicorns are from Fintech.

India recorded the largest absolute number of real-time transactions in the world; India's real-time transactions crossed 48 Bn, which is 6.5 times the combined volume of the world's leading economies: U.S., Canada, U.K., France, and Germany in 2021, resulting in cost savings of ~\$12.6

Bn for Indian businesses and consumers in 2021. India records over 23 bn digital payments worth INR 38.3 lakh crore in Q3,2022.

UPI transactions in India witnessed a growth of 650% at the semi-urban and rural stores in India. A growth of nearly 25% and 14% in value and volume, resp, in assisted financial transactions across semi-urban and rural retail counters in the country in 2022. The digital investment market is set to be worth \$14.3 bn by 2025, growing from \$6.4 bn in 2021 at a 5-year CAGR of 22.4%.

India's digital payments market is at an inflection point and is expected to more than triple from \$3 tn today to \$10 tn by 2026. As a result of this unprecedented growth, digital payments (non-cash) will constitute nearly 65% of all payments by 2026 i.e., 2 out of 3 transactions (by value) will be digital. The Fintech revolution in India is the culmination of years of effort in laying the groundwork for developing key enablers through important initiatives:

**Jan Dhan Yojana:** The world's largest financial inclusion initiative, "Jan Dhan Yojana", has helped in new bank account enrollment of over 450 Mn beneficiaries for direct benefits transfer and accessibility to a host of financial services applications such as remittances, credit, insurance, and pensions enabling FinTech players to build technology products to penetrate the large consumer-base in India.

**Financial Literacy:** Some of the recent initiatives towards improving financial literacy in India include setting up the National Centre for Financial Education and implementing the Centre for Financial Literacy project by the RBI. These steps aim to promote financial education across India for all sections of the population.

**E-RUPI:** e-RUPI is a person & purpose-specific digital payments instrument to allow for contactless & cashless payment solutions and shall play an important role in making the Direct Benefits Transfer more seamless & effective. The solution is being adopted for cashless payments for Covid-19 vaccination.

**India Stack:** IndiaStack is a set of APIs that allows governments, businesses, startups, and developers to utilize a unique digital Infrastructure to solve India's hard problems towards presence-less, paperless, and cashless service delivery. The India Stack has been the driving force behind the accelerated evolution of Fintechs. It is one of the most important digital initiatives undertaken globally, aimed at putting up a public digital infrastructure based on open APIs to promote public and private digital initiatives, and has played a catalytic role in India's digital foundation and evolution.

## **PAYTECH**

PayTech refers to any payments that involve technology. This is a fast-growing sector of FinTech that focuses on transactions and payments rather than finance in general. In fact, PayTech companies make up 25% of FinTechs, valued at over \$2.17 trillion.

The main idea behind Paytech is that before, payments were just an exchange of money. But now with wearables, innovations in payment methods, and embedded finance, transactions play a much larger part in people's life. As more people switch to mobile and digital payments, the payment experience is being completely reinvented - which means so is the customer experience. This turns payments into a branding opportunity rather than just a simple transaction.

With mobile and digital payments, there is an infinite opportunity to use innovation and technology to rethink the customer experience. With globalization, cross-border payments play an even larger role than before. And with convenient payment methods, we're fundamentally changing the way people interact with money.

FinTechs and PayTechs are expected to develop tools to ensure that their customer systems mitigate the enhanced fraud risk and comply with anti-money laundering requirements. The adoption of standards is crucial to facilitate the interoperation within the payments ecosystem, but can also improve cost and time, favor competition and improve the user experience.

India is a great market for PayTech, with several players like PAYTM, BHIM, Google Pay, and Phone-Pe present and thriving. In cities, people are adopting digital means of payment and digital payments are carving a niche in people's lives. With a large part of India's population living in villages, there are many reasons why the digital mode of payment has not penetrated. These include trust; education around apps and smartphones; physical infrastructure; Internet speed; and language. Changing the payment landscape in Indian villages is clearly a mammoth task and will take time. The move from paper to digital provides a useful learning experience. People now know that the notification they receive when money is deposited in or taken from their bank account can be used in the future if some issue occurs. Similarly, the author anticipates that cash will be replaced slowly by digital payments, but it will be a time-consuming process.

## **DIFFERENT PLAYERS IN THE PAYTECH INDUSTRY**

There are different companies and organizations that play various important roles within the Paytech industry itself. These range from direct-to-consumer companies, payment processors, acquiring banks, card issuers, and more. Here is a short summary of some of the different players in the industry:



**Electronic Money Institutions (EMI):** EMIs are organizations that do not hold a banking license and partner with other players to offer their services. They need to meet certain capital requirements and can issue electronic money.

**Card network:** card networks are companies like Mastercard and VISA that enable transactions between merchants and card issuers. They build the infrastructure and charge interchange fees to process card transactions.

**Acquiring and issuing bank:** the issuing bank issues payment cards to consumers or businesses on behalf of the card networks, and the acquiring bank maintains the merchant account and processes their card transactions.

**Payment gateways:** this is the software used to transmit transaction information between the customer and the acquiring bank.

**Payment Service Providers (PSP):** these provide a connection to the acquiring bank and act as a third party between the merchant's account and a customer's account. They essentially offer transaction management from end to end. This allows businesses to outsource nearly all of the payment processing to a third party. FinXP is an example of a PSP.

All these players are part of the Paytech industry, which is a smaller piece of the entire financial services industry.

## **PAYTECH VS TRADITIONAL PAYMENTS**

As more customers and businesses expect payments to be made in real time and in their preferred currency over the past ten years, payment experiences have undergone substantial change. There is presently a high demand for technology platforms that offer a flexible approach to payments optimization across a wide range of current and future asset classes. This includes platforms that can easily setup new payment products and interact amicably with other ecosystem services, like data and security, across all asset classes.

The revolution and development of new Paytech tools are crucial for eCommerce because of their ever-growing popularity, but they do not eliminate the need for traditional payment methods. Many businesses still use credit and debit cards, bank transfers, cheques, cash, and physical point-of-sale (POS) terminals to manage customer payments. It is not so much a matter of choosing between traditional and digital payments, but of finding the ideal balance so that both methods can coexist in harmony and fit the needs of each company's potential audience. Most companies are aware of the importance of traditional payments and Paytech tools for their business and that is why they support both methods.

Technology and the new digital era have brought about a significant transformation in all sectors of the global economy, including the financial industry. Fintech, a term that describes the blending of technology and finance (financial technology), has emerged as a result of this phenomenon. Fintech encompasses a broad variety of areas or verticals, including payment methods, alternative financing, personal finance, wealth management, neo-banks, cryptocurrencies, insurtech, etc. Not only has the fintech phenomenon significantly changed how customers interact with brands, but it has also fundamentally altered and restructured the financial services industry.

On the other end of these developments, we find traditional payment methods, which we have defined as those payment methods commonly used by commerce, especially physical commerce, and that have been passed down through the generations. Cash or cheque payments, credit and debit cards, or cash on delivery are some examples of traditional payments.

The COVID-19 pandemic and technological advancements have emerged as two major forces influencing eCommerce transformation. Traditional payments are still required for the financial management of many businesses, including retail, e-commerce, hotel chains, etc., even though digital payment processing has grown in significance in recent years. The emergence of new competitors due to technological advancement in the payments sector has not only brought about change but also compelled merchants to enhance and innovate their products. These changes have affected infrastructure as well as assistance, service, and security.

## **PAYTECH COMPANIES**

Fintech, short for financial technology, has emerged as a critical component of the global economy. Previously, all financial transactions required paper-based documentation because it was thought to be the safest method. But as technology has advanced, the internet has become the go-to medium for business dealings. It is essentially a sector of the economy made up of businesses that employ technology to improve the effectiveness of financial services.

Companies that specialize in financial technology, or as it is known as fintech companies, offer the complete range of financial services often provided by traditional banking, with the unique selling point that technology is utilized to make these services more accessible and efficient. Some of the Paytech companies in India are explained below-

### **1. Paytm**

Leading financial services provider Paytm focuses on e-commerce, finance, and digital payment solutions. At the 2016 Forbes Leadership Awards, it took home the Outstanding Startup of the Year Award.

Paytm offers a platform that enables Merchants (Sellers, Shopkeepers, Shops, etc.) to accept payments using a variety of methods, including UPI, Net Banking, Credit Cards, Debit Cards, and Paytm Wallet. More than 7 million business owners use Paytm to take payments from clients in-person, online, or through their apps and websites.

## **2. Billdesk**

An Indian startup called BillDesk provides online payment platforms for its clients and facilitates banking and merchant website transactions. Billdesk is a service provider which provides billers, banks, and clients with all-inclusive bill presentation, payment, and administration services. Customers can receive and pay all their bills using BillDesk technology, and billers gain from lower processing costs and better customer service thanks to online bill presentation and payment. The simplest, fastest, and safest way to make payments is through BillDesk.

## **3. PhonePe**

A digital payment and financial technology firm based in India, PhonePe enables users to send and receive money, reload mobile, DTH, and data cards, pay for services, pay at merchants, invest in liquid funds and tax-saving funds, and purchase insurance, mutual funds, gold, and silver. Every transaction is protected from fraudsters on this UPI-based network, which also secures the financial information of its users. Functionality, general usage, and security are PhonePe's three key advantages. Due to its simplicity and ability to process merchant payments quicker than the Paytm app, the payment app PhonePe is incredibly popular.

## **4. Slice**

Slice is a payment and credit business that offers simple payment cards to handle everyday payments. These cards may also be converted into EMIs, or Equated Monthly Instalments, for the user's convenience without incurring any additional costs.

## **PAYTECH STARTUPS IN INDIA**

There are 7,699 FinTech startups in India. Some of the important ones are-

### **1. Pine labs**

Diversified payment solutions for businesses and merchants. Its products include hardware and software-based payment terminals, point-of-sale financing, working capital loans, and more. It also offers loyalty and gift card solutions, analytics for business decisions, and more. It offers solutions for businesses like hospitals, grocery stores, electronics, and more. Pine Labs is an Indian merchant platform company that provides financing and last-mile retail transaction technology. Founded in

1998, it now has more than 70,000 retailers across India, including major retail outlets such as Mark's and Spencer's Retail, Pantaloons, Shoppers Stop, and Westside.

