"A STUDY OF CONSUMER AWARENESS AND SATISFACTION WITH THE UNIFED PAYMENTS INTERFACE (UPI)"

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1. Introduction

Unified Payments Interface, or UPI, is an instantaneous payment system created by the National Payments Corporation of India (NPCI). With the help of their mobile phones or another UPI-capable device, consumers can instantaneously transfer money across bank accounts. By providing a straightforward, quick, and safe method of processing payments, UPI has completely changed how payments are done in India.

Users can send and receive money via UPI by utilising merely a virtual payment address (VPA), mobile number, or bank account number. Additionally, it enables users to switch between various bank accounts smoothly by linking them all to a single UPI ID. Users can transfer money across banks and payment service providers that are linked to the UPI network because to the system's interoperability.

In addition to peer-to-peer transfers, UPI may be used to make a variety of merchant payments, such as bill payments, online purchases, and in-person purchases made in stores utilising QR codes. Two-factor authentication, which in certain circumstances involves a specific MPIN (Mobile Personal Identification Number) and biometric authentication, secures UPI transactions.

With more than 2.73 billion transactions of Rs. 5.47 lakh crore done in March 2021 alone, UPI has been widely used in India. Its widespread availability across several banks and payment service providers, convenience of use, and affordable transaction costs all contribute to its appeal.

1.1 .1Overview of UPI

Meaning

A user can send and receive money using a Virtual Payment Address (VPA) through the Unified Payments Interface (UPI), one of the fastest growing digital payment systems. Customers in the service sector are drawn to UPI because it stands out from other digital payment methods with its availability 24 hours a day, 365 days a year, ease of use, and safe gateway.

Definition

A real-time payment system is the unified payment interface.Peer-to-peer interbank transactions can be made possible with a single two-click authentication process. The reserve bank of India (RBI), India's central bank, controls the interface. It functions by the transfer of money between two bank accounts and a mobile platform.

The National Payments Corporation of India created the real-time payment system known as UPI, or Unified Payments Interface (NPCI). Via a smartphone application or a web interface, the UPI enables people to immediately transfer money across bank accounts.

Peer-to-peer (P2P) transfers, merchant payments, and bill payments are all made possible via the UPI system. It functions by allowing users to conduct transactions using a virtual payment address (VPA) that is linked to their bank account.

A user must download the UPI-compatible mobile application offered by their bank or a third-party app in order to utilise the UPI. The user can then develop a special VPA that can be distributed to others in order to collect

compensation. The recipient's VPA or bank account information can be used to begin payments, and a mobile PIN can be used to validate the transaction.

Due to its simplicity, security, and cheap transaction costs, the UPI system has significantly increased in popularity in India. It has made it possible for millions of individuals to use digital payments, and it has significantly contributed to the expansion of India's digital economy.

1.1.2 UPI HISTROY

The National Payment Corporation of India (NPCI) was established in April 2009 with the goal of integrating all Indian payment systems and standardising them for all retail transactions. By March 2011, RBI had discovered that despite 10 million merchants accepted card-based payments, the average Indian person only engaged in six non-cash transactions annually. There are 145 million families without any access to banking services. Additionally, there is the issue of dealing with corruption that primarily occurs with cash and black money. In 2012, the RBI published a four-year vision statement outlining its commitment to creating a secure, effective, open, inclusive, interoperable, and regulated payment and settlement system in India. The Green Initiative includes reducing paper use in domestic payment markets. UPI was formally introduced to the public in 2016.

The main organisation tasked with creating a brand-new payment system that is easy to use, safe, and interoperable is now the NPCI, thanks to RBI instruction. There will be a remitter/beneficiary front end PSP (payment service provider) and a remitter/beneficiary back end bank that settles the financial transaction for the users under UPI's four pillar push-pull interoperable paradigm. UPI became one of the most successful deep-tech innovations to come out of India, according to the CEO of Net magic Solutions.

In December 2019, Google urged that the Federal Reserve Board use UPI as an example while creating Fed Now, a real-time payment system for the United States, highlighting the success of UPI.

India surpassed China and the United States to become the largest real-time payment market in the world in 2020 with 25,50 billion yearly transactions, according to data from ACI Worldwide and Global Data.

According to the Economist Intelligence Unit Report 2021, UPI has elevated India to the top spot in the world market for real-time payments, ahead of China and South Korea. Following the Ministry of Finance's decision to remove the merchant discount rate (MDR) from UPI in 2019, the volume of low value transactions exploded, producing enormous benefits in real-time transaction volume statistics. Many countries are currently attempting to imitate UPI's success in their own markets, including Brazil, Bahrain, Saudi Arabia, Singapore, the United States, and the European Union.

UPI gained popularity as a payment method for initial public offers (IPOs) as of January 1, 2019. In March 2020, the transaction cap increased from 100,000 to 200,000. The RBI once more raised the threshold for Retail Direct Scheme and IPO applications from December 2021 to 500,000. RBI is taking merchant discount rate (MDR) on upcoming UPI transactions into consideration in order to make UPI commercially viable for payment companies. In its initial monetary policy for the fiscal year 2022–2023, the RBI recommended a cordless ATM cash withdrawal option using a QR code based on UPI. ToneTag introduced VoiceSE in collaboration with NSDL Payments Bank and NPCI, allowing 400 million feature phone users to make UPI payments via speech in Hindi, Tamil, Telugu, Malayalam, Kannada, and Bengali.

1.1.2.1 A historical background and development of UPI

The National Payments Corporation of India (NPCI) created the real-time payment system known as UPI in 2016. UPI is an instant payment system that enables users to instantaneously transfer money between bank accounts without having to enter IFSC numbers or bank account information.

UPI's development began in 2015, and in April 2016 it was formally introduced. UPI was developed to offer a simple and secure payment mechanism for India's fast expanding digital payments industry.

Since its debut, UPI has undergone a number of developments and enhancements to make it more approachable and user-friendly. In order to make it simpler to identify users and minimise fraud, UPI added a feature in 2018 that allowed users to link their Aadhaar cards to their UPI accounts.

2019 saw the launch of UPI 2.0, which included additional capabilities such the ability to link overdraft accounts, get invoices in the inbox, and limit payments from specific merchants. A tool known as UPI AutoPay was also added, enabling customers to set up regular payments for bills and subscriptions.

A new transaction limit of Rs 2 lakh, the option to monitor the progress of a transaction, and the ability to use UPI to withdraw cash from ATMs were among the new features included in UPI 2.0, which was unveiled by UPI in 2020.

One of India's most popular payment systems, UPI announced in 2021 that it has reached the milestone of 2 billion monthly transactions. Also, UPI unveiled a brand-new function that lets users utilise UPI to send money abroad.

UPI has advanced significantly since its debut in 2016, and its ongoing development has turned it into one of the most well-liked and user-friendly payment systems in India. The Reserve Bank of India (RBI) first suggested the idea of UPI in 2015 as a solution to streamline digital payments and advance financial inclusion in India. The NPCI, which manages a number of payment systems in India, was given the job of creating and introducing UPI.

UPI was launched with the support of several major banks in India, including State Bank of India, ICICI Bank, HDFC Bank, and Axis Bank. Initially, UPI only supported person-to-person (P2P) transfers, but it was later expanded to support merchant payments as well.

One of the key benefits of UPI is its interoperability, which allows users to transfer money between different banks and payment apps using a single UPI ID. This has made it easier for users to switch between different payment apps and banks without having to worry about the compatibility of their payment methods.

Many significant Indian banks, including State Bank of India, ICICI Bank, HDFC Bank, and Axis Bank, supported the establishment of UPI. UPI originally only enabled person-to-person (P2P) transfers; however, it has now been expanded to include commercial payments.

Interoperability, which enables users to transfer money between various banks and payment applications with a single UPI ID, is one of the main advantages of UPI. Users no longer need to worry about their payment methods being compatible when switching between multiple banks and payment applications.

In addition to the previously described advantages, UPI has throughout the years added a number of security precautions to shield users from fraud and illegal transactions. For instance, UPI verifies transactions using two-factor authentication (2FA) and enables users to limit transactions and prevent payments from specific businesses.

UPI has also been a significant force in driving digital payments in India in recent years, with a number of new payment applications and businesses utilising the UPI infrastructure to provide their services. The BHIM (Bharat Interface for Money) app, which was introduced in 2016 to support digital payments in India, is one government programme that UPI has been connected with. UPI has, in general, significantly changed the digital payments environment in India, and its future expansion and evolution are projected to have a major influence on the nation's financial ecosystem.

1.1.3 Importance of UPI in the Indian payment system

Being a crucial part of the Indian payment system, UPI now provides both consumers and merchants with a number of advantages and benefits. Following are some of the main justifications for UPI's significance in the Indian payment system:

Convenience: Without the need for IFSC codes or bank account information, UPI provides a quick and simple way to transfer money across bank accounts. Users now find it simpler to use digital payment methods, which has decreased the need for cash transactions.

Interoperability: Using a single UPI ID, consumers may send money between various banks and payment applications thanks to UPI's interoperable infrastructure. Users may now move between several payment methods without worrying about compatibility concerns thanks to this.

Security: UPI protects users against fraud and unauthorised transactions by utilising two-factor authentication (2FA) and other security measures. Users now have more trust and confidence in using digital payments as a result of this.

Minimal cost: UPI transactions are typically free or very inexpensive, making it a convenient payment method for both customers and businesses. This has made digital payments more affordable for a larger variety of customers by lowering the transaction costs related to them.

Innovation: The Indian payment system has benefited from innovation thanks to UPI, with a number of innovative payment applications and businesses using the UPI infrastructure to provide their services. As a result, India now boasts a thriving and competitive digital payments industry.

Financial Inclusion: By making it simpler for customers to access banking services and make digital payments, UPI has significantly contributed to the promotion of financial inclusion in India. As a result, fewer transactions are made in cash, financial literacy and awareness have increased, and more individuals have access to formal financial systems.

Acceptance by merchants: UPI has been widely adopted by Indian merchants, and many companies now accept UPI payments as a practical and affordable payment alternative. Due to their historical reliance on cash transactions, small and medium-sized enterprises have benefited from the promotion of digital payments.

Support from the government: As part of its Digital India project, the Indian government has actively promoted UPI. In order to encourage financial inclusion among the socially disadvantaged groups, the government has also employed UPI to distribute welfare payments and subsidies.

Usability: UPI has been created to be simple to use, with straightforward functionality and a user-friendly interface. This has encouraged more individuals to use digital payments, including those who are not computer literate or accustomed to using cell phones.

Adoption is increasing: Since its inception, UPI has had tremendous development and acceptance, with the number of transactions rising from 21 million in November 2016 to over 3 billion in March 2021. This development demonstrates the acceptance and usefulness of UPI as a payment method in India.

Enhanced transparency: UPI has improved the Indian payment system's transparency by enabling consumers and merchants to follow transactions in real time. As a result, the likelihood of fraud and mistakes has decreased, increasing the overall effectiveness and dependability of the payment system.

Decreased reliance on cash: UPI has made a substantial contribution to India's long-standing problem of reducing its reliance on cash transactions. As a result, managing cash is less expensive, tax compliance is better, and financial inclusion is promoted.

Integration with other payment systems: By integrating UPI with other payment systems like Bharat QR and Aadhaar Pay, customers can now make digital payments even more quickly and easily. Also, this connectivity has made it possible for businesses to take several payment methods on a single device.

Quick settlement: As UPI transactions are resolved instantly, customers and merchants can get access to their money right away. This has aided firms, especially small and medium-sized ones, in managing their working capital and cash flow (SMEs).

Worldwide acclaim: UPI has received praise and recognition on a global scale, and numerous nations have expressed interest in implementing the UPI paradigm into their payment systems. As a result, India is now recognised as a pioneer in the development of new technologies and digital payments.

Open API: Developers may create their own apps and services on top of the UPI infrastructure because to its open API (Application Programming Interface) design. As a result, a number of cutting-edge payment applications and services have emerged, encouraging innovation and competition in the Indian payment ecosystem.

Lower operating expenses: UPI has assisted in lowering the operating costs related to conventional payment methods like cash and checks. Businesses are now able to concentrate on their core company operations while saving time and money on payment processing and reconciliation.

Financial literacy: The Indian people, particularly in rural regions, has benefited greatly from UPI's promotion of financial literacy and awareness. People now have the knowledge and abilities to handle their money more skilfully, which has helped to improve their financial well-being.

Contactless payments: Payments made via near-field communication (NFC) or QR codes, which have grown in prominence since the COVID-19 outbreak, have also been made possible using UPI. This has made it less likely for viruses to spread during cash transactions.

Secure transactions: Several authentication levels, including two-factor authentication (2FA) and a UPI PIN, are used to secure UPI transactions. This has enhanced trust and confidence in the payment system by lowering the risk of fraud and illegal transactions.

Collaboration: Using a single UPI ID, customers may transfer money across various banks and payment service providers since UPI is an interoperable payment system. This has made it easier to manage several payment accounts and the payment process itself.

Adoption incentives: Adoption incentives, such as cash back offers, discounts, and awards for utilising UPI to make payments. This has encouraged more individuals to use digital payments and lessen the reliance on physical currency.

Enhanced credit access: By utilising the data created from UPI transactions, lenders are now able to evaluate creditworthiness more precisely and effectively. For underrepresented populations, such small enterprises and low-income households, this has improved loan availability.

Integration with other services: UPI has been connected with other services like as bill payments, e-commerce, and trip reservations, making digital payments more easier for consumers. This integration has also aided in the acceptance of digital payments in new and growing industries.

Enhanced customer experience: UPI has improved the entire consumer experience of making digital payments by delivering a streamlined and hassle-free payment process. This has increased consumer happiness and loyalty, encouraging repeat use and the acceptance of digital payments.

In conclusion, UPI has played a vital part in revolutionising the Indian payment system, providing a variety of benefits and advantages that have aided in the promotion of financial inclusion, economic growth, and innovation. As UPI evolves and expands, it is expected to play an increasingly larger role in the future of payments in India.

1.1.4 Scope and Significance of Study

Due to various reasons online payment has become an important kind of transaction in trade. So, it is imperative that to find the various sources of online sources towards Money transactions. By this study we are trying to find out what are the various modes of online payment terms related to UPI. This study is to analyze the awareness and satisfaction level of the customers in UPI and the security and privacy concerns influencing consumers in adoption of UPI. The study analyzes the consumer perception and problems towards UP. It also helps to identify the variance between UPI services and traditional services.

The research of UPI (Unified Payment Interface) in India has a huge and important scope. The National Payments Corporation of India (NPCI) introduced the UPI system in 2016, and since then, both consumers and companies have embraced it. The UPI system is a mobile-based payment platform that enables users to withdraw cash from ATMs without a physical debit card, instantaneously transfer money between bank accounts, pay for products and services, and more.

The study's scope involves examining a number of UPI-related factors, including its performance, security, and user experience. The study can also concentrate on comprehending the variables, such as demographic traits, educational attainment, socioeconomic status, and geographic region, that influence customer perception and acceptance of the UPI system.
The study's importance rests in its ability to shed light on the advantages and difficulties of the UPI system in India. The study can assist organisations and decision-makers in identifying UPI system flaws, creating focused marketing initiatives, and spreading knowledge about UPI among various demographic groups. The study's conclusions may also aid in strengthening India's entire payment system and easing the country's transition to a cashless and more digital economy.

The research of UPI may have a big effects on India's underprivileged communities' financial inclusion. Those who were previously denied access to traditional banking services owing to a variety of factors, including a lack of necessary identity documents, restricted access to bank branches, and low financial literacy, may now be able to receive financial services thanks to the UPI system. To create targeted financial inclusion policies and initiatives that can advance financial access and inclusion, policymakers can benefit from an understanding of the adoption and usage trends of UPI among various demographic groups.
The investigation of UPI may potentially have effects on companies doing business in India. Businesses may find chances for innovation and enhancement in their payment systems by understanding how consumers feel about UPI and how satisfied they are with it. Companies may create targeted marketing campaigns and promotional activities using the study's data in order to promote and raise awareness of their payment options.
Also, the study might add to the ongoing conversation about digital payments and how they affect the Indian economy. The UPI system has the power to encourage a more formal economy and lessen reliance on cash. The study can aid in the development of laws and initiatives that can help advance digital payments and financial inclusion by assisting policymakers in understanding the effects of UPI on the informal economy.
In conclusion, research into UPI has important ramifications for scholars, corporations, and policymakers. The study can highlight areas for development, shed light on the advantages and disadvantages of the UPI system, and advance financial inclusion and a more formalised economy.