## **2. CRED**

CRED offers a platform for paying credit card bills with rewards. It provides app-based services that let credit card holders pay their bills and accumulate credit coins that can be used for rewards from partner businesses. It allows you to manage several credit cards, keep track of your credit score in real-time, and use calculators for home loans, EMIs, PPFs, and other financial products. Both Android and iOS users can download the mobile app. Its primary function is rewarding consumers for using their credit cards to make purchases using its app. Also, CRED provides short-term credit lines and enables consumers to pay their housing rent. It is now the newest Indian startup with a \$2 billion or higher valuation.

## **3. Razorpay**

With the help of its product lineup, the platform Razorpay enables businesses to accept, handle, and distribute payments. It provides access to all payment methods, including credit cards, debit cards, net banking, UPI, and well-known wallets. It was founded in 2014 and provides services like payment gateways and link-based payment solutions for expediting and automating banking activities, working capital loans, and corporate credit cards. Its features include UPI-based recurring payments, payment buttons for accepting payments on websites, and the third watch for AI-enabled fraud management. Also, in collaboration with other banks, it provides business banking services.

## **4. BharatPe**

BharatPe is a fintech company that caters to small merchants and kirana store owners in India. It is a QR code-based payment method that is used by both customers and companies. In addition to other items, users can use it to pay for shopping, dining out, taxis, salons, mobile businesses, and utility bills. The platform, which was founded in 2018 and is based on an app, enables businesses to accept payments from customers. Applicants seeking loans might also be consumers. Devices running iOS and Android can both use the app. The business provides a variety of fintech products, including as small business financing, Bharat Swipe (a POS system) for card acceptance, and interoperable QR codes for UPI payments. Also, it had stated its intention to enable a loan book of \$300 million by postal service during the first 12 months for its lending partners.

## **5. Chargebee**

Chargebee is a subscription management tool that assists you in managing all parts of the subscription life cycle for your clients, including recurring billing, invoicing, and trial management.

It is a platform for managing subscriptions and recurring payments that streamlines revenue operations for SaaS and SaaS-like companies. It includes solutions for automated recurring bills including tax administration, quoting & invoicing, enterprise billing, and more. Moreover, it provides subscription management via price modeling, trial management, product catalogs, revenue operations, SaaS analytics, revenue recognition, quote-to-cash, and more.

## **CHALLENGES OF PAYTECH**

The Indian financial services sector and fintech firms have embraced cutting-edge technology to increase operational performance and expand client reach, but the rate of technology adoption has not kept pace with its promise, resulting in gaps in the penetration of financial services. Data and payment security, compliance, end-user ignorance, collaborating with legacy systems like banks, guaranteeing user retention and user experience, and working with legacy systems like banks are some of the major problems that the PayTech business currently faces.

Paytech lending companies frequently deal with challenges like lengthy fund-raising cycles, missed goals, and rising losses. The mishandling of the lending lifecycle is the main cause of these problems. Paytech start-ups in the nation deal with a variety of difficulties every day.

### **1. Regulatory and Compliance Laws**

The slowing of Paytech start-ups in the Indian financial industry is unavoidably caused by numerous rules. These rules are difficult to follow, and they also make it difficult for Paytech companies to join the Indian markets. In order to combat fraud, compliance regulations are put in place as a stringent regulatory framework. Nonetheless, they too serve as significant impediments to entry for new Paytech players. Before they even begin operations, Paytech start-ups must complete a long number of requirements.

### **2. Unbanked and Underbanked Population**

Paytechs initially experienced uneven growth because of weak infrastructures including low internet penetration and low literacy rates in India. Although the Indian government is addressing these problems with generous policies, the advantages will not become apparent for some time. The truth is that even today, a sizable portion of the Indian population lacks access to banking services and prefers to do transactions in cash rather than online. The poor level of financial literacy in Indian society is another barrier to the establishment of Paytech in India.

### **3. Trust in Cash**

When it comes to daily transactions, the majority of Indians take a conservative stance and settle on utilizing cash. They have relied on money as a sales medium for a very long time, thus it is challenging for them to break their habits and adopt new strategies. It is challenging to offer financial services in an unbanked market because these services are frequently connected to online

fraud. Due to their lack of financial literacy, many Indians are unable to recognize the value that Paytechs provide through their cutting-edge services.

#### **4. Cyberthreats**

Digitally accessible financial information on people and businesses is enormous and Paytech businesses handle private customer information. The same technology that makes life more convenient also makes it easier for thieves to access people's internet accounts. Online transactions experience significant financial losses due to several cybersecurity concerns. These are completely unjustified for the customers. This has caused a major drawback in their growth. FinTech's must strengthen their defenses against any threat provided by hackers.

#### **5. Lack of Support from the Government**

Government incentives and assistance for fintech to safeguard their interests in the Indian financial markets are severely lacking. For new Fintech players, this can be very discouraging. FinTech's are essential for generating economic growth and must be provided with all the resources they require to succeed.

#### **6. Data Security**

Whether it's mobile banking, payment apps, or Fintech in general, data security has emerged as one of the top issues in the online world. As we all know, traditional banking institutions are confident in their ability to keep their data safe and secure with security guards, CCTVs, vaults, and massive bulletproof doors and Paytech does not provide the same.

#### **7. Customer Protection and Security of Digital Payments**

While adequate measures are recommended and implemented by PSOs as they provide digital payment platforms and products, there are instances of fraud, mostly due to customer vulnerability or sometimes on account of system breaches. This makes it challenging to keep customers who had a negative experience as well as causes reluctance in new users to move towards digital payments. To regain customer trust and reduce the customer's liability, measures like zero customer liability, digital transaction switch-on/off, and digital ombudsman have been implemented. Adhoc approaches have the propensity to become points of vulnerability as a result of the high implementation costs of cyber security measures, which can result in system breaches. While such vulnerabilities are addressed through frequent advisories and instructions to the system participants, it brings the issue of cost to the forefront.

#### **8. Personalized Services**

For a very long time, personalized services have been the main and most important aspect of banking. Personalization nowadays, however, refers to engaging with a user at the appropriate moment and on their preferred channel with a suitable response to their precise demands. Customers are also amenable to having Paytech as their financial wellness consultant. But some users could feel

overrun by a broad range of alternatives, and good customization only offers them the focused options they need.

## **FUTURE OF FINTECH**

Over the past few years, India's Fintech potential has seen an exponential increase in funding, with more than \$8 billion in investments already reported throughout all phases of investment in 2021. In general, the fintech sector is changing to keep up with consumer wants, company objectives, and regulatory requirements. In 2023, a wide range of developments are anticipated in the Indian fintech market. Indian financial services now seem very different thanks to innovative concepts and FinTech-related technologies. India has a global FinTech adoption rate of 87%, which is significantly higher than the global average of 64%. Research by EY predicts that the prospective Indian FinTech business could generate \$200 billion in revenue and \$1 trillion in AUM by 2030. The fintech ecosystem is shaping the future of money in India in five key areas, including managing regulations, the slowdown, the revenue and growth challenges, and more.

Overall, there are significant developments taking place in the Indian financial industry, such as the transition to a cashless society. Using tools like UPI, digital wallets, e-KYC, Aadhaar, BHIM, and others, the Indian government is actively encouraging the use and use of technologies to turn India into a cashless society. With demonetization, there was a sharp increase in the number of Fintech start-ups in India. These start-ups operate in several Fintech industry segments, including mobile POS (point of sale), peer-to-peer (P2P) transactions, financing, insurance, and other related areas. They start imaginative ideas in the financial and technological sectors. Yet, other obstacles also impede the expansion of the Fintech industry in the Indian economy.

It is significant that the development of the fintech sector has prepared the way for other financial sectors, including insurance, to succeed. Claim redress platforms, where the complaints of insurance policyholders are properly addressed and effectively resolved with the use of technology-driven procedures, are one of the key components of the insurance sector.

Ultimately, as businesses continue to develop new technology and discover new methods to enhance financial services, a mix of these and other developments are expected to drive the future of fintech.

## **CHAPTER - 4**

# **DATA ANALYSIS AND INTERPRETATION**



## SECONDARY DATA ANALYSIS

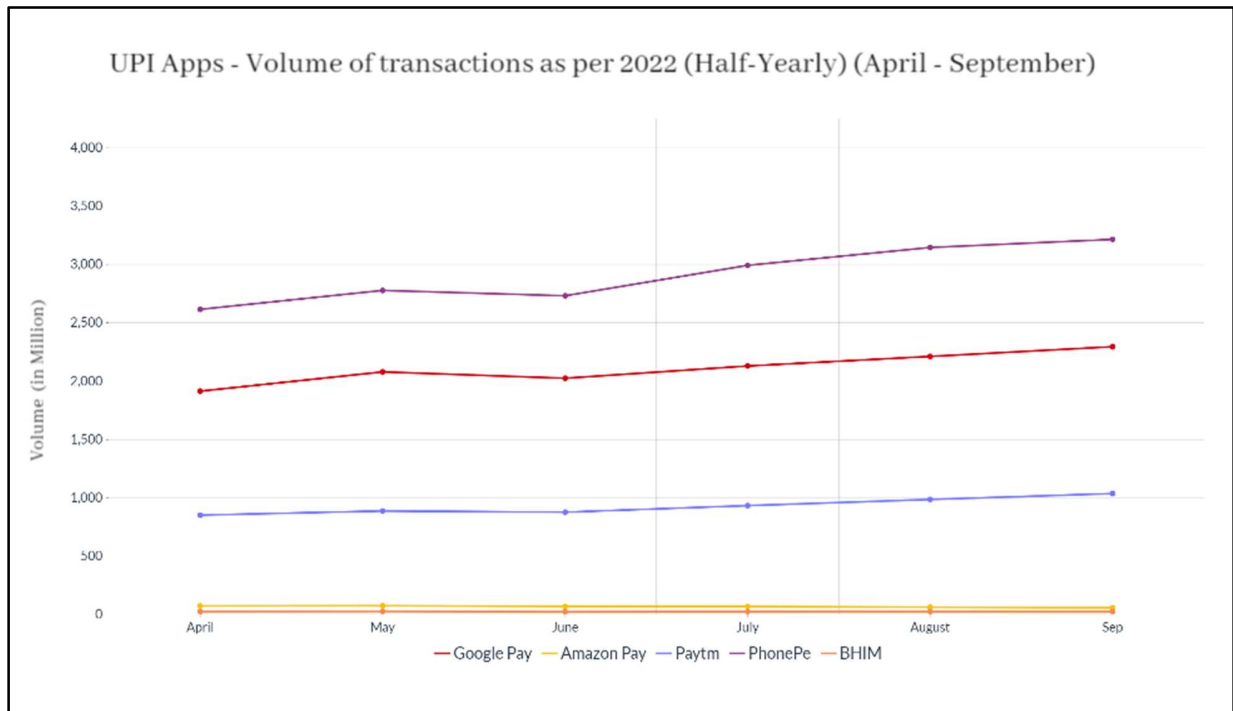
Technological advances have led to vast amounts of data that have been collected, compiled, and archived, and that is now easily accessible for research. As a result, utilizing existing data for research is becoming more prevalent. While secondary analysis is flexible and can be utilized in several ways, it is also an empirical exercise and a systematic method with procedural and evaluative steps, just as in collecting and evaluating primary data. This paper asserts that secondary data analysis is a viable method to utilize in the process of inquiry when a systematic procedure is followed and presents an illustrative research application utilizing secondary data analysis in library and information science research.

**Table 4.1**

### **Paytech (UPI Apps) - Volume of Transactions as per 2022**

<b>Month</b>	<b>Volume of Transactions (in Million)</b>				
	<b>GooglePay</b>	<b>AmazonPay</b>	<b>Paytm</b>	<b>PhonePe</b>	<b>BHIM</b>
April	1914.77	73.21	851.61	2616.26	25.69
May	2079.92	74.83	887.45	2778.75	26.57
June	2025.89	68.40	887.50	2732.59	22.60
July	2130.63	68.77	933.88	2993.83	24.48
August	2212.73	62.43	986.39	3146.71	24.99
September	2296.14	57.38	1037.20	3216.78	25.17

**Figure 4.1**



**Inference:**

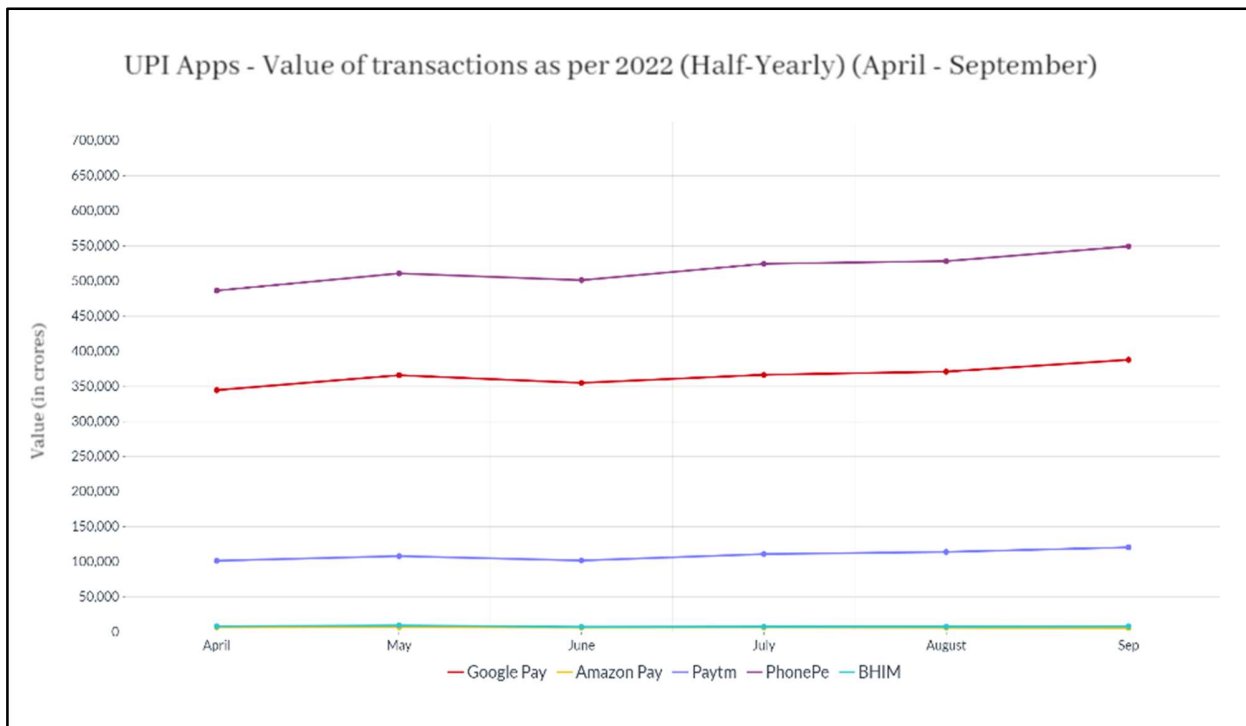
Here we are analyzing the volume of transactions of the top 5 pay tech UPI-centered apps as per the first half of the financial year 2022. We have selected the apps on the basis of user preference. The volume of transactions is represented in million (Mn). From the data above we can see that PhonePe is having the highest growth in the volume of transactions which indicates that consumers in the Indian economy prefer using Phonepe for online transactions. On the other hand, Google pay and Paytm are having steady growth in the market. From the data, we can also see that Phonepe and Googlepay are used by consumers more transactions on a daily basis when compared to Paytm, BHIM, and Amazon pay, Whereas BHIM and Amazon pay, are having a gradual decline in the volume of transactions as per the half-yearly reports of the financial year 2022.

**Table 4.2**

**UPI Apps - Value of Transactions as per 2022**

Month	Value of Transactions (in crores)				
	GooglePay	AmazonPay	Paytm	PhonePe	BHIM
April	344,791.35	6699.57	101,649.06	486,557.03	8354.34
May	365,989.27	6954.18	108,276.78	511,028.81	9559.66
June	355,137.20	6541.84	102,119.90	501,474.48	7527.98
July	366,669.09	6751.80	111,149.66	524,742.49	7823.95
August	371,081.16	6353.15	114,217.10	528,433.49	7860.48
September	387,996.14	6015.31	120,805.34	549,583.77	8308.65

**Figure 4.2**



**Inference:**

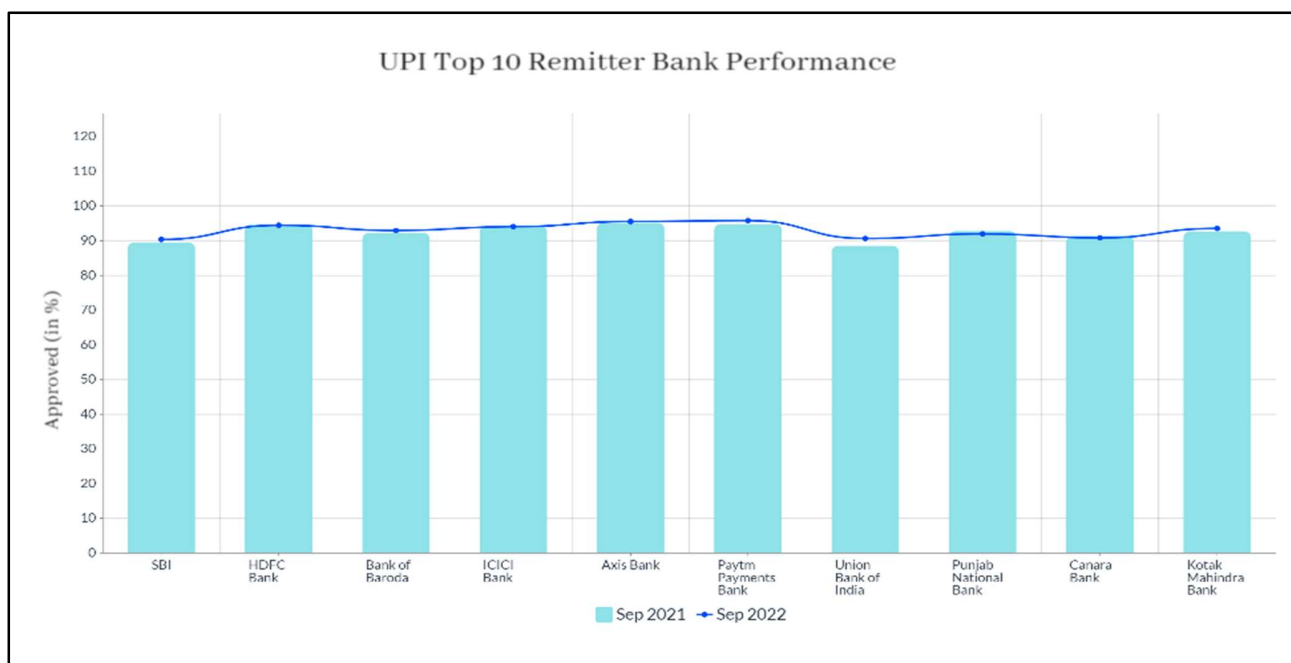
Here we are comparing the value of transactions i.e. the amount of money transferred through the top 5 paytech UPI centered apps that are GooglePay, PhonePe, Paytm, Amazon pay and BHIM. The value of transactions is represented in crores (Cr). From the data above we can see that Phonepe and Google Pay are used by consumers for conducting transactions that are of higher value. By analyzing the data, we can understand that there is steady growth in the value of transactions conducted through Paytm while on the other hand, the value of transactions through Amazon Pay is indicating a slow decline. Whereas BHIM faced a decline in the value of transactions during the month of June and retained its growth in the following months i.e.. during July, August, and September.

**Table 4.3**

**Paytech Top 10 Remitter Bank Performance  
(Comparison as of September 2021 and September 2022)**

Month	Approved Transactions (in %)	
	September 2021	September 2022
State Bank of India	89.52	90.39
HDFC Bank Ltd	94.77	94.46
Bank of Baroda	92.28	92.95
ICICI Bank	94.29	94.07
Axis Bank	95.19	95.55
Paytm Payments Bank	94.83	95.83
Union Bank Of India	88.56	90.65
Punjab National Bank	92.80	91.99
Canara Bank	91.38	90.83
Kotak Mahindra Bank	92.72	93.56

**Figure 4.3**



**Glossary:**

Remitter - The account holder who is sending the money.