1.1.5Objectives of the study

1) The study is to know the consumer awareness and consumer satisfaction towards UPI

2) To identify the variance between UPI services and traditional services

3) To study about factors that effects the consumer perception towards UPI

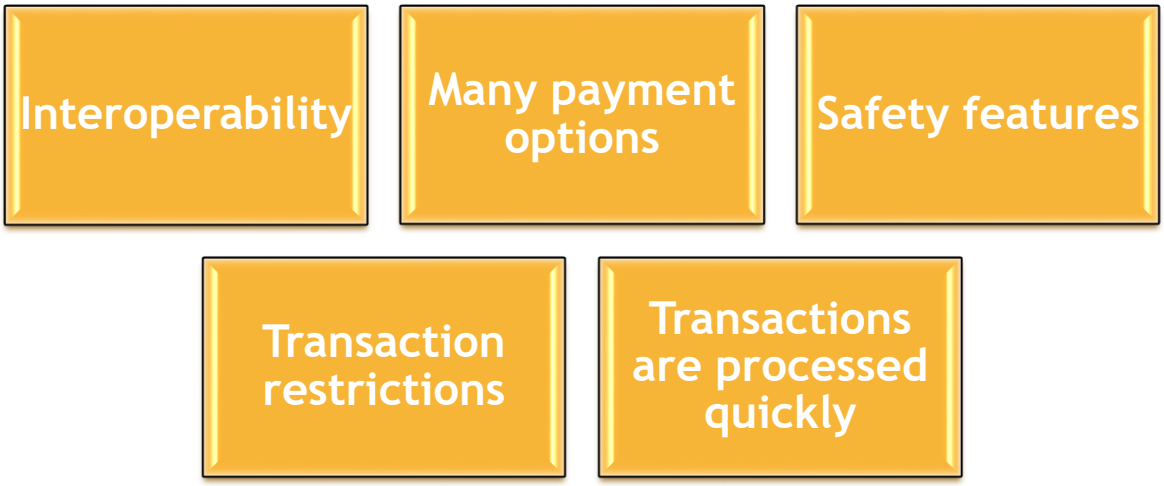
4) To find out the level of awareness of UPI and its adoption by people of different

age groups and income levels

1.4.6 Research methodology

The present study is descriptive in nature. The study examines the customer awareness and satisfaction towards UPI, The present study uses primary data based on the respondents of the survey . Due to special nature of the study the qualitative data has been used in this study.

1.2 UPI Features



1.2.1 Interoperability

Interoperability is an important aspect of the UPI system since it allows users to send and receive money from any bank account, independent of affiliation with UPI. That means that a user of one bank can utilise the UPI platform to transmit money to a user of another bank. Interoperability has been a fundamental driver of the UPI system's growth, making digital payments more accessible and easy for a greater part of the population.

UPI has achieved interoperability by implementing a standardised set of technological standards and protocols that allow for smooth communication and data sharing between banks and payment service providers. These standards ensure that UPI transactions are safe and trustworthy, and that they may be completed in real-time with no delays or mistakes.

UPI's interoperability feature provides various benefits to individuals and organisations, including:

Convenience: Interoperability allows users to send and receive money from any bank account, regardless of whether or not the bank is affiliated with UPI. Users will no longer need to manage several digital wallets or payment applications, making digital payments more convenient and user-friendly.

Financial inclusion: Because of interoperability, UPI may now reach a broader portion of the public, including people who do not have a bank account or access to traditional financial services. This has aided financial inclusion and decreased reliance on cash transactions.

Increased competition: Because consumers may use any bank or payment service provider that supports UPI services, interoperability has created a more competitive and fair playing field for banks and payment service providers. As a result, banks and payment service providers have been motivated to enhance their services and offer more competitive pricing.

Cost-effective: Interoperability has reduced the cost of digital payments for businesses since they no longer have to pay fees or commissions to numerous payment service providers or digital wallets. This has decreased the total cost of accepting digital payments and made accepting digital payments easier for small enterprises.

Ultimately, interoperability has been critical to UPI's development, allowing it to become a widespread and generally recognised payment mechanism in India. It has contributed to the Indian payment ecosystem's financial inclusion, ease, competitiveness, and cost-effectiveness.

1.2.2 Many payment options

Another important aspect of UPI is that it allows users to link several bank accounts and payment instruments to a single UPI ID, giving them a variety of payment possibilities. Users may link numerous bank accounts, debit cards, and credit cards to their UPI ID and pick which account or card to use for a specific transaction. This functionality provides consumers with various benefits, including:

Flexibility: Customers may pick from a variety of payment alternatives based on their requirements and preferences, such as utilising a certain bank account or debit/credit card for a specific transaction. This gives users more freedom and ease when making digital payments.

Backup options: Users have a backup alternative if their primary payment option fails by attaching several bank accounts and payment instruments to their UPI ID. This guarantees that consumers may make digital payments without interruptions or delays at all times.

Budgeting: Several bank accounts or payment instruments might be used for various reasons, such as utilising one bank account or card for everyday spending and another for savings. This enables consumers to better manage their funds and remain within their budget.

Security: Users can limit the risk of fraud and identity theft by associating numerous bank accounts and payment instruments to their UPI ID. Users can immediately move to another account or payment instrument if one account or payment instrument is hacked in order to minimise financial losses.

UPI's many payment alternatives functionality has also benefited companies by providing them with a broader selection of payment options to give to their clients. Customers may select the payment option that is most convenient for them, which has helped businesses attract more consumers and improve sales.

Overall, UPI's numerous payment alternatives feature has given users more flexibility, convenience, and security when making digital payments, while also helping companies by giving them a larger selection of payment options to provide to their customers.

1.2.3 Safety features

UPI offers various security measures that assist secure users' financial transactions and personal information, which is an important part of any payment system. UPI's primary security features include the following:

Two-factor authentication: UPI requires users to utilise two-factor authentication (2FA), which is a combination of a password or PIN and a one-time password (OTP) issued to the user's registered cell phone number, to authenticate their transactions. This ensures that only the authorised user is able to begin a transaction.

UPI PIN: While registering for UPI, users must create a UPI PIN. This PIN is required to use the UPI app or make changes to the user's UPI account, and it is used to authenticate any transactions made by the user.

Device binding: UPI applications are often tied to a user's mobile number, and the app can only be used on the device associated with that number. This protects the user's UPI account and transactions against unwanted access.

Transaction limitations: Transaction limits are established by UPI for various sorts of transactions, including as peer-to-peer transfers, bill payments, and merchant transactions. This aids in the prevention of large-scale fraudulent transactions and lowers the danger of financial loss for users.

Secure servers: UPI processes and stores transaction data on secure servers, and the system is designed to prevent unwanted access or alteration with this data. This contributes to the privacy and security of users' personal and financial data.

Encryption: All data sent between UPI apps and servers is protected using industry-standard encryption standards, preventing unwanted access to critical information.

Fraud detection and monitoring: To detect and prevent fraudulent transactions, UPI utilises comprehensive fraud monitoring and detection tools. These systems evaluate transaction patterns and detect anomalies or suspicious activity using machine learning and artificial intelligence algorithms.

Generally, UPI security measures serve to secure users' financial transactions and personal information from unauthorised access or fraudulent activity. These characteristics have aided in the development of user trust and confidence, and have led to the broad acceptance and success of UPI as a payment mechanism in India.

1.2.4 Transaction restrictions

Transaction limits are an essential security component of UPI that aid in the prevention of large-scale fraudulent transactions and reduces the danger of financial loss for users. UPI establishes transaction limitations for a variety of transactions, including peer-to-peer transfers, bill payments, and merchant transactions.

The following are the transaction limitations for various types of UPI transactions:

- Peer-to-peer (P2P) transfers have a maximum transaction limit of Rs. 1 lakh per transaction. Nevertheless, certain banks may have lower P2P transfer restrictions.
- Merchant transactions are subject to a maximum transaction limit of Rs. 1 lakh per transaction. This restriction is imposed in order to prevent fraudulent merchants from conducting large-scale transactions and to safeguard users from financial loss.
- **Bill payments:** The maximum transaction limit varies according to the biller and the amount of the bill. The overall daily transaction limit for bill payments.
- **ATM withdrawals:** UPI users may withdraw cash from ATMs by entering their UPI ID and a PIN. ATM withdrawals have a daily transaction limit of Rs. 10,000.

It should be noted that these transaction restrictions are determined by UPI and may differ based on the bank and the kind of transaction. Some types of transactions may have lower transaction limitations at some banks, while others may have greater restrictions.

Transaction limitations aid in the prevention of large-scale fraudulent transactions and lower the danger of financial loss for users. These can, however, be a barrier for consumers that need to conduct significant transactions. In such circumstances, consumers may want to examine other payment options, such as NEFT or RTGS, which have larger transaction limitations.

1.2.5 Transactions are processed quickly

Another essential element of UPI is the speed with which transactions are processed. UPI transactions are completed in real-time, which means monies are moved from the sender's account to the receiver's account immediately. The Immediate Payment Service (IMPS), a real-time interbank electronic financial transfer system in India, enables real-time processing of UPI transactions. UPI makes use of the IMPS infrastructure to allow for quick and safe fund transfers between bank accounts. UPI's quick transaction processing times provide various advantages for both consumers and businesses. These are a few advantages of quick transaction processing times:

Convenience: Because UPI transactions are processed quickly, it is an useful choice for consumers who need to make rapid payments or move cash. This is especially important when speed is of the importance, such as when paying bills or sending money to friends or relatives.

Increased cash flow: UPI's short transaction processing times assist businesses enhance their cash flow by guaranteeing that monies are sent swiftly to their accounts. This is especially useful for small firms that rely on regular payments to keep their cash flow stable.

Lower fraud risk: UPI's real-time transaction processing lets banks discover and prevent suspicious transactions before they can be completed, lowering the risk of fraud.

UPI's quick transaction processing times make it a very efficient and easy payment mechanism for both consumers and merchants. UPI has evolved as one of India's quickest and most dependable payment solutions by using the IMPS infrastructure and real-time processing capabilities.

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1.3 UPI Ecosystem

The UPI environment is made up of numerous parties who are critical in enabling and facilitating UPI transactions. Banks, payment service providers (PSPs), merchants, consumers, and the National Payments Corporation of India are among the stakeholders (NPCI).

Banks: Because they are responsible for providing UPI-enabled services to their consumers, banks are the major participants in the UPI ecosystem. To facilitate UPI transactions, banks must register with NPCI and interface their systems with the UPI platform. Almost 200 banks in India currently provide UPI services to their consumers.

Payment Service Providers (PSPs): PSPs are companies that offer merchants and clients UPI-based payment services. They serve as go-betweens between banks and merchants/customers, allowing them to originate and receive UPI transactions. Google Pay, PhonePe, Paytm, and Amazon Pay are some of the most popular PSPs in India.

Merchants : Merchants are companies that accept UPI payments for goods and services. Companies may include UPI-enabled payment systems into their POS terminals, websites, and mobile applications, allowing consumers to pay using UPI.

Customers: Customers are end-users of UPI services who initiate and receive UPI transactions via UPI-enabled mobile apps. Consumers may use UPI to make payments, transfer cash, and pay bills by linking their bank accounts to UPI-enabled mobile applications.

National Payments Corporation of India (NPCI): NPCI is the umbrella agency that manages and oversees the UPI platform. NPCI is in charge of establishing the rules and regulations that govern UPI transactions, as well as monitoring the platform's security and resolving any disputes that emerge during UPI transactions.

The UPI ecosystem is a complex and interwoven network of stakeholders that collaborate to make payments quick, safe, and convenient. UPI has developed as one of India's most successful payment networks, with over 2 billion UPI transactions performed each month, by harnessing the skills of each partner.

1.3.1 UPI-enabled financial institutions

More than 200 banks in India already provide UPI-enabled services to their consumers. Banks in this category include both governmental and private sector institutions, as well as minor financial and payments institutions. Following is a list of popular banks that provide UPI-enabled services:

State Bank of India

HDFC Bank

ICICI Bank

Axis Bank

Punjab National Bank

Canara Bank

Union Bank of India

Kotak Mahindra Bank

IDBI Bank

Bank of Baroda

Yes Bank

IndusInd Bank

Federal Bank

UCO Bank

Allahabad Bank

Bank of Maharashtra

Indian Bank

Indian Overseas Bank

1.3.2 The Reserve Bank of India

Several banks have connected their systems with the UPI platform and provide their clients with UPI-enabled mobile apps, allowing them to use UPI to make payments, transfer cash, and pay bills. Users may use these UPI-enabled mobile applications to initiate and receive UPI transactions by linking their bank accounts.

Besides from banks, a number of payment service providers (PSPs) provide UPI-enabled services to their consumers. These PSPs operate as go-betweens for banks and clients, allowing them to originate and receive UPI transactions. Google Pay, PhonePe, Paytm, and Amazon Pay are some of the most popular PSPs in India. Several PSPs' systems have also been connected with the UPI platform, enabling their clients to make UPI payments straight from their mobile applications.

1.3.3 UPI-enabled payment service providers (PSPs)

In India, various Payment Service Providers (PSPs) provide UPI-enabled services to their consumers. These PSPs operate as go-betweens for banks and clients, enabling them to originate and receive UPI transactions. Below are some of India's most popular UPI-enabled PSPs:

Google Pay: Google Pay is a popular UPI-enabled payment service in India that allows users to make UPI transactions straight from their mobile phones. Google Pay allows users to link their bank accounts to the app and utilise UPI to make payments, transfer cash, and pay bills.

PhonePe: PhonePe is another famous UPI-enabled payment software in India that allows users to make UPI transactions from their mobile phones. PhonePe provides a variety of services, including bill payments, cellphone recharges, and money transfers via UPI.

Paytm: Paytm is a digital wallet and payment app that provides UPI-enabled services to its consumers. Paytm allows users to link their bank accounts to the app and utilise UPI to make payments, transfer cash, and pay bills.

Amazon Pay: is a payment service provided by Amazon that allows customers to conduct UPI transactions using their mobile phones. Users may link their bank accounts to Amazon Pay and utilise UPI to make payments, transfer cash, and pay bills.

BHIM: The Government of India introduced BHIM (Bharat Interface for Money), a UPI-enabled payment software. BHIM enables users to conduct UPI transactions straight from their mobile phones and is accessible in a variety of Indian languages.

WhatsApp Pay: WhatsApp Pay is a UPI-based payment service provided by the popular messaging software WhatsApp. WhatsApp Pay lets users to perform UPI transactions immediately from their chats, making it a convenient choice for those who use the service regularly.

These UPI-enabled PSPs have integrated their systems with the UPI platform, allowing their users to make UPI transactions directly from their mobile phones. Users can link their bank accounts to these PSPs and use them to initiate and receive UPI transactions.

1.3.4 Additional participants in the UPI ecosystem :

Besides from banks and PSPs, there are various more stakeholders in India's UPI ecosystem. These stakeholders are critical in facilitating UPI transactions and ensuring the system's efficiency and security. The following are some of the other players in the UPI ecosystem:

National Payments Corporation of India (NPCI): The NPCI is the corporation in India that created and operates the UPI platform. The Reserve Bank of India and the Indian Banks' Association established the National Payments Corporation of India (NPCI) in 2008 to develop and run payment and settlement systems in India.

Merchant Payment Acceptance Infrastructure: Merchants and enterprises that accept UPI payments are also part of the UPI ecosystem. Businesses can accept UPI payments by showing their UPI ID or scanning a QR code created by a UPI-enabled mobile app on their device.

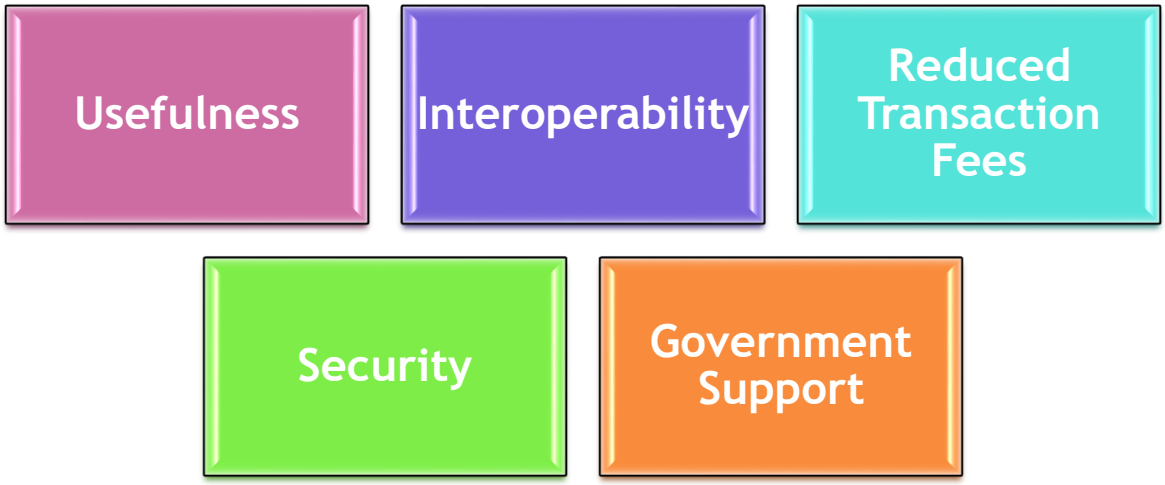
Payment Gateways: Payment gateways are middlemen that help businesses and consumers conduct online transactions. Payment gateways are critical components of the UPI ecosystem since they enable online UPI payments for e-commerce transactions.