Remitter Bank - The bank of the account holder sending the money

**Inference:**

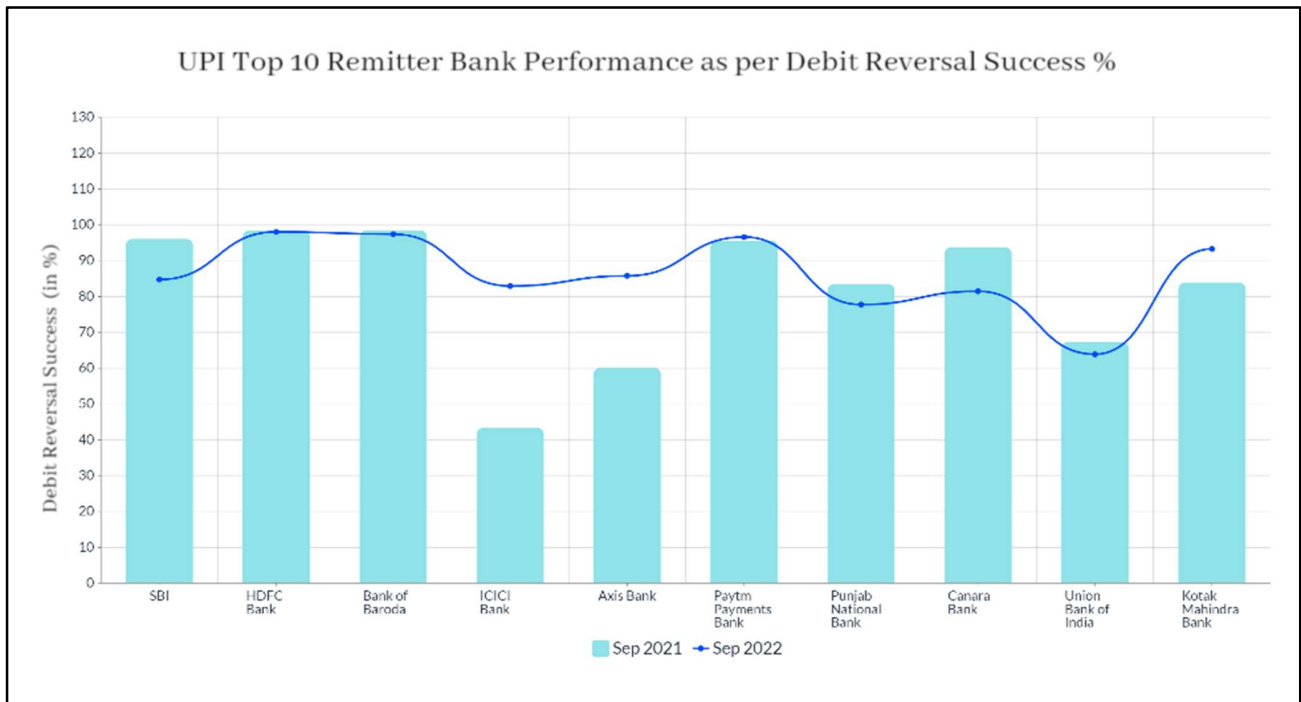
Here, we are analyzing the performance of the Top 10 Paytech Remitter Banks by comparing their approved transactions percentages as of September 2021 and 2022. From the data, we can see that there is an increase in the percentage of approved transactions for the State Bank of India, Paytm Payments Bank, Union Bank of India, and Kotak Mahindra Bank. Among the above-mentioned banks Union Bank of India is having the highest percentage of approved transactions with a growth of 2.09% over the two years. In the case of HDFC Bank Ltd, Bank of Baroda, ICICI Bank, and Axis Bank there is a steady growth in the transaction rate in the two years. Whereas, Punjab National Bank and Canara Bank are facing a decline in the above-mentioned period. Overall there is a gradual increase in the success rate of transactions conducted through the above-mentioned remitter banks.

**Table 4.4**

**UPI Top 10 Remitter Bank Performance as per Debit Reversal Success %  
(Comparison as of September 2021 and September 2022)**

<b>Month</b>	<b>Debit Reversal Success (in %)</b>	
	<b>September 2021</b>	<b>September 2022</b>
<b>State Bank of India</b>	96.04	84.70
<b>HDFC Bank Ltd</b>	98.43	98.02
<b>Bank of Baroda</b>	98.46	97.38
<b>ICICI Bank</b>	43.31	82.90
<b>Axis Bank</b>	60.12	85.73
<b>Paytm Payments Bank</b>	95.58	96.59
<b>Union Bank Of India</b>	67.35	63.86
<b>Punjab National Bank</b>	83.46	77.72
<b>Canara Bank</b>	93.72	81.45
<b>Kotak Mahindra Bank</b>	83.86	93.25

**Figure 4.4**



**Inference:**

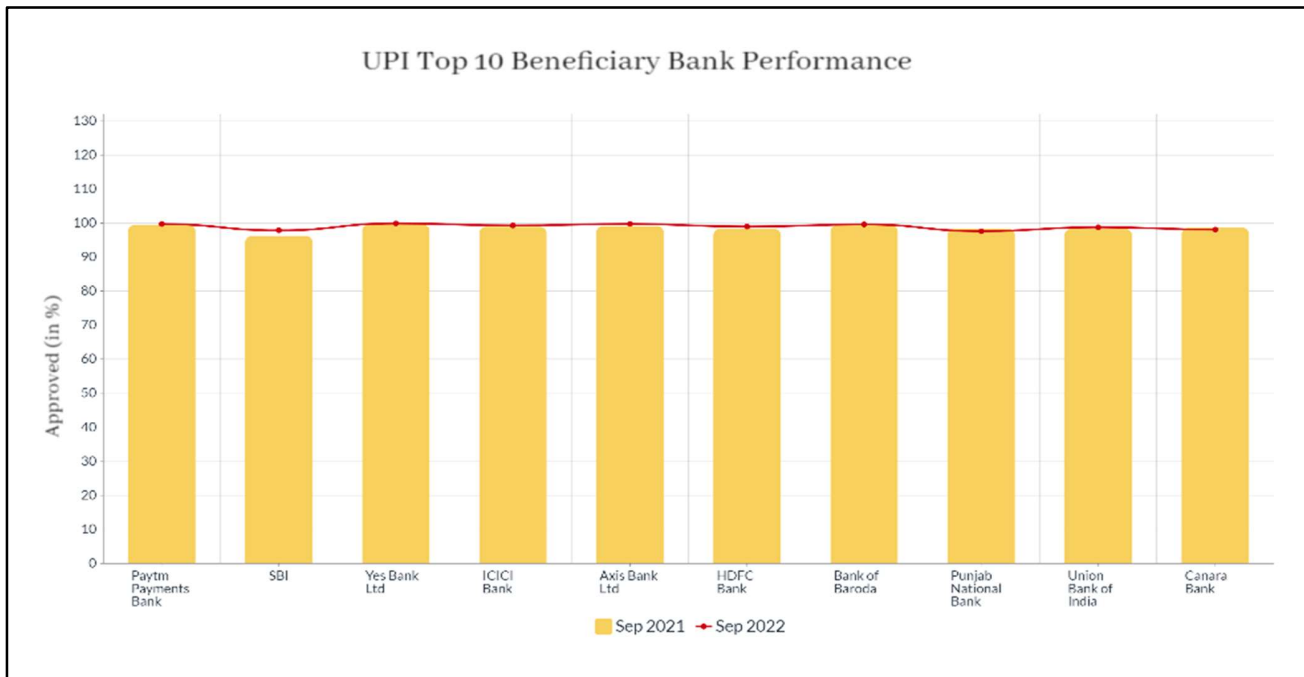
The Debit Reversal Success percentage indicates the % of total cases, where a customer account may be debited and their bank is unable to confirm instantly the status of reversal of such debit. When reversal/credit is not processed instantly, it is processed manually by the bank as per the extant RBI guidelines. Here, we have taken the debit reversal performance of the Top 10 Remitter Banks as of September 2021 and 2022. From the above data, we can conclude that ICICI Bank is having the highest Debit Reversal Success % with an increase in the rate of 39.59% which indicates that the bank makes the necessary actions required for the reversal of debit as per RBI Guidelines. At the same time, there is a decline in the debit reversal success rate by 12.27% for Canara Bank during the given period which indicates the lack of effectiveness in action taken by the bank. From the graph, we can understand that there is a gradual increase in the debit reversal success rate of Paytm Payments Bank while the other remitter banks which are SBI, HDFC Bank, Bank of Baroda, Punjab National bank, and Union bank of India are facing a gradual decline in the rate. State Bank of India is having the highest decline in the success rate according to the reports as of September 2021 and 2022.

**Table 4.5****UPI Top 10 Beneficiary Bank Performance  
(Comparison as of September 2021 and September 2022)**

<b>Month</b>	<b>Approved Transactions (in %)</b>	
	<b>September 2021</b>	<b>September 2022</b>
<b>State Bank of India</b>	96.25	97.87
<b>HDFC Bank Ltd</b>	98.35	98.98
<b>Bank of Baroda</b>	99.39	99.63
<b>ICICI Bank</b>	98.93	99.32
<b>Axis Bank</b>	99.15	99.76
<b>Paytm Payments Bank</b>	99.50	99.73
<b>Union Bank Of India</b>	98.33	98.81
<b>Punjab National Bank</b>	<b>98.41</b>	<b>97.64</b>
<b>Canara Bank</b>	<b>98.69</b>	<b>98.11</b>
<b>Yes Bank Ltd</b>	99.68	99.92



**Figure 4.5**



**Glossary:**

Beneficiary - The account holder who is receiving money.

Beneficiary Bank - The bank of the account holder receiving money

**Inference:**

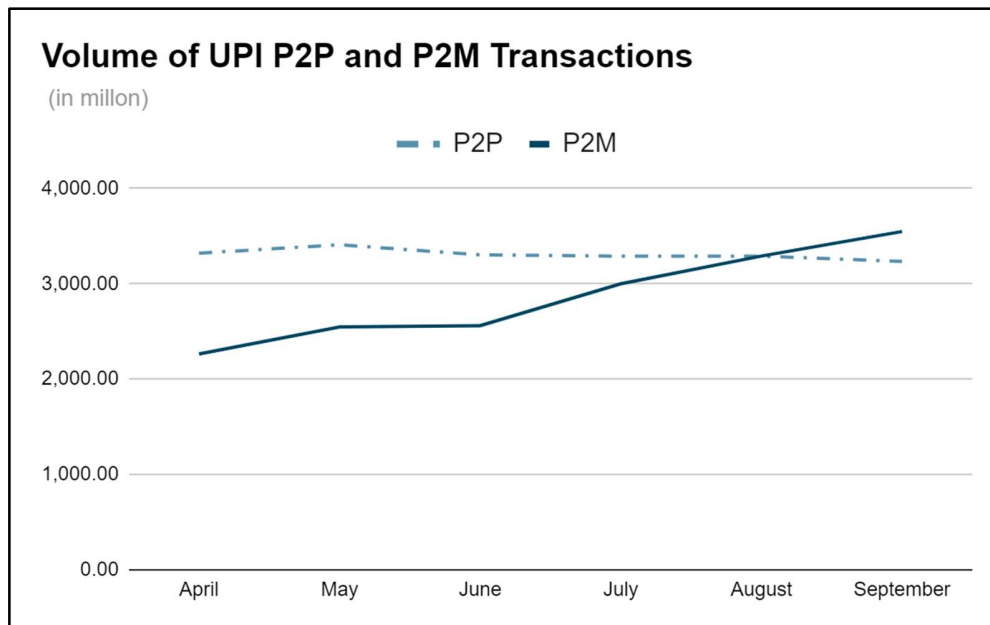
Here, we are analyzing the performance of the Top 10 Paytech Beneficiary Banks by comparing their approved transaction percentages as of September 2021 and 2022. From the data, we can conclude that the beneficiary banks - Punjab National Bank and Canara Bank are facing a decline in the number of approved transactions which indicates the inefficiency of the banks in the case of credit confirmations. Other banks such as Paytm Payments Bank, SBI, Yes Bank Ltd, ICICI Bank, Axis Bank, HDFC Bank, Bank of Baroda, and Union Bank of India have successfully grown from September 2021 to September 2022.