Regulators: The Reserve Bank of India and the Securities and Exchange Board of India play critical roles in regulating and managing the UPI ecosystem. Regulators guarantee that the UPI system is safe, secure, and efficient, and they also establish the rules and regulations that govern UPI transactions.

Technology Service Providers: Technical service providers, such as software developers and IT service providers, also play a role in the UPI ecosystem by building and maintaining the underlying infrastructure that facilitates UPI transactions.

These parties collaborate to build an efficient and secure UPI environment in India. The UPI system has transformed how individuals in India make payments and move money, and it has become a crucial engine of the country's digital economy.

1.4 Adoption of UPI



After its debut in 2016, the UPI platform has experienced tremendous acceptance in India. These are several important elements that have helped UPI become widely used:

Usefulness: UPI is a simple platform that enables consumers to send and receive money with a few simple clicks on their mobile devices. UPI transactions may be started and finished quickly, giving users a handy choice.

Interoperability: A single app may be used by consumers to conduct transactions between various banks and payment service providers because to UPI's interoperability. Because to this, UPI has become a well-liked option for consumers who wish to save time by utilising a single payment app for all of their transactions.

Reduced Transaction Fees: Compared to other payment options like credit and debit cards, UPI transactions often have cheaper transaction fees. Because to this, UPI has become a popular choice for retailers and small enterprises looking to avoid expensive transaction costs.

Security: Multi-factor authentication, which combines a PIN, biometric authentication, and a virtual payment address, is used to safeguard UPI transactions (VPA). UPI is now a safe choice for those who are worried about the security of their transactions as a result.

Government Support: As part of its initiatives to develop a cashless economy, the Indian government has been aggressively encouraging the usage of digital payments, including UPI. This has aided in raising user and merchant awareness of and acceptance of UPI.

Particularly among younger and tech-savvy customers in India, UPI acceptance has been quite strong. 98% of UPI users in India are under the age of 45, and 66% of UPI users earn less than Rs. 50,000 ($680) a month, according to a Nielsen poll. This indicates that the middle class and lower income groups in society, who are rapidly adopting digital payment systems, utilise UPI on a large scale.

Following are some current figures on the uptake and use of UPI in India:

- In India, UPI transactions increased by 82% in 2020, processing more than 2.8 billion transactions in December alone.
- In India, UPI transactions total Rs. 4.16 trillion ($56.3 billion) as of December 2020.
- In March 2021, India's UPI transaction volume per day surpassed 2.23 billion, setting a new record.
- In India, UPI transactions were Rs. 5.04 trillion ($68.2 billion) in March 2021.
- In India, there were more than 200 million UPI users as of March 2021.
- In India, UPI transactions made about 42% of all digital transactions in 2020.
- In December 2020, the average UPI transaction amount in India was Rs. 1,800 ($24).
- In India, UPI is the most widely used digital payment option, followed by debit and credit cards.

UPI has had amazing growth, with the platform handling more than 3 billion transactions in just March 2021. The usage of UPI and other digital payment systems in India is still being promoted by the government and other UPI ecosystem partners, which is anticipated to fuel additional expansion in the ensuing years.

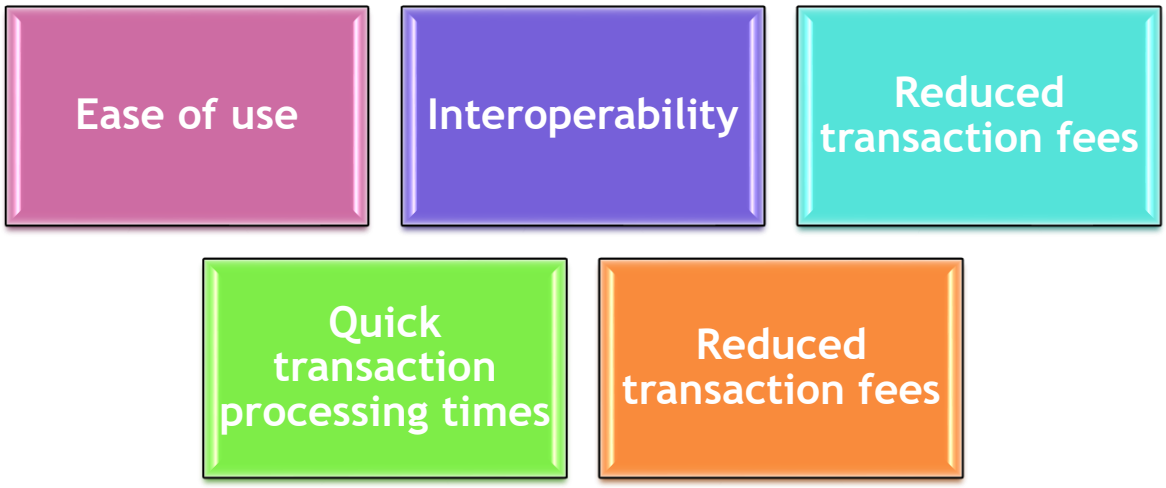
1.4.1 UPI adoption and growth in India

Since its debut in 2016, UPI has had significant development and adoption in India. Following are some significant turning points in UPI's development:

- UPI was started in August 2016 with 21 banks participating. It was initially intended to allow peer-to-peer (P2P) payments.
- The number of banks on the UPI network has increased to 30 by December 2016.
- The Indian government announced a number of steps in 2017 to encourage digital payments, including the promotion of UPI as a preferred means of payment.
- By January 2018, there were 80 banks on the UPI network, and UPI transactions had surpassed 100 million.
- The NPCI announced UPI 2.0 in 2018, which included new capabilities such as overdraft, one-time mandate, and invoicing in the inbox.
- The National Payments Corporation of India (NPCI) launched UPI AutoPay in 2019, allowing customers to set up regular payments for services such as energy bills, insurance premiums, and mutual fund investments.
- UPI has become India's most popular digital payment system by 2020, with more than 2.8 billion transactions performed in December 2020 alone.
- There were over 230 million UPI users in India as of August 2021, and UPI transactions accounted for 73% of all digital transactions in the nation.
- Because to the COVID-19 epidemic, many consumers and businesses in India have moved to contactless payments in order to minimise cash transactions.

Overall, the simplicity of use, interoperability, cheap transaction costs, and quick transaction processing times have fueled the expansion and acceptance of UPI in India. The Indian government and other stakeholders are continuing to push UPI and other digital payment options, which are projected to drive additional development and acceptance in the coming years.

1.4.2Factors driving UPI adoption



There are several factors driving the adoption of UPI in India, including:

Ease of use: UPI is simple to use and allows consumers to make quick payments with their mobile phones. The user interface of UPI-enabled applications is simple and easy to use, which has aided in driving acceptance among consumers who are unfamiliar with digital payments.

Interoperability: Because UPI is interoperable, users may send and receive payments from any UPI-enabled app or bank account. This has contributed to UPI's popularity among retailers, since it allows them to accept payments from a diverse spectrum of clients.

Reduced transaction fees: Transaction fees for UPI transactions are cheap, which has aided in user and merchant adoption. UPI is especially appealing to small enterprises and retailers because to its inexpensive transaction fees.

Quick transaction processing times: Because UPI transactions are handled in real-time, payments are credited to the beneficiary's account nearly immediately. This has contributed to UPI's popularity among consumers and merchants that value speed and convenience.

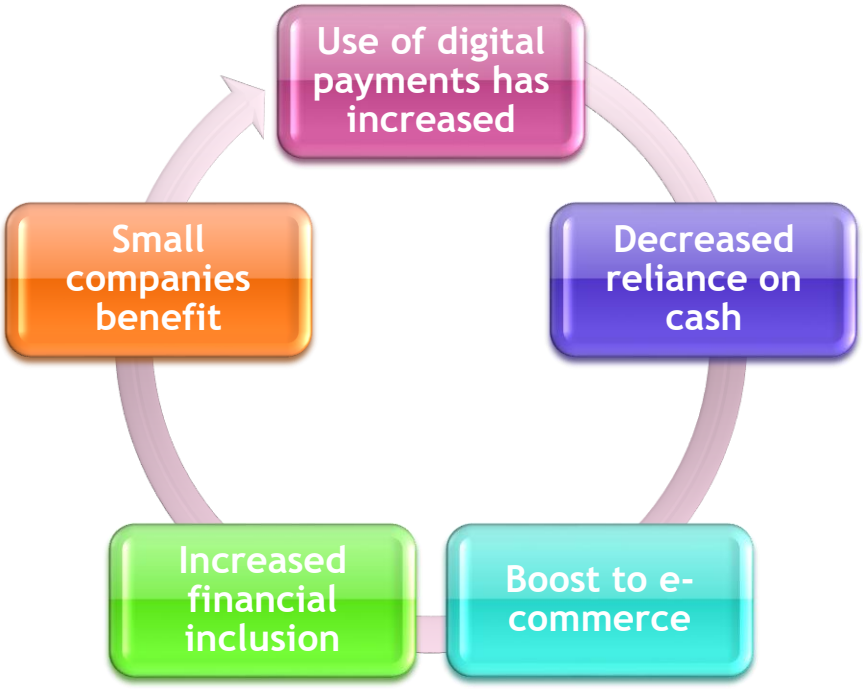
Support from the government: The Indian government has been aggressively supporting digital payments and has sponsored various efforts to encourage the use of UPI and other digital payment systems. This has increased UPI awareness and encouraged more users and retailers to use the payment mechanism.

Rising smart phone penetration: Rising smartphone penetration in India has also led to the growth and adoption of UPI. As more people use smartphones, they are more inclined to employ digital payment systems like UPI.

The COVID-19 epidemic has expedited the adoption of UPI and other digital payment systems in India, as many consumers and retailers have shifted to contactless payments in order to avoid cash transactions. This has aided in raising UPI awareness and acceptance across a broader variety of consumers and businesses.

1.4.3 UPI's impact on digital payments in India

UPI has had a big influence on digital payments in India. Since its inception in 2016, UPI has emerged as one of the most popular digital payment systems in India, helping to propel the country's digital payment boom. Some of the most significant effects of UPI on digital payments in India are:



Use of digital payments has increased: UPI has aided in the adoption of digital payments in India by making it easier and more convenient for consumers to make payments. UPI is a popular payment mechanism among users, particularly those who were previously unbanked due to its simplicity of use, interoperability, and cheap transaction fees.

Decreased reliance on cash: UPI has contributed to a reduction in India's reliance on cash, which has traditionally been the favoured payment option for many Indians. UPI has encouraged more people to convert to digital payments by making them more accessible and easy, lowering the quantity of cash in circulation.

Boost to e-commerce: UPI has boosted e-commerce in India by making online payments easier and more comfortable for customers. UPI's quick transaction processing times have helped to minimise the time it takes to process payments, which has enhanced the user experience for online consumers.

Small companies benefit: UPI has helped small businesses in India by making it easier and more economical for them to accept digital payments. UPI's cheap transaction fees have contributed to lower payment acceptance costs, making it more practical for small enterprises to accept digital payments.

Increased financial inclusion: Financial inclusion has increased in India as a result of UPI, which has made digital payments available to a broader spectrum of consumers, including people who were previously unbanked. UPI has helped to overcome some of the hurdles to financial inclusion, such as a lack of access to bank accounts and the high cost of banking services, by allowing users to make payments using their mobile phones.

Several of the hurdles to financial inclusion, such as a lack of access to bank accounts and the high cost of banking services, have been addressed.

Generally, the impact of UPI on digital payments in India has been favourable, and it has contributed to the country's rise in digital payments. UPI's simplicity of use, interoperability, cheap transaction costs, and quick transaction processing times have made it a popular payment method among users, encouraging more to utilise digital payments.

1.5. UPI Uses

UPI has grown in popularity in India and is utilised in a number of ways. The following are some of the most prevalent UPI usage cases:

Peer-to-peer (P2P) payments: UPI is often used for P2P payments, in which users use their mobile phones to send money straight to each other's bank accounts. P2P payments can be done with a cell phone number or a virtual payment address (VPA), which is a one-of-a-kind identifier connected to a user's bank account.

Merchant payments: UPI is also utilised for merchant payments, in which customers may use their mobile phones to pay merchants for products and services. Merchants may take payments by scanning a UPI QR code with their mobile phones to make payments.

Bill payments: UPI may be used to pay bills such as energy bills, mobile phone bills, and other forms of invoices. Users may use their mobile phones to make bill payments by inputting the bill data and paying using UPI.

Internet shopping: UPI may be used for online shopping, allowing customers to utilise their mobile phones to pay for products and services purchased online. Internet retailers can take payments by scanning a UPI QR code or incorporating UPI into their payment gateway.

Government payments: UPI may also be used for government payments including tax payments, fee payments, and other sorts of government payments. Users may use UPI to make government payments by signing in to the appropriate government portal and selecting UPI as the payment method.

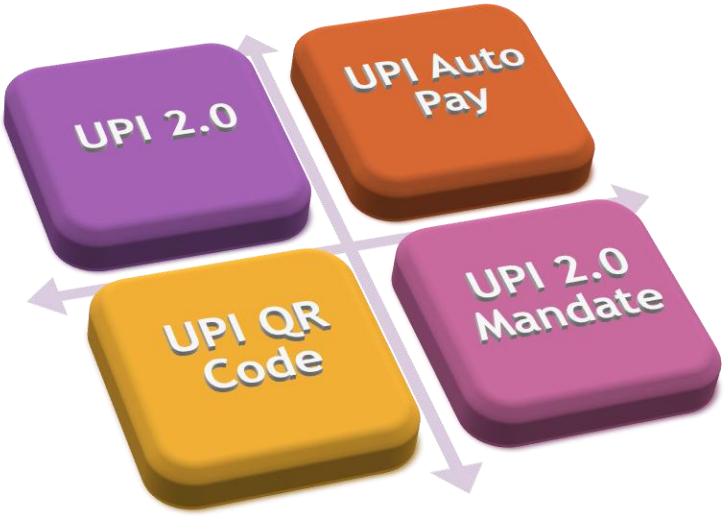
Currency withdrawals: With a mobile phone, UPI may be used to withdraw cash from ATMs. Several banks enable UPI withdrawals from ATMs by scanning a QR code shown on the ATM screen.

Charitable donations: UPI may also be used for charitable donations, with users utilising their mobile phones to make gifts to non profit organisations. Charities can receive gifts by scanning a UPI QR code or incorporating UPI into their donation portal.

These are only a few of the most prevalent UPI usage cases. UPI is a versatile payment system that can be used in a number of ways, and its popularity is projected to rise in the future as more people switch to digital payments.

1.6. UPI Innovations

Many improvements and enhancements that have enhanced the user experience and increased the use cases for UPI have been made as a result of the ongoing evolution of the UPI ecosystem in India. Many significant UPI developments include:



UPI 2.0: The National Payments Corporation of India (NPCI) unveiled UPI 2.0 in August 2018, adding a number of new capabilities and enhancing the UPI ecosystem. The capacity to link numerous bank accounts to a single VPA, the ability to set up overdraft facilities for users, and the capability to use UPI for transactions up to Rs. 2 lakh are some of the important features of UPI 2.0.

UPI Auto Pay: In April 2021, NPCI introduced UPI AutoPay, a tool that enables users to schedule regular payments for subscriptions and invoices. Users may set up automatic payments for subscriptions to services like streaming platforms and insurance using UPI AutoPay, as well as for bills like those for energy, water and gas.