**Table 4.6**

**The volume of Paytech - UPI - P2P VS P2M Transactions during the first half of 2022  
(in millions)**

MONTHS	P2P	P2M
April	3,319.85	2,263.20
May	3,408.55	2,546.65
June	3,302.67	2,560.08
July	3,289.15	2,999.25
August	3,289.26	3,290.37
September	3,233.61	3,547.19

**Figure 4.6**



**Glossary:**

P2P - P2P transactions are payments done by person to a person i.e. Peer to Peer Payments.  
P2M - P2M transactions are payments done by a person to a merchant i.e. Peer to Merchant Payments

**Inference:**

Here we are studying the volume of P2P and P2M transactions through Pay tech UPI-initiated apps in the first half of the financial year 2022. Through the above data, we can analyze that the volume of P2P transactions gradually increases in the first three months, that is April, May, and June, and falls in the month of July by 0.5%. The reduction in peer-to-peer transactions shows that consumers use Paytech apps less for purposes like lending money to another person. Studying the data of P2M transactions during the period shows that there is a huge uprise in the volume of P2M transactions during the month of July by 17.15% and continues to grow by 7.8% by the month of September. This indicates that consumers prefer to use pay tech apps more for payments related to trade purposes that are buying and selling of goods and services.

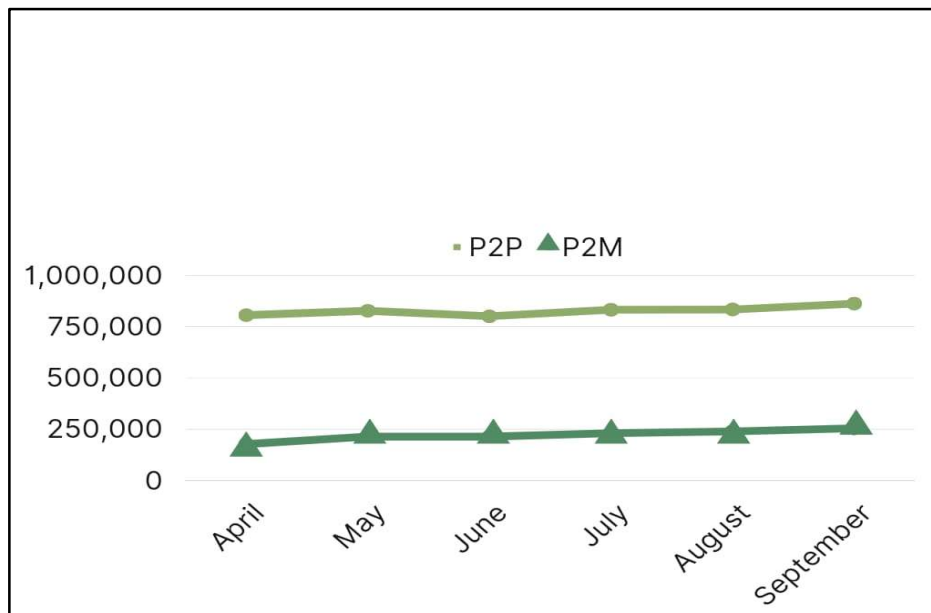
**Table 4.7****Value of Paytech (UPI-initiated) P2P VS P2M Transactions in 2022 (in crores)**

MONTHS	P2P	P2M
April	8,05,925.89	1,77,376.39
May	8,27,153.68	2,14,366.39
June	8,00,412.50	2,13,971.81
July	8,32,265.84	2,30,725.92
August	8,33,370.86	2,39,421.82
September	8,62,049.27	2,54,388.83

**Figure 4.7**

**Value of UPI P2P and P2M Transactions**

(In crores)



**Glossary:**

P2P - P2P transactions are payments done by a person to a person i.e. Peer Peer Payments.

P2M - P2M transactions are payments done by a person to a merchant i.e. Peer to Merchant Payments

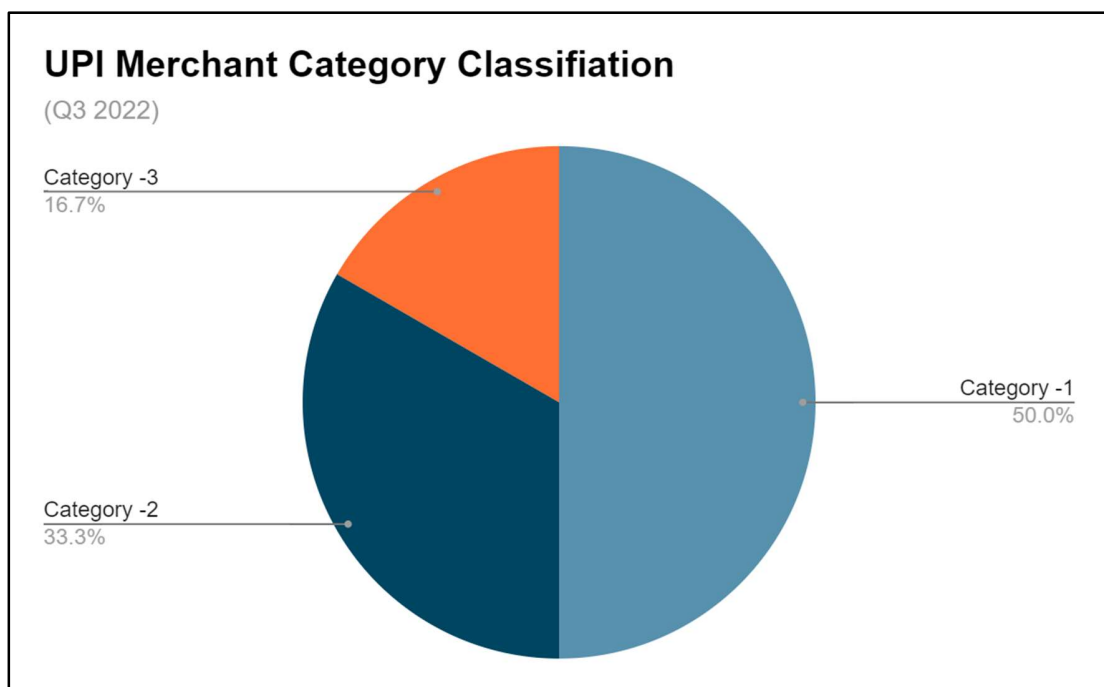
**Inference:**

Here, we are studying the value of P2P and P2M transactions through Pay tech UPI-initiated apps in the first half of the financial year 2022. Through the interpretation of the data above we can conclude that P2P transactions value has increased gradually through the first two months of the half-yearly period and showed a decline during June by 3.23%. These transactions have retained their growth during the next month that is July with an increase in rate by 3.98% and showcases gradual growth in the other months. Whereas the value of P2M transactions has shown a constant growth rate in each month with the highest rate in the month of May which is 20.85%. Therefore,

the comparison between the two modes helps us to understand that P2M transactions are having a steady growth in their value and that people likely use Pay tech applications on a regular basis for the exchange of goods and services than an exchange of money between themselves and another person.

### UPI Merchant Category Classification as of Quarter 3, 2022 (October-November-December)

Figure 4.8



**CATEGORY-1**

**Table 4 8.1**

**High Transacting Categories**

**MCC**

5411	Groceries and supermarkets
4814	Telecommunication services, including local and long-distance calls, credit card calls, calls using magnetic stripe reading telephones and faxes
5812	Eating places and restaurants
7299	Miscellaneous personal services not elsewhere classified
5816	Digital Goods – Games
5541	Service stations (with or without ancillary services)
5814	Fast food restaurants
5499	Miscellaneous food shops convenience and specialty retail outlets
5311	Department stores
5912	Drug stores and pharmacies

**CATEGORY-2**

**Table 4 8.2**

**Medium Transacting Categories**

**MCC**

6540	Debit card to wallet credit (Wallet top up)
4900	Utilities - electric, gas, water and sanitary
5451	Dairies
5813	Drinking places (alcoholic beverages) - bars, taverns, night-clubs, cocktail lounges and discothèques
7322	Debt collection agencies
5399	Miscellaneous general merchandise
6012	Financial institutions - merchandise and services
8999	Professional services not elsewhere classified
5999	Miscellaneous and specialty retail outlets
5422	Freezer and locker meat provisioners

### CATEGORY-3

Table 4 8.3

<u>All Other Categories</u>	
MCC	
6211	Securities - brokers and dealers
5499	Miscellaneous food shops convenience and speciality retail outlets
9399	Government services - not elsewhere classified
5732	Electronics shops
4899	Cable and other pay television services
4214	Motor freight carriers and trucking - local and long distance, moving and storage companies and local delivery
7399	Business services not elsewhere classified
4784	Tolls and bridge fees
5172	Petroleum and petroleum products
	Others

#### Inference:

The UPI Merchant Category classification indicates that 50% of the users who uses the applications for transactions mainly related to daily errands like Supermarkets, Consumption related expenses, Online shopping, personal expenses, pharmacies, and other telecommunication services. Category 2 comprised 33.3% of the economy who are likely to use digital payments for miscellaneous expenses, Drinking places and Bars and wallet top-ups, and utility expenses like gas, electricity, etc. Category 3 Comprises 16.7% of users who preferred using payment applications for transactions related to securities - brokers and dealers, meeting fees, and other entertainment services.