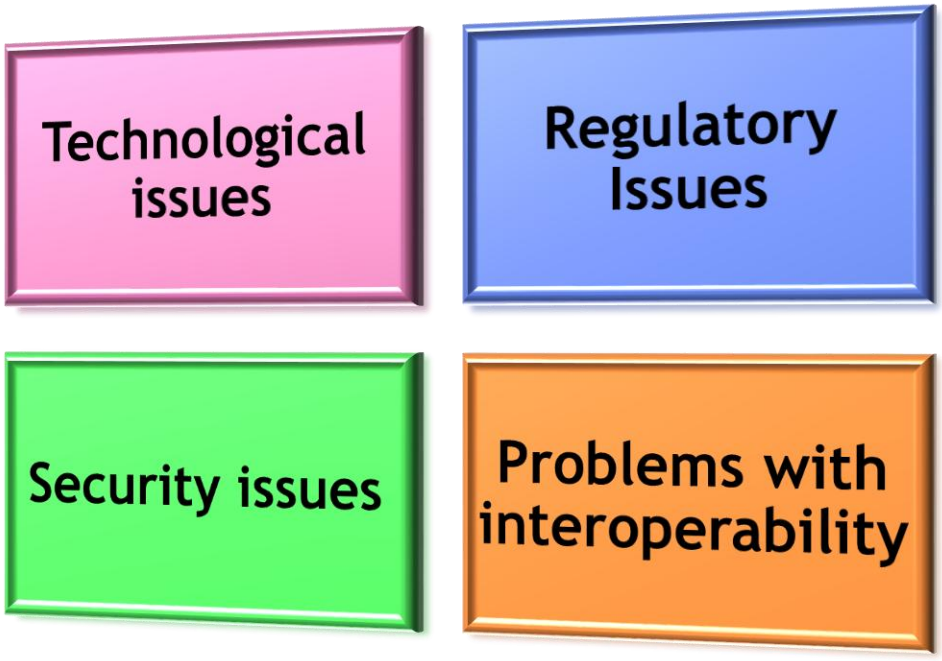
UPI QR Code: The UPI QR code enables users to swiftly and conveniently make payments using their mobile phones, making it a crucial breakthrough in the UPI ecosystem. A UPI QR code may be posted by retailers at their establishments, and customers can pay by simply scanning the code with their Smartphone's.

UPI 2.0 Mandate: In October 2020, NPCI introduced UPI 2.0 Mandate, a function that enables users to pre-authorize payments and schedule them for a future time. Users can authorise a payment for a future date using UPI Mandate, and the payment will be completed automatically on the designated day.

Several developments have contributed to making the UPI ecosystem better, more accessible, and user-friendly. It is anticipated that as the UPI ecosystem develops, there will be additional innovations and advances that will enhance the user experience and increase the use cases for UPI.

1.7 UPI Obstacles (Challenges)

UPI has several advantages, but it also has a number of drawbacks for the Indian UPI ecosystem. Among the main obstacles are:



1.7.1 Technological issues

The UPI ecosystem in India suffers both the difficulties stated before and some technological difficulties. Many of these difficulties include:

Scalability: Since UPI's inception, the number of transactions handled has grown significantly, thus it's critical that the system can handle this expansion in a scalable way. This need a solid infrastructure that can manage high transaction volumes without sacrificing security or performance.

Reliability: UPI transactions must be processed reliably and swiftly since they must be completed in a timely manner. Any processing errors or delays might have a negative impact on the user experience and force customers to utilise different payment options.

Technical interoperability: Although UPI is intended to be interoperable, it can still be difficult to achieve between various UPI-enabled platforms. The use of UPI may be constrained as a result, which may lead to unsuccessful transactions or long processing times for transactions.

Integration with other systems: Banks, payment service providers, and retailers are just a few of the systems and platforms that UPI must be connected with. It can be technically difficult to ensure flawless connection with these systems, and any integration problems might lead to failed transactions or delays in transaction processing times.

Data security and privacy: UPI includes the communication of sensitive financial and personal data, therefore it is crucial that this data be kept private and safe. User data security and privacy protection is a technological problem that calls for strong encryption and other security measures.

Infrastructure, technology, and security measures will need to be continually invested in in order to address these technological issues. To guarantee seamless integration and interoperability, it would also involve cooperation from various UPI ecosystem players, such as banks, payment service providers, and retailers.

1.7.2 Regulatory Issues

In addition to technological difficulties, UPI in India also faces regulatory difficulties. Some of these difficulties include:

Compliance: The Central Bank of India has released a number of regulations and guidelines that apply to UPI (RBI). These rules, which include standards for data protection, transaction limitations, and fraud prevention, must be followed by banks and payment service providers operating inside the UPI ecosystem. It can be difficult to ensure compliance with these requirements, especially for smaller market actors who might lack the requisite resources or experience.

Data localization: India has been pushing for data localization, which mandates that businesses keep their data there. As UPI includes the cross-border communication of sensitive personal and financial information, this can be difficult. The cost of compliance with data localization rules as well as the effectiveness of UPI transactions may be impacted.

Interchange fees: Fees charged by banks to one another for processing UPI transactions are known as interchange fees. The amount of these fees has been a topic of discussion, with some stakeholders claiming that it is too excessive and may be impeding UPI's expansion. Authorities will need to strike a compromise between the requirement to make sure that banks are paid for offering UPI services and the need to make sure that the costs are not too high.

Competition: Paytm, Google Pay, and PhonePe are just a few of the major online payment systems that UPI is up against. To draw customers, these platforms are making significant investments in marketing and innovation, which may have an effect on the development of UPI.

Cyber security: As the usage of digital payments has grown, cybersecurity has become a significant issue. Sensitive financial and personal information are transmitted during UPI transactions, thus it's critical that this data be kept safe. Authorities must make sure banks and payment service providers are taking the necessary precautions to safeguard customer data and stop fraud.

Cooperation between regulators, banks, and payment service providers will be necessary to address these regulatory problems. In order to guarantee that rules effectively encourage innovation and expansion in the UPI ecosystem while also ensuring that user data is kept secure and private, continual discussion and engagement will also be necessary.

1.7.3 Security issues

UPI has been built with a number of security safeguards to safeguard users' financial and personal data. Nonetheless, UPI continues to face a number of security issues in India. Some of these difficulties include:

Attacks using social engineering: These types of attacks utilise deception to get people to divulge their financial and personal data. Attackers may utilise social engineering techniques to get users' UPI PINs or other sensitive information, which presents a difficulty for UPI.

Malware assaults: Malicious software is installed on consumers' devices during malware attacks in order to steal their personal and financial information. Malware can be used by attackers to intercept UPI transactions or obtain users' UPI PINs.

Phishing attacks: These are attempts to deceive consumers into divulging their personal and financial information by sending them phoney emails, texts, or other communications. Attacks from phishing can be difficult for UPI since consumers could get false messages that seem to be from UPI or their bank.

SIM swap attacks: Attackers use SIM swaps to trick cell carriers into transferring a victim's phone number to a new SIM card. Due to the fact that many UPI transactions require a phone number for authentication, this may be utilised to access the victim's UPI account.

Insider threats: Insider threats occur when bank or payment service provider employees misuse their access to customers' financial and personal information. Because to the difficulty in identifying and preventing insider threats, this may present a challenge for UPI.

UPI stakeholders must adopt a multi-pronged strategy that includes both technological solutions and user education to overcome these security problems. Strong security measures, such two-factor authentication, encryption, and monitoring for suspicious behaviour, must be put in place by banks and payment service providers. Also, they need to teach consumers how to defend themselves against phishing, social engineering, and other forms of assaults. Lastly, authorities need to create and enforce security best practises guidelines and make sure that banks and payment service providers are adhering to them. UPI stakeholders may contribute to ensuring that the personal and financial information of users is protected by implementing a coordinated security strategy.

1.7.4 Problems with interoperability

A crucial component of UPI is interoperability, which enables customers to send money between various banks and payment service providers through a single interface. Unfortunately, UPI in India is having a number of interoperability problems. Some of these problems include:

Inadequate coverage: While many banks and payment service providers in India have implemented UPI, there are still those that have not integrated with the platform. Due to this, users may find it challenging to send or receive money from users who are not on the same platform.

Technical difficulties: Because UPI is a complicated technological platform, banks and payment service providers must cooperate very closely. Interoperability problems can be caused by technical obstacles including integration problems, system outages, or incompatible technologies.

Transaction restrictions: For UPI transfers, certain banks and payment service providers have established transaction limits, which might cause interoperability problems if users attempt to send significant sums of money.

User interface Issues: Various banks and payment service providers' UPI user interfaces differ from one another, which may be confusing to users who are unfamiliar with it.

Security issues: If security standards and procedures are not properly implemented, interoperability between various banks and payment service providers may cause security issues.

To solve these interoperability difficulties, UPI stakeholders must work together to develop both technological solutions and policy initiatives. Banks and payment service providers should collaborate to guarantee that their systems are interoperable and that consumers may move money across providers smoothly. They should also develop consistent standards for user interface design and make sure that users have access to clear and simple UPI instructions. Regulators may help by developing interoperability principles and ensuring that banks and payment service providers implement them. UPI stakeholders can assist guarantee that the platform remains a convenient and safe means for users to transfer money by addressing interoperability concerns.

1.8. Future of UPI

With rising acceptance and developments in the pipeline, the future of UPI in India appears bright. Here are some of the important developments that might determine UPI's future:

UPI is already being used for a range of transactions, such as peer-to-peer transfers, bill payments, and e-commerce transactions. We may anticipate UPI to be utilised for many more applications in the future, such as insurance payments, mutual fund investments, and perhaps foreign remittances.

Improved security features: As the number of UPI transactions grows, so do the security issues. UPI stakeholders are expected to implement additional security features like as biometric verification, multi-factor authentication, and transaction monitoring tools to reduce these concerns.

Integration with other technologies: UPI has already been merged with other technologies like as QR codes and NFC, and additional integrations are expected in the future. UPI, for example, might be used with voice-based assistants, smart watches, and other wearable's.

Increasing merchant acceptance: While UPI has grown in popularity among consumers, merchant adoption has been gradual. We should anticipate more merchants to use UPI as a payment mechanism in the future, especially as digital payments grow more prevalent.

Regulatory interventions: As UPI expands, we can anticipate authorities introducing additional rules and regulations to make sure the platform is still safe, open, and available to all users.

Overall, UPI in India appears to have a promising future. We can anticipate further innovations, more convenience, and more financial inclusion as more customers and merchants utilise the platform.

1.8.1 India's potential for UPI growth

India has enormous potential for UPI growth because to its sizable population and rising adoption of digital payments. The following variables might support UPI growth in the upcoming years:

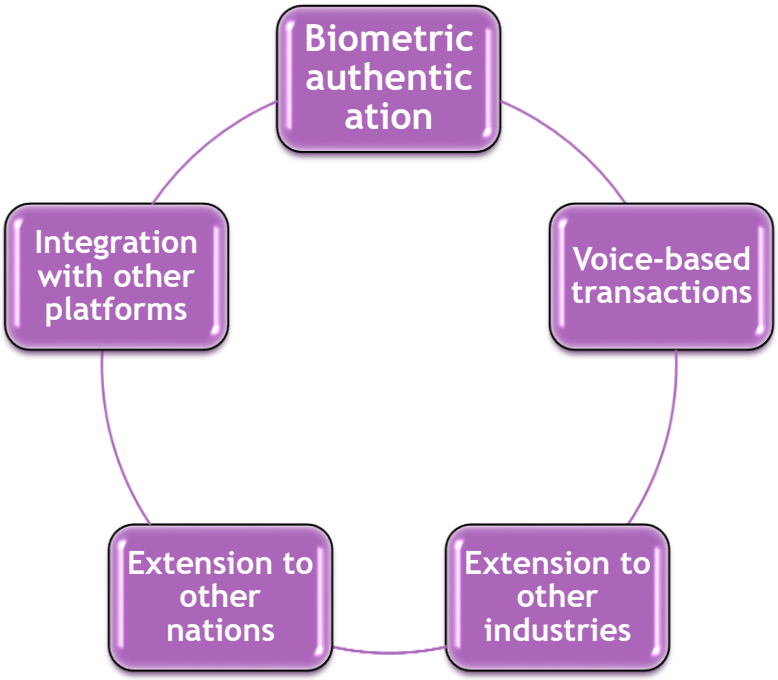
Increasing smart phone adoption: With over 700 million smart phone users, India has one of the highest smart phone adoption rates in the world. More individuals are expected to use UPI for digital payments as more people have access to Smartphone's.

Government support: With programmes like Digital India and Made in India, the Indian government has been aggressively supporting digital payments. Because to this assistance, UPI has been able to flourish.

Growing merchant acceptance: Although UPI is becoming more and more popular with consumers, merchant adoption has been rather delayed. Nevertheless, this is altering as more businesses begin to accept UPI payments. Making digital payments will be increasingly more convenient for customers as more merchants use UPI.

1.8.2 Upcoming developments with UPI

As the system develops and new use cases arise, the future of UPI developments is quite bright. Here are some places where UPI may innovate:



Biometric authentication: At the moment, users must input their UPI PIN in order to conduct a transaction via UPI. Nevertheless, a trend towards biometric identification, such as fingerprint or face recognition, is emerging and may offer a more convenient and safe method of authorising transactions.

Voice-based transactions: With the rise of voice assistants, speech commands may one day be used to carry out UPI transactions. This would improve the user experience and convenience of the payment procedure.

Integration with other platforms: To enable payment transactions inside these applications, UPI may be connected with other platforms like social media or messaging services. Users would no longer need to leave the app they are using in order to make payments thanks to this.

Extension to other nations: As I previously indicated, UPI has the potential to be adopted in other nations that are dealing with issues like cash-based economies and disjointed financial systems. Collaboration with financial authorities and payment service providers from other nations would be necessary, but the result might be a more integrated and linked global payment system.

Extension to other industries: At the moment, UPI is mostly utilised for merchant and person-to-person payments. To facilitate payments in certain businesses, such as healthcare or government services, UPI may nevertheless be utilised in other industries as well.

India's population is youthful and technologically advanced, with a median age of 28 years. The younger generation is more inclined to use digital payments, therefore this demographic trend is positive for UPI growth.

UPI stakeholders are continually incorporating new technologies and use cases into the platform through innovation and integration. As a result, users will find UPI to be even more practical and adaptable.

Finally, the Unified Payments Interface (UPI) has emerged as a game-changing payment system in India, revolutionising how consumers make digital payments. It has made a substantial contribution to the expansion of digital payments in India and has become a vital component of the country's financial system.

The future of UPI is bright, as the system evolves and new use cases develop. UPI is expected to remain a favoured payment method for Indian consumers and enterprises as security, interoperability, and simplicity improve. Additionally, because other nations experience comparable issues with cash-based economies and fragmented financial systems, UPI has the potential to be implemented internationally. Collaboration with financial authorities and payment companies from other nations might result in a more linked and unified global payment system.

Ultimately, UPI is well-positioned to play an important part in the future of digital payments in India and abroad, and it will be fascinating to see how the system evolves and transforms the payment environment.

2. REVIEW OF LITERATURE

The literature on the subject covers a wide range of topics, including UPI as a digital innovation, how it helps to solve problems associated with the digitization of payment services, and the societal effects of the digitalization of financial services.

The research on the subject, however, focuses on a piecemeal approach and does not offer a comprehensive analysis of the cause and effect link between UPI and ED, as the present study offers. The goal of the literature review is to demonstrate that the study of UPI for economic development has never transcended theoretical debate and been limited to purely descriptive research. This literature review's secondary goal is to investigate how UPI interacts with other variables that will be empirically evaluated.

Both academic, peer-reviewed publications and books are published with the results of empirical research. However, the majority of library databases do not provide simple ways to locate empirical research.

Parvesh Prof. Hanmant N. Renushe and Deepak Oswal (2021) The impact of COVID-19 on UPI services. According to their study, everyone should have access to banking, and as a result, the introduction of biometric sensors in phones can actively promote UPI transactions. Findings also showed that respondents had a favourable perspective on UPI transactions as a means of bringing about a less-cash society in the Asian nation.

Mayur Khadse, Yash Madwanna, and B R Chandavarkar (2021) An introduction to offline UPI is discussed. In this essay, the types of services that UPI can offer its users as well as how a user can access offline UPI are all covered. Readers will learn enough about UPI after reading this essay.

Rishabh Jha and Rohit Kumar (2021) "An innovative step for making Digital payment," was published in 2021. Effective and variables affecting Consumer perception on the use of UPI Performance expectations, effort expectations, enabling conditions (Mobile specifications and Network strength), and Cashbacks & Rewards were discovered to have a significant influence on the behavioural intention of users who chose to accept and use UPI payments.

Nileshkumar L Pate & DR. JAYSHRI S DATTA (2020) Factors influencing theusage of UPI have been identified in this research. The findings revealed that compatibility of application, comparative advantage and threats have positive impact on the usage of UPI. Perceived risk and customer profile have negative impact on the usage. Customers demand safety standards for online UPI transactions which must be robust in industry safety grades.