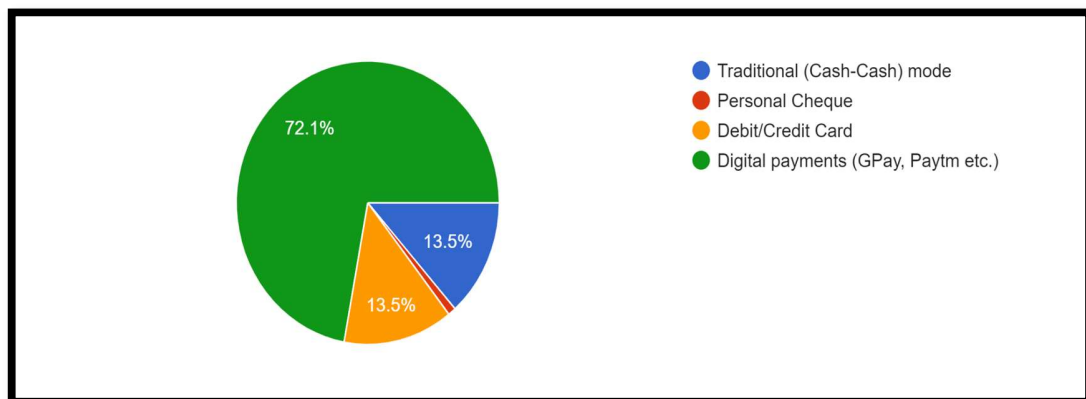
## PRIMARY DATA ANALYSIS

**Table 4.9**

### Respondents Preference on the Mode of Payment

Options	No. of respondents	Percentage (%)
Traditional	79	72.1
Personal Cheque	1	1
Debit/Credit Card	14	13.5
Digital Payments	14	13.5
<b>Total</b>	<b>104</b>	<b>100</b>

**Figure 4.9**



### Inference:

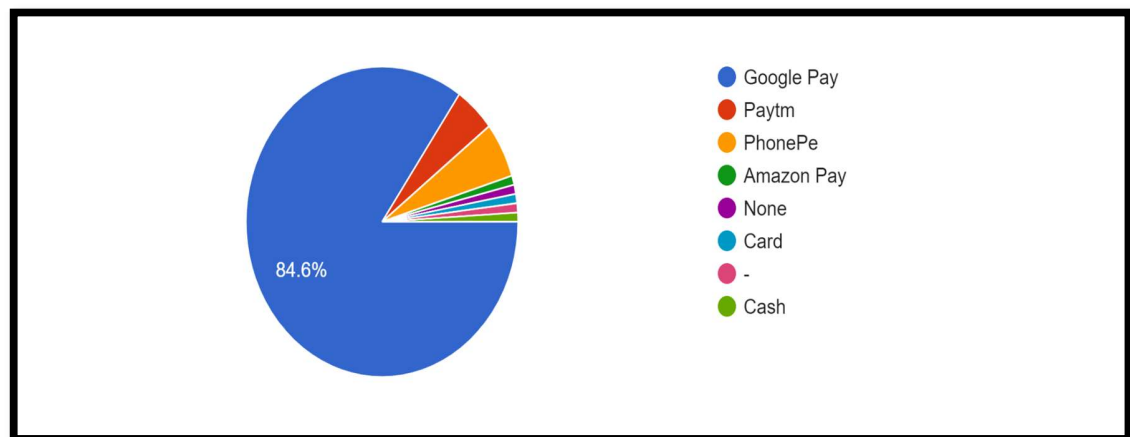
From 104 responses we have concluded that most of the people prefer digital payments when compared to the other methods. The age category between 18-25 is giving high priority to digital payments and the age category of 40-59 and 25-39 prefer to use traditional payment methods and debit/credit cards. Only one percent of people are giving preference to making payments through personal cheques.

**Table 4.10**

**APPS USED FOR MAKING PAYMENTS**

<b>Apps</b>	<b>No. of respondents</b>	<b>Percentage (%)</b>
Google Pay	88	84.6
Paytm	6	4.8
PhonePe	5	5.8
Amazon Pay	1	1
Other	4	4
<b>Total</b>	<b>104</b>	<b>100</b>

**Figure 4.10**



**Inference:**

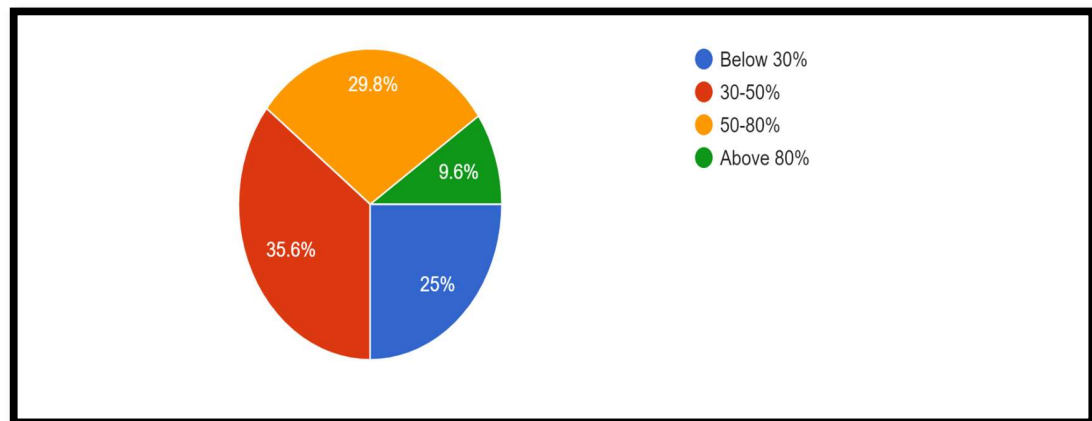
Our primary analysis led us to the conclusion that most respondents preferred Google Pay over other apps like phone pe, Paytm, and Amazon pay. When we looked at the percentages, we realized that only 4-5 percent of people use Phonepe and Paytm. The younger generation such as students and employed people are highly using this digital payment like Google Play, Paytm, Phonepe, etc.

**Table 4.11**

**DIGITAL PAYMENTS ON DAILY BASIS**

Scale	No. of respondents	Percentage (%)
Below 30%	37	25
30-50%	31	35.6
50-80%	26	29.8
Above 80%	7	9.6
<b>Total</b>	<b>104</b>	<b>100</b>

**Figure 4.11**



**Inference:**

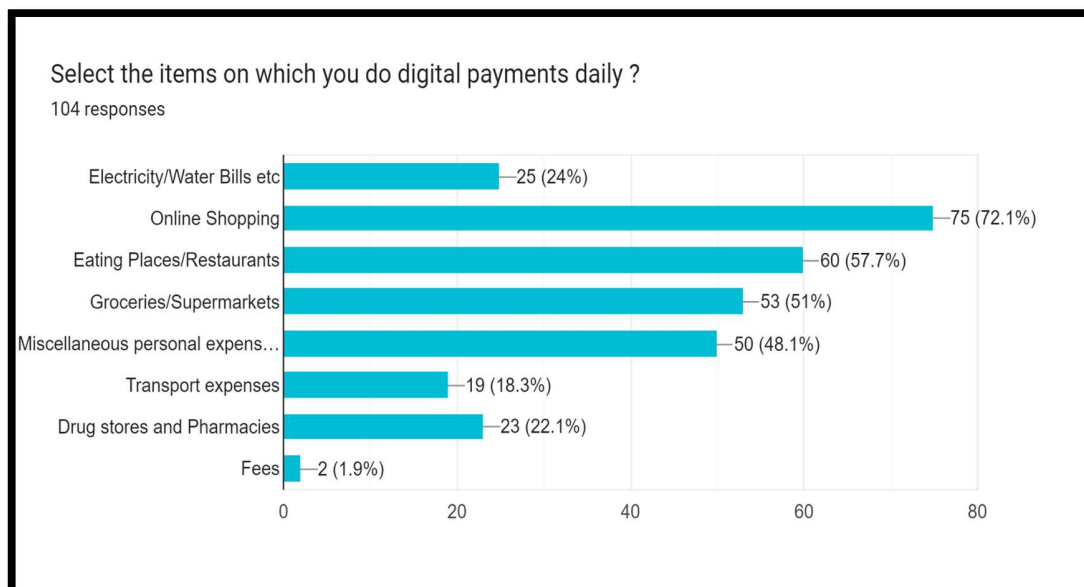
By analyzing the primary data, we were able to determine that the age range of 18 to 25 is the group with the highest percentage of persons making digital payments, which ranges from 30 to 50%. Moreover, the percentage rate ranges from 50 to 80 percent before falling below 30 percent. This leads us to the conclusion that, out of 100 people, just two-fourths (24%) use digital payments daily.

**Table 4.12**

**DIFFERENT PURPOSES OF DIGITAL PAYMENTS**

<b>Options</b>	<b>No. of respondents</b>	<b>Percentage (%)</b>
Electricity/Water Bills	25	24
Online Shopping	75	72.1
Eating Places/Restaurants	60	57.7
Groceries/Supermarkets	53	51
Miscellaneous personal expenses	50	48.1
Transport expenses	19	18.3
Drug stores and Pharmacies	23	22.1
Fees	2	1.9
<b>Total</b>	<b>104</b>	<b>100</b>

**Figure 4.12**



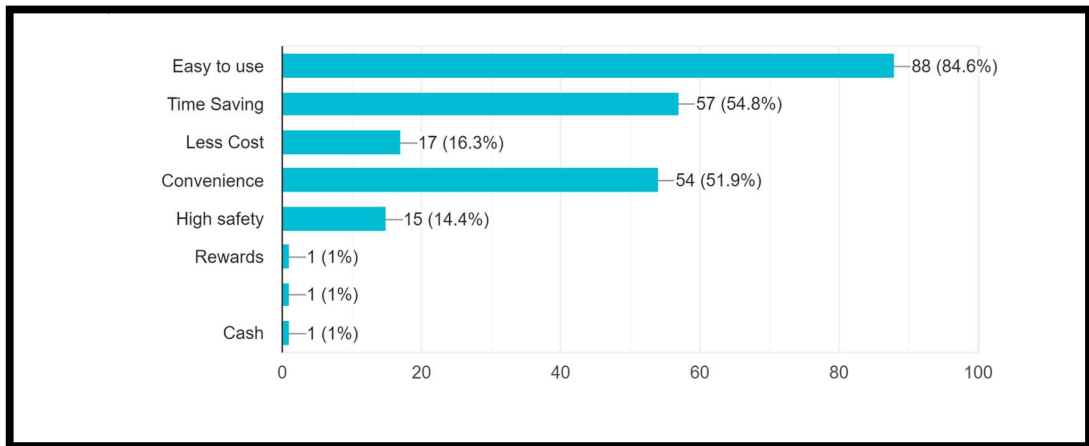
**Inference:**

From our analysis report we have concluded that most of the people are making digital payments for online shopping because, in this modern economy, everyone is preferring online shopping as It is less costly and less time-consuming. The majority is using digital payment for eating places and restaurants, this happens because most of them are not interested in the cash-in-hand method. Then most of them are making digital payments for electricity bills because there is no longer any long queue. The payments made for drugstores, transportation expenses, and fees are very low compared with online shopping, electricity bill payments, etc.

**Table 4.13****REASONS FOR DIGITAL PAYMENTS**

Options	No. of respondents	Percentage (%)
Easy to use	88	84.6
Time Saving	57	54.8
Less Cost	17	16.3
Convenience	54	51.9
High safety	15	14.4
Rewards	1	1
Cash	1	1
Other	1	1
<b>Total</b>	<b>104</b>	<b>100</b>

**Figure 4.13**



**Inference:**

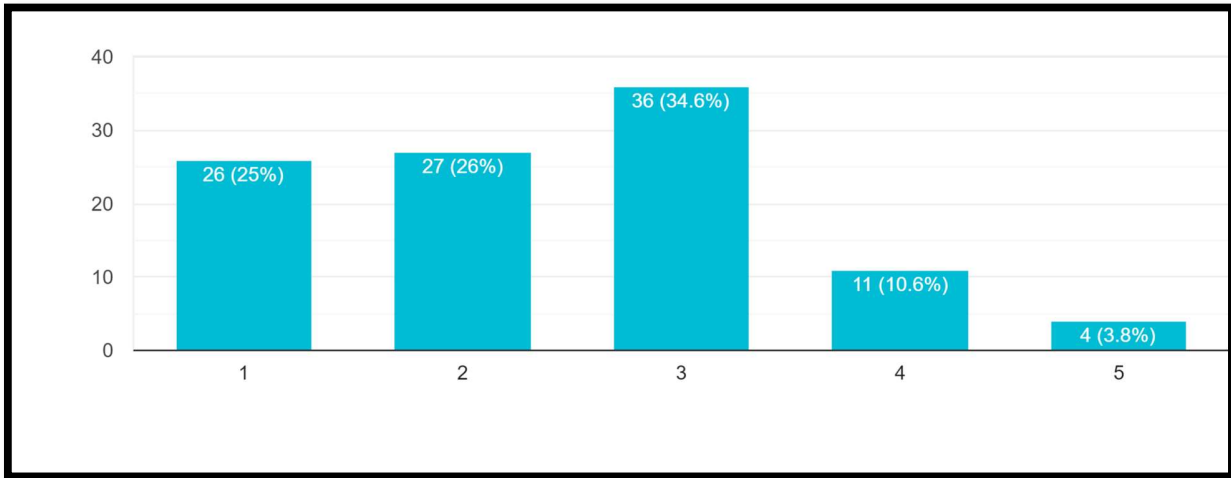
From the response of 104 people, we have understood that most of them prefer digital payment over traditional payments. We compared different aspects of both payment methods we find out that digital payment is easy to use, time-saving, and convenient. But as we look into the aspects of high safety, reward, and cash the percentage is very low for digital payments.

**Table 4.14**

**SATISFACTION LEVEL OF THE RESPONDENTS RELATING TO SECURITY ISSUES**

Rating	No. of respondents	Percentage
1	26	25
2	27	26
3	36	34.6
4	11	10.6
5	4	3.8
<b>Total</b>	<b>104</b>	<b>100</b>

**Figure 4.14**



**Inference:**

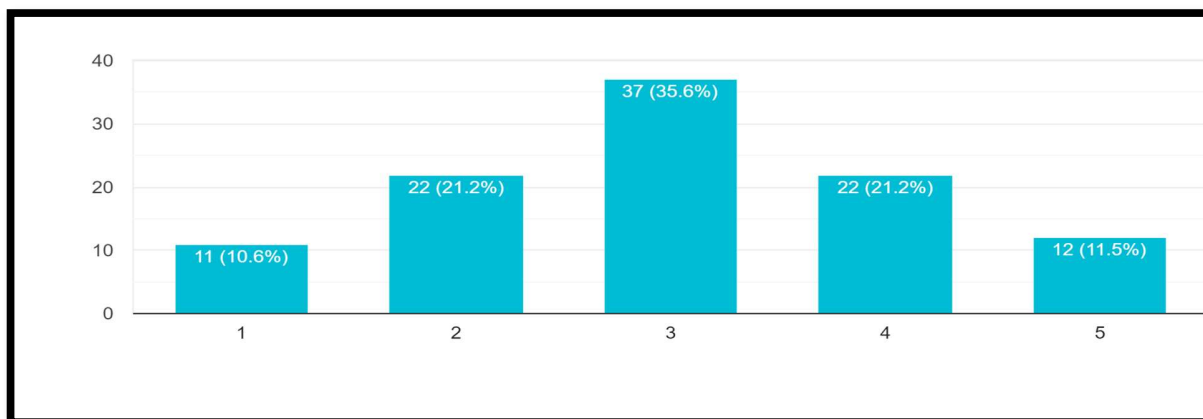
As we take the percentage of security risk faced by people, 35% of risk factors exist in digital payment. As technology increases, fraudulent activities are increasing. When consumers make payments online, it is difficult for the merchant to verify their identity due to the relatively anonymous nature of the transaction. This can make some routine security mechanisms somewhat obsolete, which could make fraud and theft more likely in some cases. The main digital payment security issue is Worms, Trojans, viruses, phishing, pharming, spoofing, man-in-the-middle, denial of service attacks, transaction poisoning and spamming are the most common threats. All this malicious activity has led to unauthorized access, theft, and fraud.

**Table 4.15**

**RATING BY RESPONDENTS OVER THE CUSTOMER SERVICE OF PAYMENT APPS**

Rating	No. of respondents	Percentage
1	11	10.6
2	22	21.2
3	37	35.6
4	22	21.2
5	12	11.5
<b>Total</b>	<b>104</b>	<b>100</b>

**Figure 4.15**



**Inference:**

When we analyze the responses, we have identified that customer service of the digital payment app is showing only an average performance. Most of the time they are not providing good and valuable customer service. This may cause many trust issues in the mind of customers. When customer service becomes very low the problems faced by people are not solved therefore, they may change their mind and turn into traditional payment.

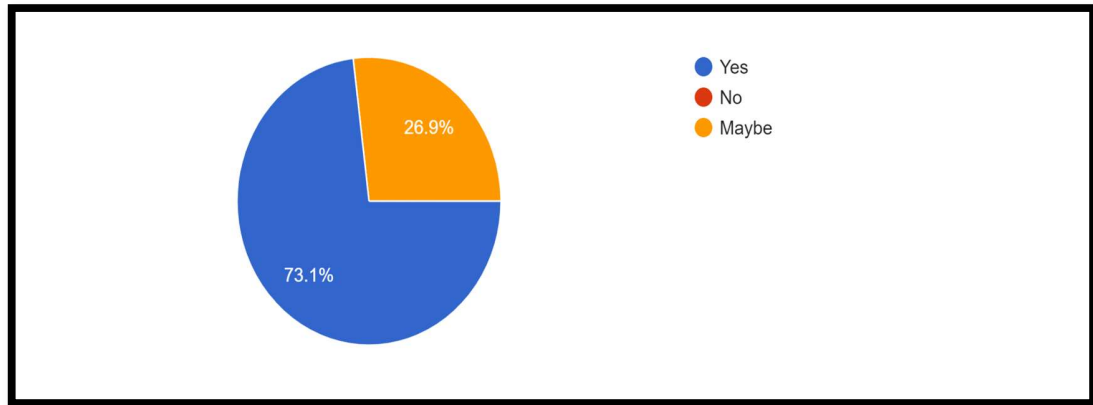
**Table 4.16**

**FUTURE USAGE OF RESPONDENTS ON DIGITAL PAYMENTS**

Options	No. of respondents	Percentage
Yes	76	73.1
No	NIL	NIL
Maybe	28	26.9
<b>Total</b>	<b>104</b>	<b>100</b>



**Figure 4.16**



**Inference:**

While studying the responses from the primary data we summarized, after five years 74% percent of people are more likely to use digital payment apps. Only 1/4th of people is not sure about using the digital payment system. But still, there is a possibility and hope they might use digital payment apps. 'No' responses are not found, which means everyone is ready to use digital payment methods after five years. This might be due to it being easy to use, less cost, and less time-consuming. By comparing the data, we conclude that 80% are ready to use the digital payment app even after 5 years.

## **CHAPTER - 5**

# **FINDINGS, SUGGESTIONS AND CONCLUSION**

## **SUMMARY**

The Indian fintech industry has shown huge growth over the past few years. India is gradually becoming a hub for many Fintech startups. Government initiative toward promoting the digitization of financial systems and a cashless economy has helped shift consumer focus toward digital alternatives for financial transactions and services. Funding from a diverse set of domestic and international stakeholders also contributed to the growth in digital payments. The rise of digital commerce, innovation in payments technology using AI, blockchain, the Internet of Things (IoT), and real-time payments, and the introduction of mobile point of sale (POS) devices have also contributed to growth.

This project is very relevant in the current scenario because it examines the Growth Opportunities and Challenges of Paytech in the Fintech Industry of India. The project also examines the impact of digital payments in the daily life of people and whether it provides a stand-hold over the traditional payments industry. The study also provides insight into the main PayTech players in the Fintech Industry. Fintech Industry is the only industry in India that expects a growth of about \$150 Billion by 2025 which widens its scope for study. PayTech is being selected as the most preferred sector of the Fintech Industry as per reports of 2021.

The data was collected from genuine secondary sources, which ensure the accuracy of the study. Primary data analysis was also conducted to know the preference of respondents over a close scale and their range of satisfaction over various aspects of the PayTech Applications. The secondary data were majorly collected from the National Payments Corporation of India's website which ensures that the data analyzed is of its true and fair value as represented in the study. This chapter will deal with the findings that we have reached after analyzing the various data that we collected and some suggestions and recommendations with regard to addressing PayTech challenges and barriers that we felt are necessary.

## **FINDINGS**

This study provides insights into the major UPI-based pay tech players which includes applications such as GooglePay, PhonePe, AmazonPay, Paytm, and BHIM by comparing their value and volume of transactions. The Remitter and Beneficiary Bank performances of the Top 10 major players such as State Bank of India, HDFC Bank, Bank of Baroda, ICICI Bank, and others have been studied by taking their Debit Reversal Success % and how successful the banks were in debit reversal and customer satisfaction are analyzed through our study. The various modes of transactions which include P2P and P2M their volume and value have been analyzed to find out the growth rate of the same over a given period. The primary data collected were various aspects regarding the preferences of respondents over different PayTech Applications, issues faced while conducting different transactions to their satisfaction, services provided, etc. were studied and represented.