Alderman, L. (2020). Our Cash-Free Future Is Getting Closer. **"People are using cardsand contactless payments because they don't want to have to touch anything,"** said Mr. Cornu, as a line of mask-wearing shoppers stood three feet apart before approaching the register and swiping contactless cards over a reader. While cash is still accepted, even older shoppers — his toughest clientele when it comes to adopting digital habits are voluntarily making the switch.

Shivani Maheshwari (2019) The study titled UPI (Unified Payments interface) the futuristic payment method discusses the architecture of UPI and states the month wise income features. From the study it is found that 105 million incomes till Nov 17, as reported by National corporation of India (NPCI). It is concluded from the study that UPI payment Is not only creating peer to peer transactions but also peer to merchant transactions. International journal of Advance Research, Ideas and Innovations in Technology 2021 , WWW.IJARIIT.com All Rights Reserved Page 1097 Radhika Basavaraj Kakade 1.

Prof. Nupur A (2019) Their study reported that the UPI has made digital transaction for individuals as easy as sending text messages. service is available 24X7, not RTGS or NEFT which don't work on holidays or during non-banking hours. This will bring enormous efficiency in the system and help India become a truly cashless economy.

Dr. virshree tungare (2019) In the study of "A Study on Customer Insight Towards UPI (Unified Payment Interface) An Advancement of Mobile Payment system" states that cashless transactions have become important component after the demonetization. The researcher conducted a study in Indore about the UPI payments and related E-payments modes. The findings of the study states that most of the respondents find UPI payments are convenient way of using and it provide various rewards and incentives. The study concluded that it is enhance with the help of smart phones.

Atul Gupta (2018) In his study titled **"UPI Redefining Digital Payments a Critical Review"**states the statistical data about the usage of UPI mobile interfaces. the data was extracted from the government websites like RBI and NPCI. This article discusses the various challenges and opportunities of UPI.

Suma Valley and Hema Divya (2018) in their study on consumer adoption of digital payments in India had indicates that the deployment of technology for digital payments have improved the performance of banking sector and able to achieve the motive cash less country. The study gives emphasis to the percentage of awareness on maximum utilization of technology. Banks should take effective measures in creating awareness towards the effective usage of technology and security.

Shamsher Singh & Ravish rana (2017) In their study reported that adoption of digital payment is influenced by the education level of the consumer. If a person has studied beyond matriculation and internet savvy, he or she will be inclined to use the digital payment mode. it was also found that in the areas/region where education level is high such as Delhi NCR and other metropolitan area, the possibility of acceptance of digital payment is much higher. thegrowth of users of smartphone and internet penetration in such area also facilitated the adoption of digital payment.

Shamsher Singh (2017) concluded that there was significant difference between education of consumer's and adoption of digital payment. The perception of consumers for digital paymenthad positive and significant effect on adoption of digital payment among consumers.

Roy (2018) This study is an attempt to identify, which modes have been emerged as top most for making payment of their transactions. The paper has highlighted the many issues of on-going development happened in the market after demonetization of money which has been announced by the Indian Prime Minister, Narendra Modi on 8 November 2016, of all ₹500 and ₹1000 banknotes. The study has found that Ewallet payment method is more preferred than any other payment methods. Keywords: Preferences, Cashless payments, Demonetization & Payment Mode.

Mishra, Gunasekar, Gupta (2016) This study aims to evaluate product perception, discount buying behaviour of consumer and cash back related perceptions as motivators of online payments. The data collected through an online survey across India was analysed using logistic regression.

Somanjoli Mohapatra (2017) In their study reported that the single interface across all NPCI systems besides creating interoperability and superior customer experience. The UPI seeks to make money transfers easy, quick and hassle free. The proliferation of smart phones, the availability of an online verifiable identity, universal access to banking and the introduction of biometric sensors in phones will proactively encourage electronic payment systems for ushering in a less-cash society in India.

Roshna Thomas, Dr. Abhijeet Chatterjee (2017) The study reported that UPIis a tool with compatible features that can make monetary transactions easy and affordable to the customers though it is difficult to sideline the challenges. A strong Aadhar platform (UID) combined with statistics for the country pertaining to increased financial inclusion, Smartphone adoption and telecom subscription indicate positive prospects for UPI whereas competition from mobile wallets and possible cases of failure from banks to overcome technical errors 20 especially relating to the front-end platform designed by them may negatively impact the scope of this innovative payment tool.

Ravish Rana (2017) In their study reported that adoption of digital payment is influenced by the education level of the customer. If a person has studied beyond matriculation and internet savvy, he or she will be inclined to use the digital payment mode. It was also found that in the areas/region where education level is high such as Delhi NCR and other metropolitan area, the possibility of acceptance of digital payment is much higher. The growth of users of Smartphone and internet penetration in such area also facilitated the adoption of digital payment.

Ved Prakash Gulati (2017) Study focuses about an Internet E-Commerce Payment Gateway is a critical infrastructural component to ensure that such transactions occur without any hitches and in total security over electronic networks. This component has multiple benefits with critical ones being multiple payment options, secure transmission, multicurrency settlements and rapid processing. While there are several payment gateways, the paper proposes a National Internet e-Commerce Payment Gateway that can support all banks and transactions.

Piyush Kumar and Dr. Dhani Shanker Chaubey (2017) This study talks about the period when demonetization took place in India and in those days how digital payment was adopted, about its opportunities, issues and challenges. It talks about how behaviour of Indian society changed due to digital payment.

Joyojit Prakash, Priyank Chandra (2018) Using theoretical work on market and information behavior, we examined environmental pushes for technology adoption against prevalent transactional practices, trust, and control. We propose that the move toward digital payments must be framed within a larger undertaking of technology-driven modernity that drives these initiatives, rather than just the efficiency or productivity gains digital payments.

NN Murthy, BM Mehtre, KPR Rao (2016) The study explains about the various components or subsystems making up the ecommerce super system include Digital Payment Systems, Payment server, Payment Gateway, Wallet, and security systems like Firewall and Intrusion Detection. Digital Payment Systems include payment instruments like e-cheque, and credit cards. EWallet is used to hold different payment instruments. Payment Server and Payment Gateways help to realize the end-to-end payment in the electronic domain. Public 21 Key Infrastructure is the necessary infrastructure required for effective operation of ecommerce in real life applications.

3 Research Methodology

The present study is descriptive in nature. The study examines the customer

insight towards UPI, with special reference to students and employees . The present study

uses primary data. Due to special nature of the study the qualitative data has been

used in this study.

3.1 METHOD OF DATA COLLECTION

Both primary and secondary sources of information were used to gather the study's data.

3.1.1 Primary Sources of Data Collection - The survey method was used as the primary source of data collection for this study. The respondents to the study were given a structured questionnaire to complete. The study's goals and hypotheses were taken into consideration when creating the questionnaire. The questions given to the responders were short and to the point so they could react without difficulty and fast. The poll was performed both online and offline and the questionnaire was created with Google Forms.

The questionnaire was divided into two main sections: questions on the topic and questions about the respondents' age, gender, and other details.

3.1.2 Secondary data collection sources include:

The data that is already accessible on other sites is referred to as secondary sources of data.

Secondary data can be found in a variety of publications from the federal or state governments, as well as publications from other organizations, schools, universities, and journals, books, magazines, and newspapers.

This method of data collection is utilised to learn more about the subject of our study by gathering articles written by authors who have already conducted research on the subject that we have chosen.

Secondary data for this study was gathered from a variety of websites and online journals, which assisted in the completion of the literature review. The utilisation of secondary sources of data collection helped to clarify the research issue.

3.2 Sample Design

Sample design refers to the techniques or methods the researcher used for selecting

items for the sample, it is definite plan to get a sample from a given population.

3.3 Nature of Population

A research population is also known as well-defined collection of individuals or objects

Known to have similar characteristics. All individuals or objects within certain

Population usually have a common, binding characteristic or trait.

In this study randomly selected.

3.4 Sample Unit

To study the whole students and employees who are using UPI apps and arrive at a conclusion would be impractical as it is difficult to include the entire students in the study. We use Google forums to collect data around Andhra Pradesh

3.5 Method of Sampling

Sampling is a process used in statistical analysis in which a predetermined number of

Observations are taken from a larger population.

In a simple random sample, every member of the population has an equal chance of

Being selected.

3.6 Size of Sample

The sample size of the study is 121 respondents from age group above 18 and deferent groups of people like students and employees etc.

3.7 Tools for Analysis

A questionnaire is created in order to receive the necessary response required from the samples to archive the research objectives. Data are represented using tables and pie chart, bar graph.

3.8 Limitations

Every research has some limitations because it is impossible to cover every part of the subject, and there are also variables and uncontrollable circumstances that can lead to restrictions in a study. The study's limitations make the research endeavour less accurate. Here are some of the study's limitations:

Some of the respondents did not accurately and with interest respond to the questions, so this research was conducted in a shorter amount of time and with just a small number of geographic locations taken into consideration.

The research would have been accurate if the sample size had been larger. The sample size was tiny and constrained.

The research could have gone further because the scope of the conversation was so constrained. and the study is confined to a sample of 121 people.

4. DATA ANALYSIS

The fundamental characteristics of the data in a study are described using descriptive statistics. Simple summaries of the sample and the measurements are provided. They serve as the foundation for almost any quantitative analysis of data, together with sample visual analysis.

Differential statistics often distinguishes between descriptive statistics and these.

Simply put, descriptive statistics describe what the data is or what it reveals. Quantitative descriptions are presented in an understandable fashion using descriptive statistics. There may be numerous precautions in place. The use of descriptive statistics makes it possible to rationally simplify enormous amounts of data.

Each descriptive stat condenses a large amount of information into a shorter summary.

The phrase descriptive statistics is used to describe data analysis that aids in meaningfully describing, displaying, or summarising data. Descriptive statistics do not, however, allow us to draw any inferences from any possible hypotheses. They serve only as a means of describing our data. Tools used to describe the features of a single variable, such as frequency, percentage, etc., are known as descriptive statistical tools.

The collected data was analyzed by using pie-charts and the analysis of the collected data is given bellow. Data analysis helps us to determine whether our hypothesis is accepted or not. And it is also useful to determine whether all our objectives are fulfilling or not. Data analysis helps us to draw a conclusion or a result to our research problem.

Overall Analysis of UPI payment application on the basis of survey

Total Respondents- 100 respondents

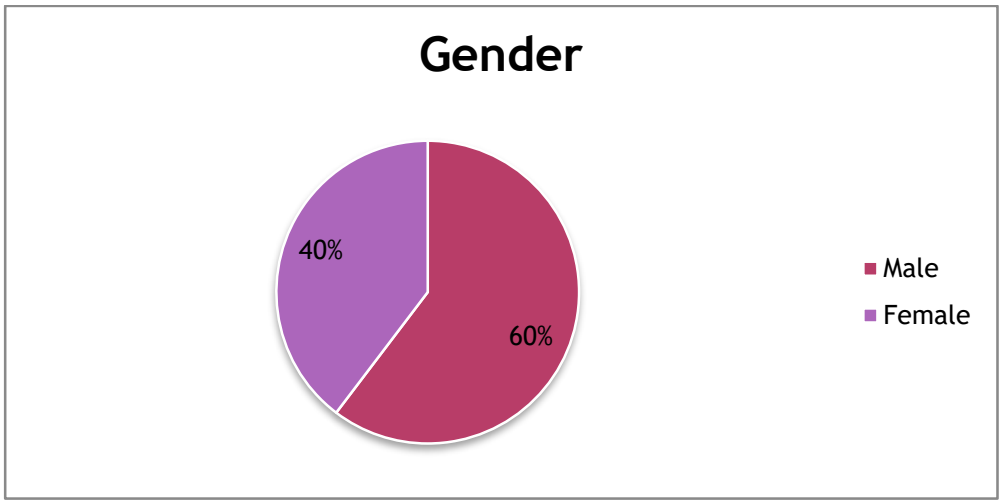
4.1 Table

Table showing gender of the respondent

Particulars	No of respondents	Percentage
Male	73	60.33%
Female	48	39.66%
Total	121	100%

4.1 Figure

Figure showing gender of the respondent



INTERPRETATION

According to the total number of respondents in the data, 60 percent were males and 40 percent were females. This shows that that are more male respondents as compared to female respondents in our study.

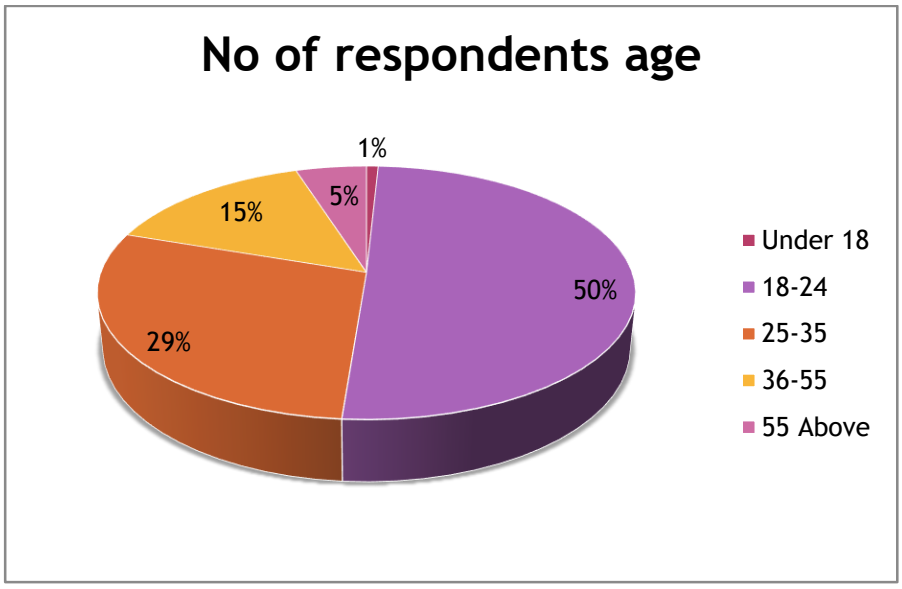
4.2 Table

Table showing the age of the respondents

Particulars	No of respondents	Percentage
Under 18	1	0.82
18-24	61	50.41%
25-35	35	28.92%
36-55	18	14.87%
55 Above	6	4.95%
Total	121	100%

4.2 Figure

Figure showing the age of the respondents



INTERPRETATION

Table 4.2 shows that out of 121 respondents, 61 of respondents are in the 18–24 age range. 35 of people are in the 25–35 age range, 18 are in the 36-55 age range, 6 are in the 55 above age range and 1 respondent is under 18. Hence, most the responders range in age from 18 to 24.

The percentage of the number to respondents in each category is

The percentage of responders aged below 18 is 0.82%

The percentage of responders aged 18 to 24 is 50.41%.

The percentage of respondents aged 25 to 35 is 28.92%.

The percentage of responders aged 36 to 55 is 14.87%.

The percentage of respondents aged 55 above is 4.95%.

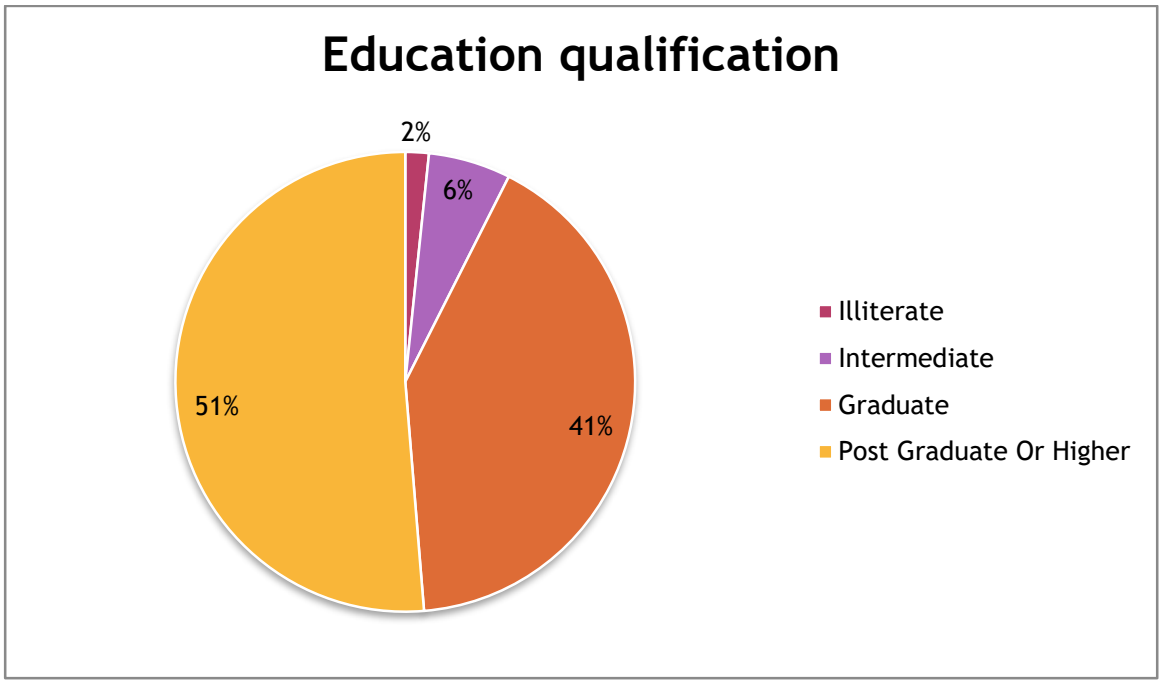
4.3 Table

Table showing the Education qualification of respondent's

Particulars	No of respondents	Percentage
Illiterate	2	1.65%
Intermediate	7	5.78%
Graduate	50	41.2%
Post Graduate Or Higher	62	51.23%
Total	121	100%

4.3 Figure

Figure showing the Education qualification of respondent's



INTERPRETATION

According to table 4.3, just 5.78%of the 107 respondents are intermediate level, 41.2% are graduate level, 51.23% are post graduate or higher level and remaining respondents are illiterates. The majority of responses are postgraduates.