Some of the major findings arrived at through the study include the following: -

- Among PayTech Applications PhonePe is having the highest growth rate in the volume of transactions which indicates that the economy prefers using PhonePe for conducting online transactions. Whereas GooglePay and Paytm are having steady growth in the market. Through the analysis, PhonePe and GooglePay are used by consumers for transactions daily when compared to other applications in the industry.
- Transactions of higher figures are transacted by consumers through the Paytech Applications such as PhonePe and GooglePay. The applications such as AmzonPay and BHIM faced a decline during the post-covid scenario whereas the other applications maintained steady growth.
- From comparing the reports of the period September 2021 and September 2022 we can see that there is an increase in the percentages of approved transactions of State Bank of India, Paytm Payments Bank, Union Bank of India, and Kotak Mahindra Bank. Union Bank of India has maintained the highest percentage of approved transactions with a growth of 2.09% over the two years. The study also showed that Punjab National Bank and Canara Bank are facing a decline in the above-mentioned period. Overall, there is a gradual increase in the success rate of transactions conducted through the above-mentioned remitter banks.
- Through the study on Debit Reversal Success % of PayTech UPI-initiated Remitter Banks, we can conclude that ICICI Bank is having the highest Debit Reversal Success % with an increase in the rate of 39.59% which indicates that the bank makes the necessary actions required for the reversal of debit as per RBI Guidelines without causing much hassle to the customers. Whereas, Canara Bank has a decline in the debit reversal success rate by 12.27% which showcase the lack of effectiveness in action taken by the bank.
- The analysis of the beneficiary bank performance as of the period September 2021 and 2022 indicates that Punjab National Bank and Canara Bank are facing a decline in the number of approved transactions which indicates the inefficiency of the banks in providing timely credit confirmations which affect the customer inclusion of the banks.
- The mode of transactions analysis helped to figure out that P2P transactions value has increased gradually through the first two months of the half-yearly period and showed a decline during the month of June by 3.23%. These transactions then retained their growth rate by the month of July by 3.98%. Whereas, the value of P2M transactions has shown a constant growth rate in each month with the highest rate in the month of May which is 20.85%.

- The comparison between the two modes helps to understand that P2M transactions are having a steady growth in their value and that people likely use PayTech applications on a regular basis for the exchange of goods and services than for the exchange of money between them and others.
- The UPI Merchant Category classification indicates that 50% of the users who uses the applications for transactions mainly related to daily errands like Supermarkets, Consumption related expenses, Online shopping, personal expenses, pharmacies, and other telecommunication services. Category 2 comprised 33.3% of the economy who are likely to use digital payments for miscellaneous expenses, Drinking places and Bars and wallet top-ups, and utility expenses like gas, electricity, etc. Category 3 Comprises of 16.7% of users who preferred using payment applications for transactions related to securities - brokers and dealers, meeting fees, and other entertainment services.

Findings from the Primary Data Analysis on Paytech conducted are of the following: -

- The age category between 18-25 is giving high priority to digital payments and the age category of 40-59 and 25-39 prefer to use traditional payment methods and debit/credit cards. Only one percent of people are giving preference to making payments through personal cheques.
- Most respondents preferred Google Pay over other apps like phone pe, Paytm, and Amazon pay. When we looked at the percentages, we realized that only 4-5 percent of people use Phonepe and Paytm. The younger generation such as students and employed people are highly using this digital payment like Google Play, Paytm, PhonePe, etc.
- We were able to determine that the age range of 18 to 25 is the group with the highest percentage of persons making digital payments, which ranges from 30 to 50%. Moreover, the percentage rate ranges from 50 to 80 percent before falling below 30 percent. This leads us to the conclusion that, out of 100 people, just two-fourths (24%) use digital payments daily.
- Most of the people are making digital payments for online shopping because, in this modern economy, everyone is preferring online shopping as it is less costly and less time-consuming. The majority is using digital payment for eating places and restaurants, this happens because most of them are not interested in the cash-in-hand method. Then most of them are making digital payments for electricity bills because there is no longer any need for long queues. The payments made for drugstores, transportation expenses, and fees are very low compared with online shopping, electricity bill payments, etc.
- We also find out that digital payment is easy to use, time-saving, and convenient. But as we investigate the aspects of high safety, and reward, the percentage is very low for digital payments.

- As we take the percentage of security risk faced by people, 35% of risk factors exist in digital payment. As technology increases, fraudulent activities are increasing. When consumers make payments online, it is difficult for the merchant to verify their identity due to the relatively anonymous nature of the transaction. This can make some routine security mechanisms somewhat obsolete, which could make fraud and theft more likely in some cases. The main digital payment security issue is Worms, Trojans, viruses, phishing, pharming, spoofing, man-in-the-middle, denial of service attacks, transaction poisoning and spamming are the most common threats. All this malicious activity has led to unauthorized access, theft, and fraud.
- After five years 74% percent of people are more likely to use digital payment apps. Only 1/4th of people is not sure about using the digital payment system. But, still there is a possibility and hope they might use digital payment apps. By comparing the data, we conclude that 80% are ready to use the digital payment app even after 5 years.

### **Recommendations**

- The biggest factor behind successful financial technology companies' growth year by year is undoubtedly the customer-oriented services they provide. Startups should satisfy customers with fast and agile solutions suitable for the digital age. Fintech Startups should be open to new technologies within the scope of sustainability, and these startups should continue to please their customers using new technologies.
- One of the most difficult problems facing financial service providers is the constant change in regulations. Startups in the financial technology industry should be ready for rules in advance and promptly adapt to them. Startups in the financial technology sector that do not consider rules or offer adaptation risk falling behind the competition and being penalized by authorities.
- Every transaction must guarantee the security of the customer's data. Organizations will encounter more sophisticated attacker strategies when more payments are made online, regardless of the customer's physical location. To make it more difficult for hackers to obtain customer payment data, adopting identity management and encryption is extremely important for every payment transaction, big or little.
- In remote locations, network problems, poor mobile coverage, and limited internet access are important obstacles that prevent access to digital forms of commerce. It is necessary to upgrade the digital infrastructure, particularly in rural regions, to offer improved internet connectivity and enough bandwidth to encourage digital payments.

- Consumers have certain reservations regarding the security of digital payments because of issues like data theft and unauthorized usage of payment networks. So, it is necessary to strengthen cyber security standards for protecting digital payments in order to win over citizens' confidence.
- Customers' education and training will aid in democratizing fintech and protecting against cyberattacks in addition to the establishment of technological protections.
- The government should impose requirements on Fintech firms to guarantee that customer data will only be used to further the interests of those who provided it.

### **Conclusion**

The fintech payments sector in India has experienced phenomenal growth as it gained momentum after the country's expansion of internet services. The National Payments Corporation of India established UPI (Unified Payments Interface) in 2016 and it is the driving force behind the Fintech revolution in India. More than 338 banks are registered with UPI, and in July 2022, there were more than 6.28 billion transactions totaling 10.62 lakh crore.

Fintech is also significantly contributing towards bridging the social gap in India by providing employment as well as democratizing education by providing solutions to overcome the challenges posed by traditional financing practices.

The industry is expected to experience extraordinary growth in the next years as India, which now leads the globe in fintech adoption rate, capitalizes on new financial innovations and technology. This will significantly increase the number of people who can access banking and financial services in small towns and rural areas across the nation.

While Fintech adoption in India has been unprecedented, it continues to face certain challenges like the risk of data security and privacy leak, platform downtimes, lack of financial literacy and awareness in India, as well as differential adoption rates among MSMEs that dominate the Indian economy. We can expect to see even more fintech innovations in the payments industry as these technologies continue to evolve, providing new and exciting ways to make payments for both consumers and businesses.

Despite these risks, fintech payments innovations have the potential to transform the way we make payments by making transactions faster, more secure and more convenient. Fintech companies will play an increasingly important role in the payments industry as consumers continue to demand more seamless and integrated payment experiences.

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# **QUESTIONNAIRE**

1. Name

\_\_\_\_\_

2. Age

- Below 18
- 18-24
- 25-39
- 40-59
- 60 and Above

3. Employment Status

- Student
- Employed
- Self-Employed
- Business
- Retired
- Unemployed
- Other \_\_\_\_\_

4. What is your monthly income?

- Less than Rs.5000
- Rs.5000 – 10000
- Rs.10000 – 50000
- Above Rs.50000
- Nil

5. Which mode are you likely to use for making payments?

- Traditional (Cash Mode)
- Personal Cheque
- Debit/Credit Card
- Digital Payments (GPay, Paytm etc.)

6. Which App do you often use for making payments?
  - Google Pay
  - Paytm
  - PhonePe
  - Amazon Pay
  - Other \_\_\_\_\_
  
7. On an average how many online transactions/payments do you make in a day?
  - Only once or twice per day
  - 3-5 times per day
  - 6-10 times per day
  - More than 10 times per day
  
8. On an average what percentage of your payments do you do digitally?
  - Below 30%
  - 30-50%
  - 50-80%
  - Above 80%
  
9. Select the items on which you do digital payments daily?
  - Electricity/Water Bills
  - Online Shopping
  - Eating Places/Restaurants
  - Groceries/Supermarkets
  - Miscellaneous personal expenses
  - Transport expenses
  - Drug Stores and Pharmacies
  - Other \_\_\_\_\_
  
10. Why do you prefer digital payments over traditional payments?
  - Easy to use
  - Time Saving
  - Less Cost

- Convenience
- High Safety
- Other \_\_\_\_\_

11. Rate the technical difficulties faced by you while making online payments?

Very Less

- 1
- 2
- 3
- 4
- 5

Very High

12. Rate the security issues faced by you while making online payments?

Very Less

- 1
- 2
- 3
- 4
- 5

Very High

13. Rate the risk level of online payments in terms of privacy?

Less Risk

- 1
- 2
- 3
- 4
- 5

High Risk

14. Rate the responsiveness of payment apps when it comes to customer service?

Least Bothered

- 1
- 2
- 3
- 4
- 5

Very Responsive

15. Rate your preference over traditional payments v/s digital payments (1 being the lowest and 5 being the highest)

Payments	1	2	3	4	5
Traditional					
Digital					

16. Are you likely to use more of digital payment apps in the next five years?

- Yes
- No
- Maybe