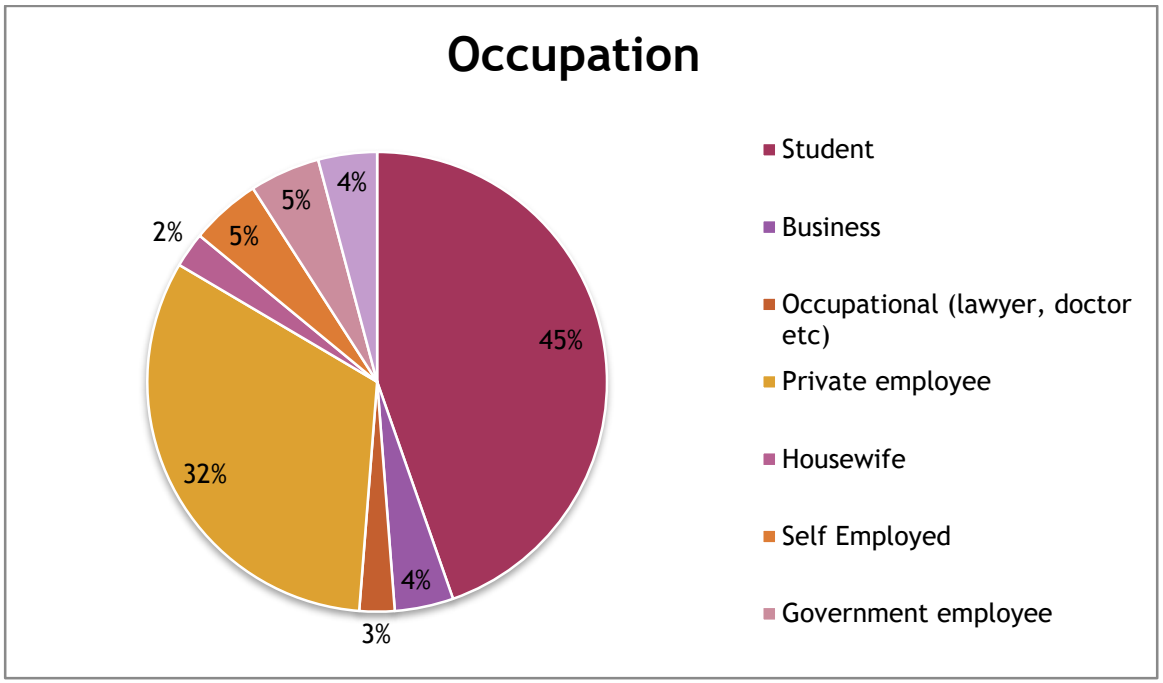
4.4 Table

Table showing occupational status of respondents

Particulars	No of respondents	Percentage
Student	54	44.62%
Business	5	4.13%
Occupational (lawyer, doctor etc)	3	2.47%
Private employee	39	32.23%
Housewife	3	2.47%
Self Employed	6	4.95%
Government employee	6	4.95%
Unemployed	5	4.13%
Total	121	100%

4.4 Figure

Figure showing Occupational status of respondent's



INTERPRETATION

Table 4.4 indicates that out of 121 responses, 4.13% are in business, 4.95% work for the government, 2.47% are housewives, 32.23% are employed by private companies, and 2.47% are professionals (such as lawyers and doctors). 4.95% of people are self-employed, while 44.62% are students.

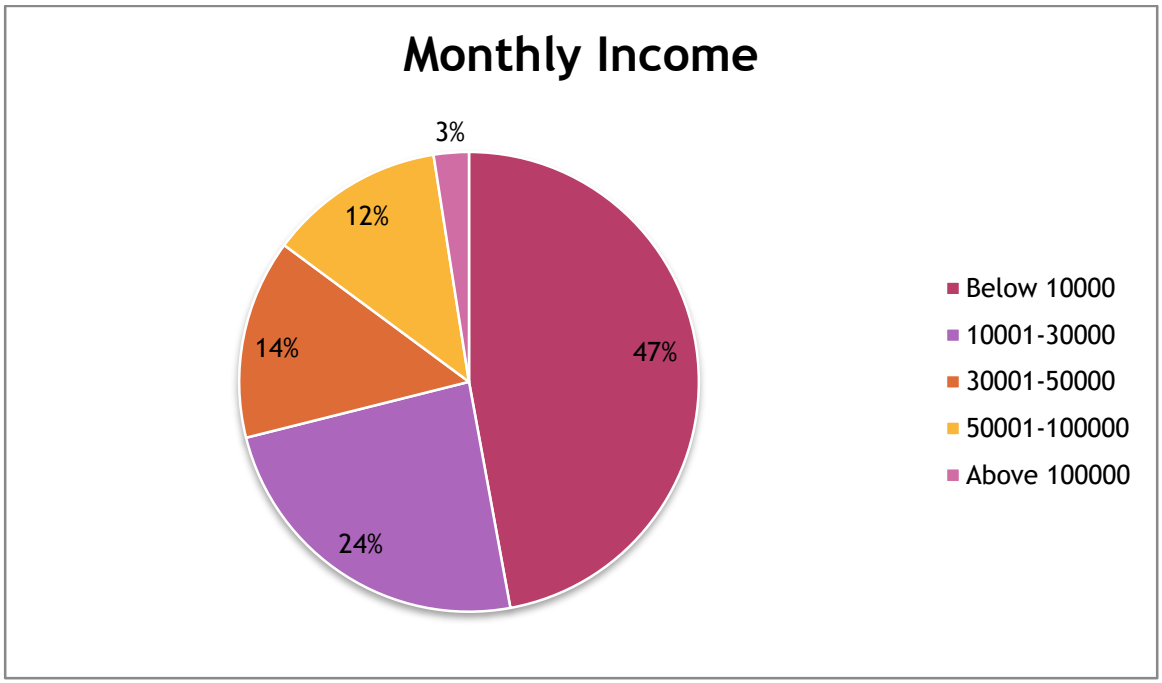
4.5 Table

Table showing the monthly income of respondents

Particulars	No of respondents	Percentage
Below 10000	57	47.10%
10001-30000	29	23.96%
30001-50000	17	14.04%
50001-100000	15	12.39%
Above 100000	3	2.47%
Total	121	100%

4.5 Figure

Figure showing the monthly income of respondents



INTERPRETATION

According to the table, out of 121 respondents, 47.10% have monthly incomes below Rs.10000, 23.96% have monthly incomes between Rs.10000 and Rs.30000, 14.04% have monthly incomes between Rs.30000 and Rs.50000, 12.39% have monthly incomes between Rs.50000 and Rs.100000, and the remaining 2.47% have monthly incomes over Rs.10000. As a result, the majority of respondents have monthly incomes of less than Rs. 10000.

4.6 Are you aware of UPI (Unified Payments Interface)?

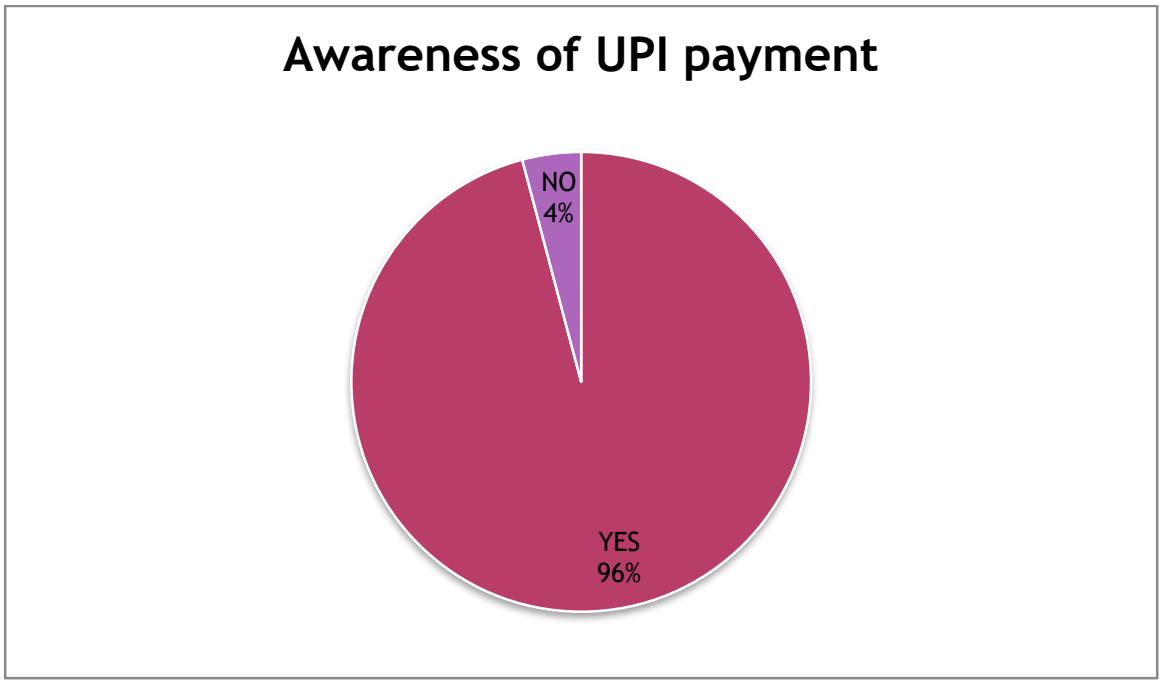
4.6 Table

Table showing the Awareness of UPI payment of respondents

Particulars	No of respondents	Percentage
YES	116	95.86%
NO	5	4.13%
Total	121	100%

4.6 Figure

Figure showing the awareness of UPI of respondents



INTERPRETATION

The total number of respondents who have aware UPI payment is 121 respondents. Out of 100%, 95.86% of respondents are familiar with the aware of UPI payment applications and 4.13% of respondents are not aware of UPI payment applications. This means that majority of our respondents have a good knowledge and aware about the UPI.

4.7 Have you ever used UPI for making payments?

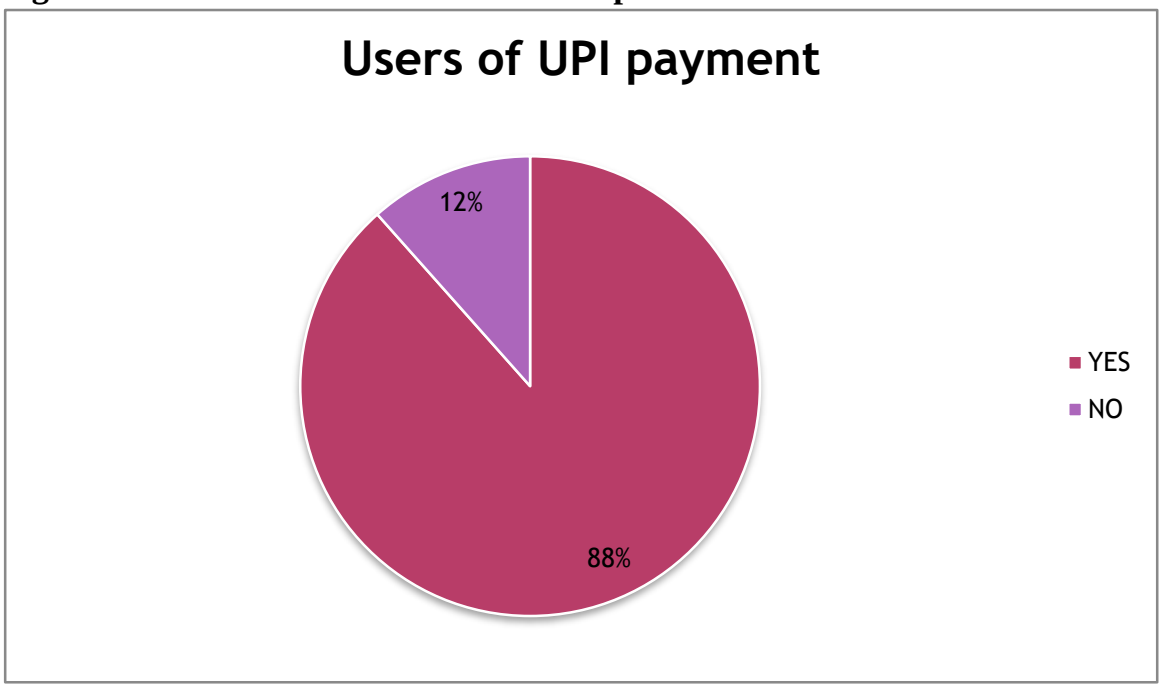
4.7 Table

Table showing respondents' UPI payment users

Particulars	No of respondents	Percentage
YES	107	88.42%
NO	14	11.57%
Total	100	100%

4.7 Figure

Figure shows the users of UPI In total respondents



INTERPRETATION

The pie chart in the accompanying diagram displays the answers to the question about whether respondents have ever used UPI to make payments. The response was given with the following options: Yes and No. -Only 14 of the respondents hadn't utilised UPI to make payments, bringing the total number of respondents who had done so 121.Out of 100% of respondents, 88.42% were aware of and had used UPI, whereas 11.57% had never used UPI. Since UPI is becoming more and more well-known every day, this indicates that our respondents are well-versed in its use for making payments.

4.8 Which UPI app do you use for making payments?

4.8 Table

Table showing UPI Applications used by respondents

Particulars	No of respondents	Percentage
Using single app	37	34.57%
Multiple app users	70	65.65%
Total	107	100%

4.8.1 Table

Table showing single UPI Application used by respondents

Particulars	No of respondents	Percentage
Google Pay	3	8.1%
Phone Pe	31	83.7%
Paytm	3	8.1%
Total	37	100%

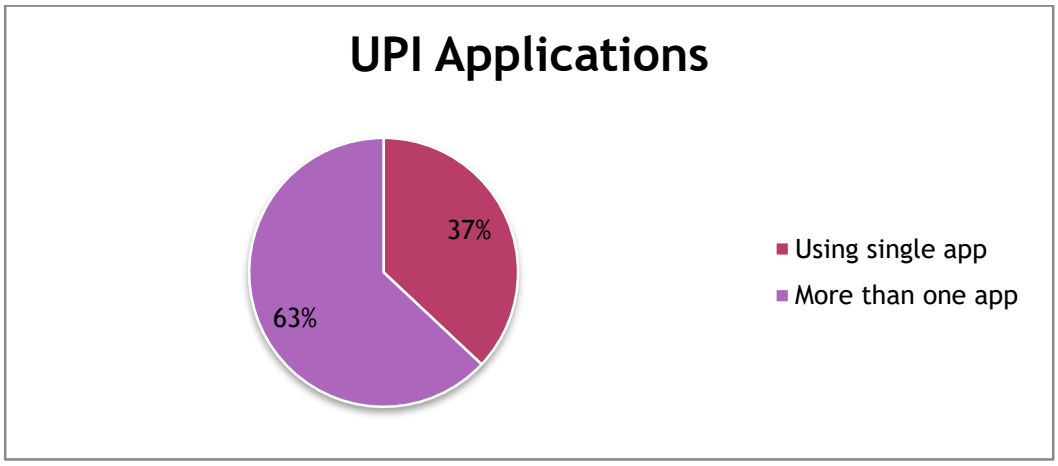
4.8.2 Table

Table showing multiple UPI Applications used by respondents

Particulars	No of respondents	Percentage
Google Pay Phone Pe Paytm BHIM UP	7	10%
Google Pay Phone Pe Paytm	23	32.85%
Google Pay Phone Pe BHIM UPI	4	5.71%
Google Pay Phone Pe	27	38.57%
Google Pay Paytm	5	7.14%
Phone Pe Paytm	4	5.71%
Total	70	100%

4.8 Figure

Figure showing UPI Applications used by respondents

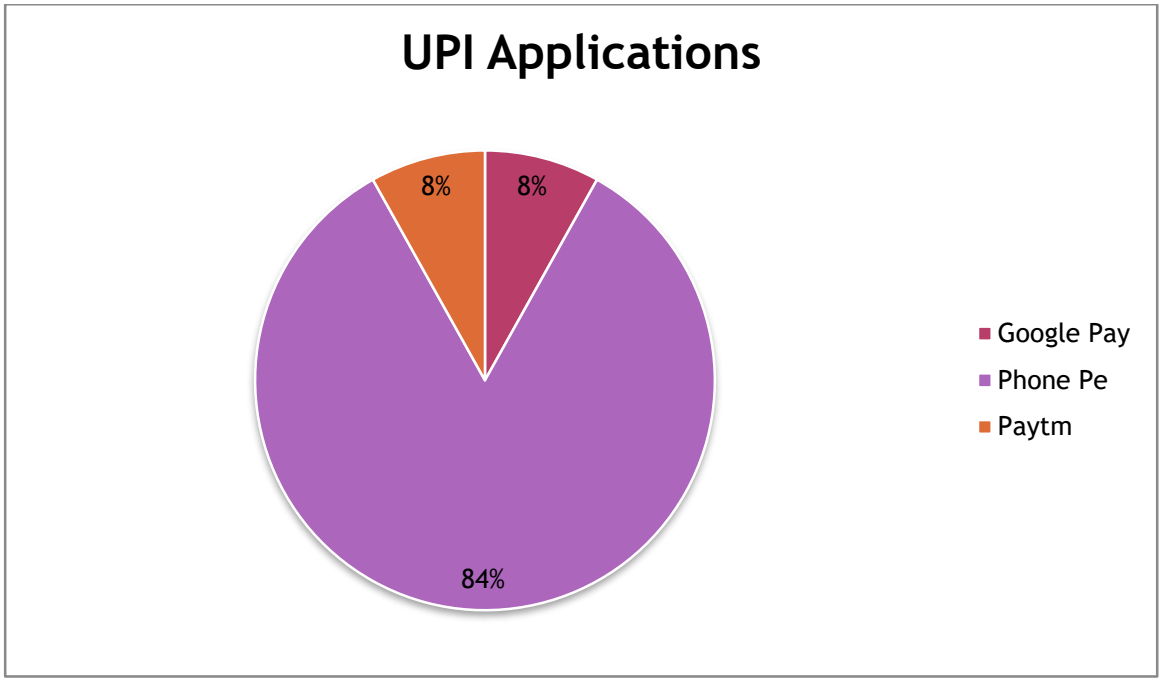


INTERPRETATION

Table4.8 shows that of the respondents who use UPI apps, 34.57% of them use a single UPI app, and the remaining 65.55% use multiple UPI apps. It is clear that most of the respondents use multiple UPI apps.

4.8.1 Figure

Figure showing single UPI Applications used by respondents

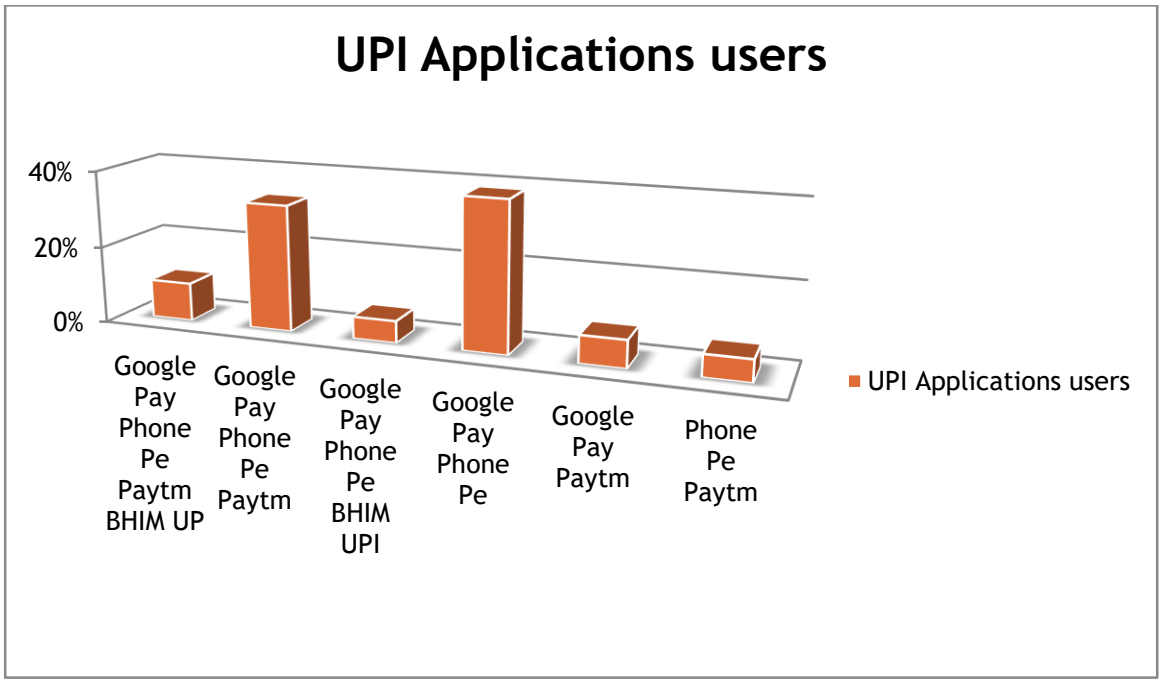


INTERPRETATION

Table1.8.1 shows that of the respondents who only use one app, 83.7% of them use Phone Pe, 8.1% use Google Pay, and the remaining 8.1% use Paytm. It is clear that most of single app use respondents use phone pe.

4.1.2 Figure

Figure showing multiple UPI Applications used by respondents



INTERPRETATION

Table4.8.1 shows that of the respondents who only use one app, 83.7% of them use Phone Pe, 8.1% use Google Pay, and the remaining 8.1% use Paytm. It is clear that most of single app use respondents use phone pe.

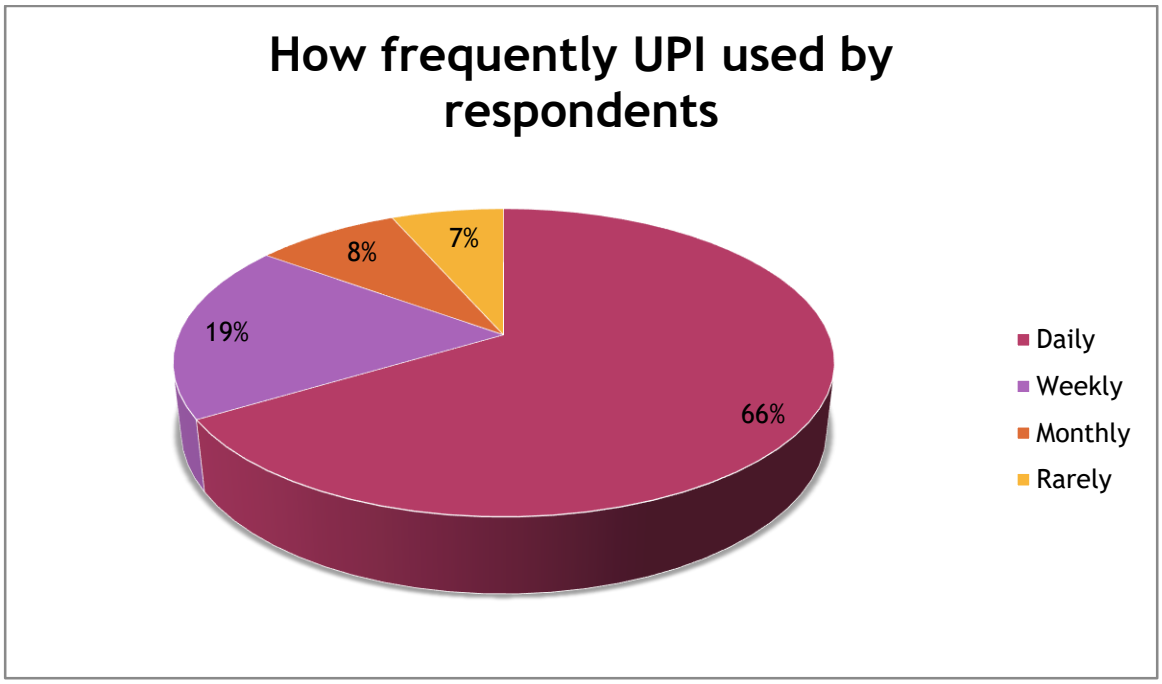
From table 4.8.2 , it is clear that out of multiple app use respondents, 10% of the above respondent's uses Google Pay,Phone Pe,Paytm,BHIM UPI, 32.85% uses google pay, Phone PePaytm, 5.71% of the respondents use Google Pay ,Phone Pe ,BHIM UPI, 38.57% of the respondents use Google Pay, Phone Pe, 7.14% of the respondents useGoogle Pay,Paytm, 5.71% of the respondents usePhone Pe ,Paytm. It is clear that most of multiple app use respondents use phone pe.

4.9 How frequently do you use UPI for making payments?

4.9 Table

Table showing how frequently UPI used by respondents

Particulars	No of respondents	Percentage
Daily	71	66.35%
Weekly	20	18.69%
Monthly	9	8.41%
Rarely	7	6.54%
Total	107	100%



INTERPRETATION

Table 4.9 shows that out of 107 respondents that use UPI, 66.35% use it daily, 18.69% use it weekly, 8.41% use it monthly, and the other 6.54% use it infrequently. Undoubtedly, the majority of users use UPI Daily.

4.10 What do you think about the security of UPI transactions?

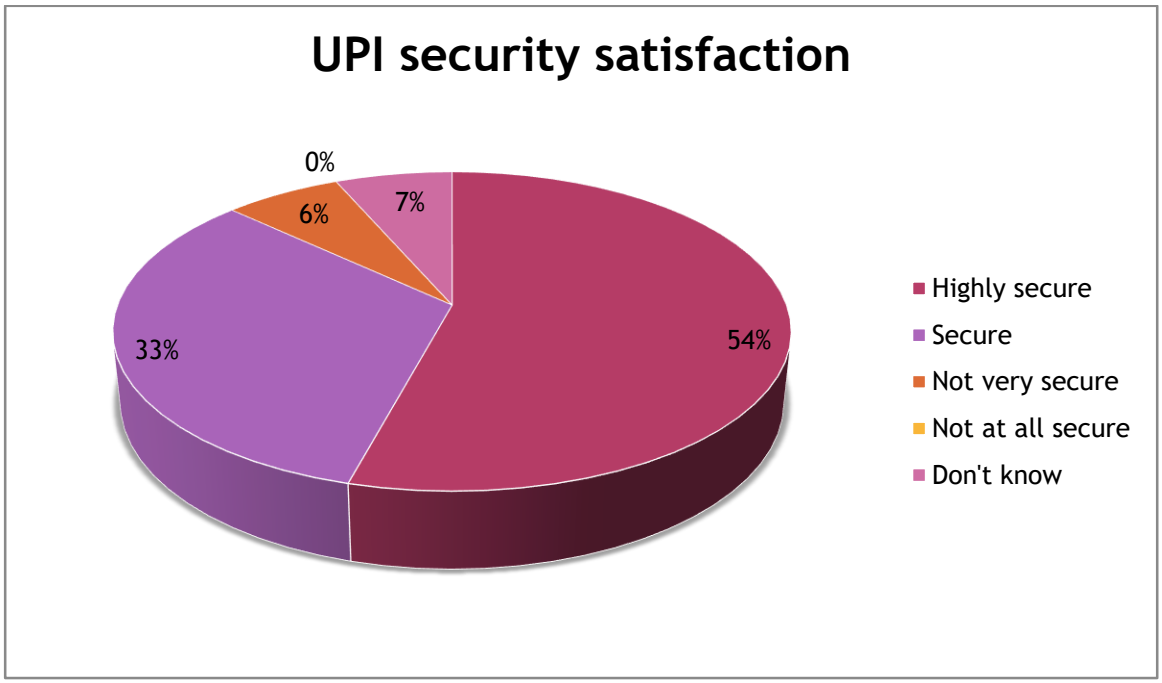
4.10 Table

Table showing UPI security satisfaction by respondents

Particulars	No of respondents	Percentage
Highly secure	58	54.20%
Secure	35	32.71%
Not very secure	7	6.54%
Not at all secure	-	-
Don't know	7	6.54%
Total	107	100%

4.10 figure

Figure showing UPI security satisfaction by respondents



INTERPRETATION

Table 1.10 shows that, of the 107 respondents, 54.20% of users strongly agree that UPI is highly secure, 32.71% agree that UPI is secure, 6.54%believe that UPI is not very secure, and 6.54% are unsure of UPI's security. Most respondents firmly concur that UPI payment is completely secure.

4.11 What is your level of satisfaction with UPI as a payment method?

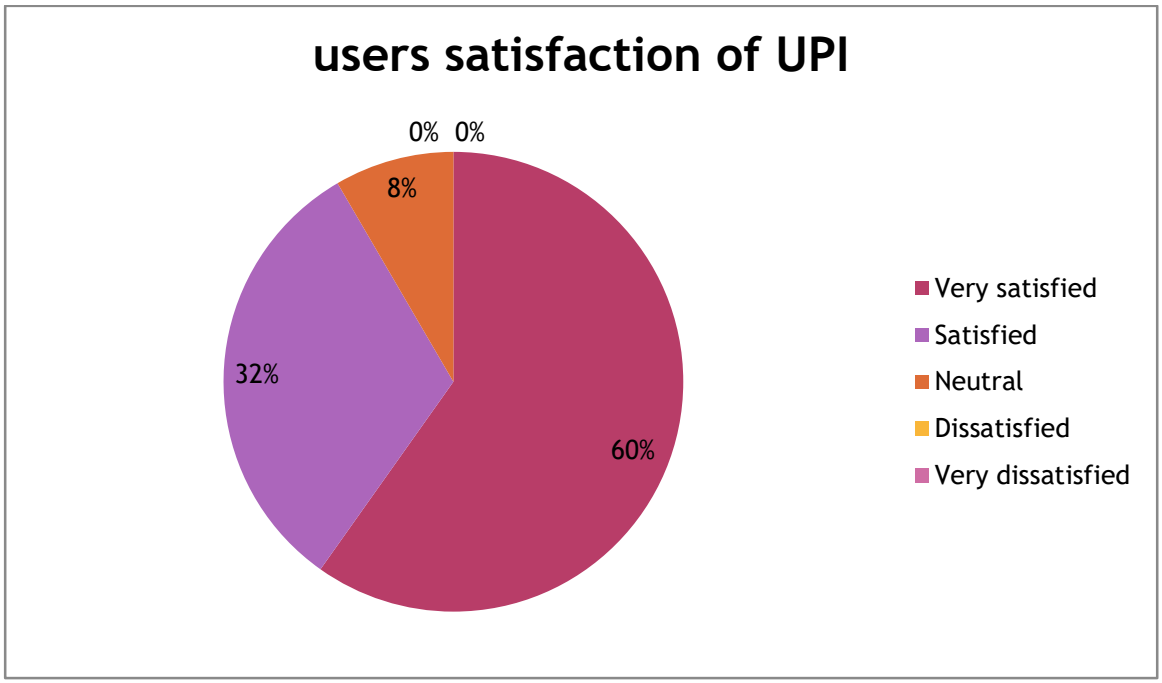
4.11 Table

Table showing the users satisfaction of UPI payment method

Particulars	No of respondents	Percentage
Very satisfied	64	59.81%
Satisfied	34	31.77%
Neutral	9	8.41%
Dissatisfied	-	-
Very dissatisfied	-	-
Total	107	100%

4.11 Figure

Figure showing the users satisfaction UPI payment method



INTERPRETATION

According to Table 4.11, out of 100 responses, 59.81% of users strongly agree that using UPI payment services are very satisfied, 31.77% agree that using UPI payment services are them satisfied, and 8.41% are ambivalent about using UPI payment services. Most survey participants firmly concur that they are satisfied with UPI payment services.

4.12 Do you think UPI is more convenient than other payment methods?

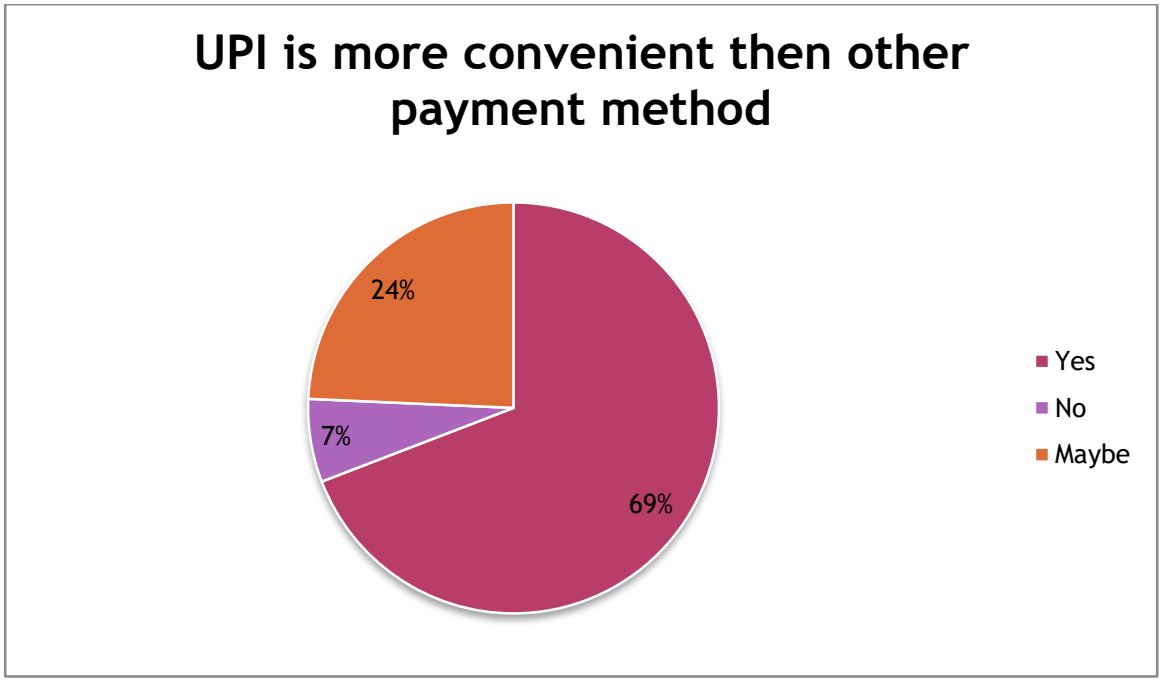
1.12 Table

Table showing UPI is more convenient then other payment method

Particulars	No of respondents	Percentage
Yes	74	69.15%
No	7	6.54%
Maybe	26	24.29%
Total	107	100%

4.12 Figure

Figure showing UPI is more convenient then other payment method



INTERPRETATION

From Table 4.11, it is clear that out of 107 respondents, 69.15% of users strongly agrees that UPI payment convenient then other payment methods , 6.54% agrees to UPI payment services is not convenient then other payment method , 24.29% is neutral about the UPI payment services. Majority of respondents strongly agree that UPI payment services are more convenient then other payment methods.

4.13 What are the payment methods used before UPI?

4.13 Table

Table showing the respondents which payment method was used before UPI

Particulars	No of respondents	Percentage
Only cash	46	42.99%
Only Bank transfers	7	6.54%
Only Cards	4	3.73%
Only Mobile Banking	4	3.73%
Cash, Bank transfers	3	2.80%
Cash, Cards	4	3.73%
Cash, Mobile Banking	2	1.86%
Cash, Internet Banking	3	2.80%
Bank transfers, Cards	3	2.80%
Cards, Internet Banking	1	0.93%
MobileBanking,Internet Banking	3	2.80%
Cash,Cheques,Bank transfers	4	3.73%
Cash, Cheques ,Mobile Banking	2	1.86%
Cash, Bank transfers, Cards	5	4.67%
Cash, Bank transfers, Mobile Banking	2	1.86%
Cash, Bank transfers Internet ,Banking	2	1.86%
Cash Cards Mobile Banking Internet Banking	2	1.86%
Cash Bank transfers Cards Internet Banking	3	2.80%
Cash Cheques Bank transfers Cards	3	2.80%
Cash Bank transfers Cards Mobile Banking Internet Banking	2	1.86%
Cash Cheques Bank transfers Cards Mobile Banking Internet Banking	1	0.93%
Cash Cheques Bank transfers Cards Postal orders Mobile Banking Internet Banking	1	0.93%
Total	107	100%

4.13.1 table

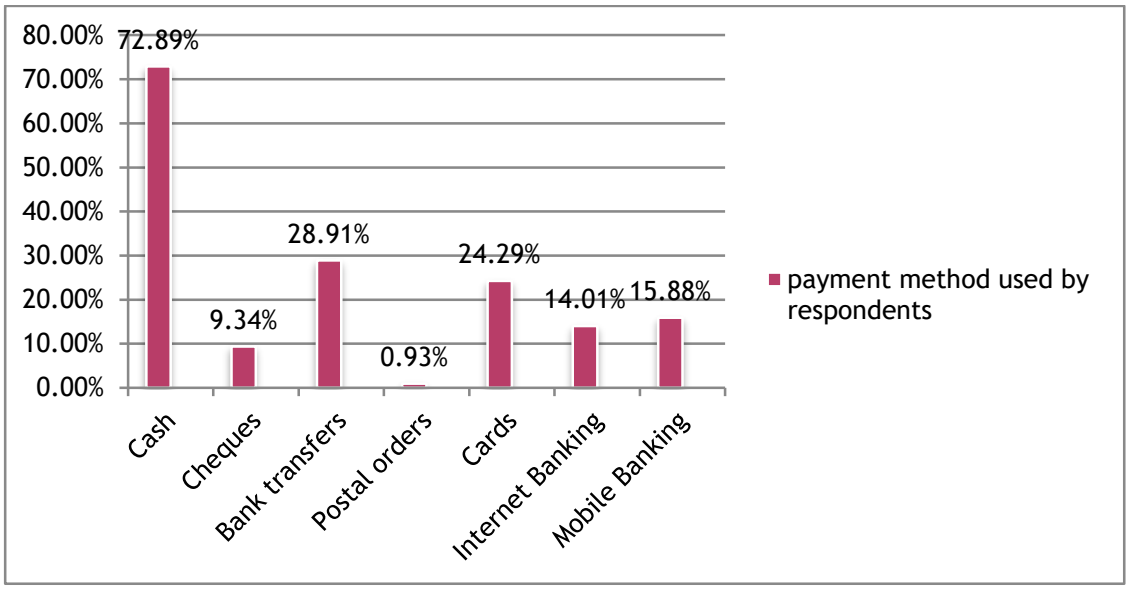
Table showing the data of percentage other payment method used by respondents by each option

***multiple options can answer**

Particulars	No of respondents(107)	Percentage (100%)
Cash	78	72.89%
Cheques	10	9.34%
Bank transfers	31	28.91%
Postal orders	1	0.93%
Cards	26	24.29%
Internet Banking	15	14.01%
Mobile Banking	17	15.88

4.13 Figure

Figure showing the data of percentage other payment method used by respondents by each option



INTERPRETATION

From Table 4.13 and 4.13.1 , it is clear that out of 100 respondents, 72% of the respondents was using the cash payment method before the UPI ,and 25% of responds was used the bank transfers' before the UPI, and 21% respondents use cards before the UPI,15 % of respondents was use mobile banking before the UPI,13% of respondents was use the internet banking ,9% of respondents was use the cheques before the UPI, and finally 1%of respondents was use the postal orders .According to the data we collected, most of the respondents used cash before UPI.

4.14 What do you think are the main advantages of using UPI over other traditional payment methods?

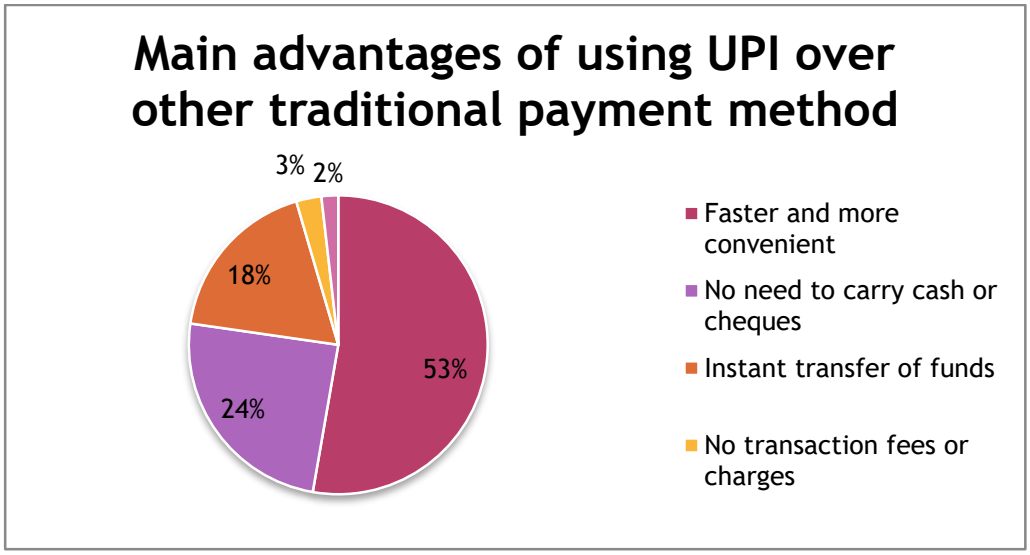
4.14 Table

Table showing main advantages of using UPI over other traditional payment methods

Particulars	No of respondents	Percentage
Faster and more convenient	58	54.20%
No need to carry cash or cheques	27	25.23%
Instant transfer of funds	20	18.69%
No transaction fees or charges	3	2.80%
Carry less use more with comfort	2	1.86%
Total	107	100%

4.14 Figure

figure showing the main advantages of using UPI over other traditional payment



INTERPRETATION

Table 4.14 and shows that out of 107 respondents, 54.20 percent said that UPI was faster and more convenient than other payment methods. Another 25.23 percent said that UPI made it unnecessary to carry cash or checks, and 18.69% said that instantaneous fund transfers were another benefit. 2.80 percent said that UPI's no transaction fees or other fees was a benefit. The majority of respondents thought UPI was quick and easy.

4.15 What do you think are the main disadvantages of using UPI compared to other traditional payment methods?

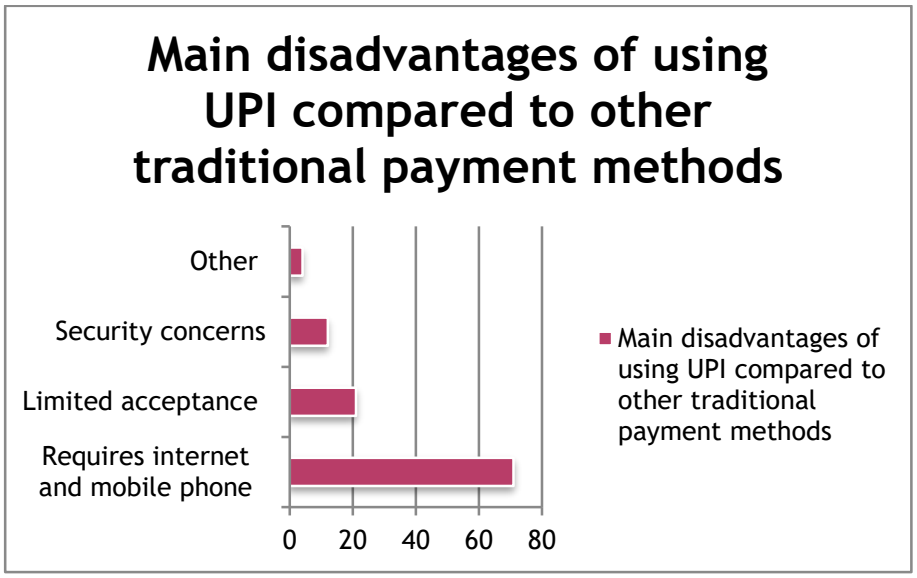
4.15 table

Table showing the data of main disadvantages' of using UPI over the traditional payment methods

Particulars	No of respondents	Percentage
Requires a mobile phone and internet connection	71	66.5%
Limited acceptance by merchants or Individuals	21	19.62%
Security concerns	12	11.21%
Other	4	3.73%
Total	107	100%

4.15 Figure

Figure showing the data of the disadvantages of UPI over the traditional payment methods



INTERPRETATION

From Table 4.15 and, it is clear that out of 107 respondents, 66.5% of the respondents was say UPI require mobile phone and it's a disadvantages compare to traditional payment methods, and 19.62% of responds was say UPI has limited acceptance it's an disadvantage of UPI, and 11.21% respondents say security concerns is another disadvantage of UPI, 3.73% of respondents was consider UPI have some other advantages. Most of the respondents was feel about UPI require internet and its has limited acceptance.

4.16How has your experience been with using UPI compared to other traditional payment methods?

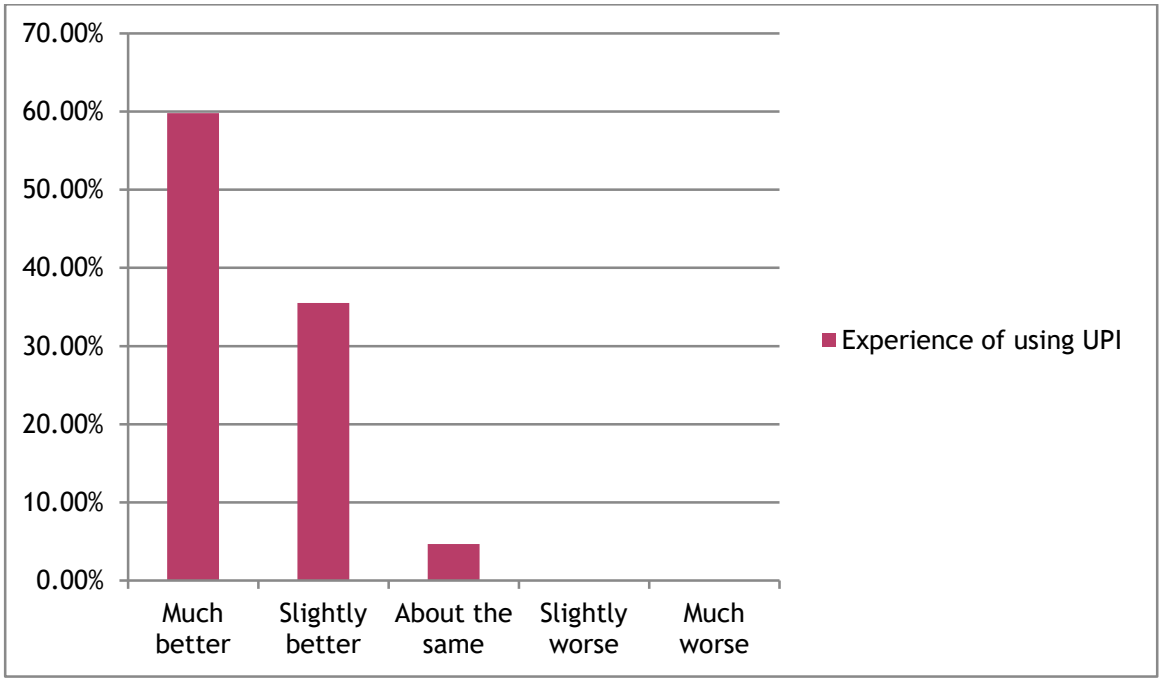
4.16 Table

Table showing the data of respondent's experience of using UPI over the traditional payment methods

Particulars	No of respondents	Percentage
Much better	64	59.81%
Slightly better	38	35.51%
About the same	5	4.67%
Slightly worse	-	-
Much worse	-	-
Total	107	100%

4.16 figure

Figure showing the data of respondent's experience of using UPI over the traditional payment methods



INTERPRETATION

From Table 4.16 and, it is clear that out of 107 respondents, 59.81%of the respondents say UPI was much better than other traditional payment services, and 35.51% of respondents was said UPI was slightly better than other traditional payment services, and other 4.67% of respondents consider UPI same as other payment methods. Most of the respondents was consider UPI was much better than other traditional payment methods.

4.17 How do you feel about the level of privacy offered by UPI compared to other traditional payment methods?

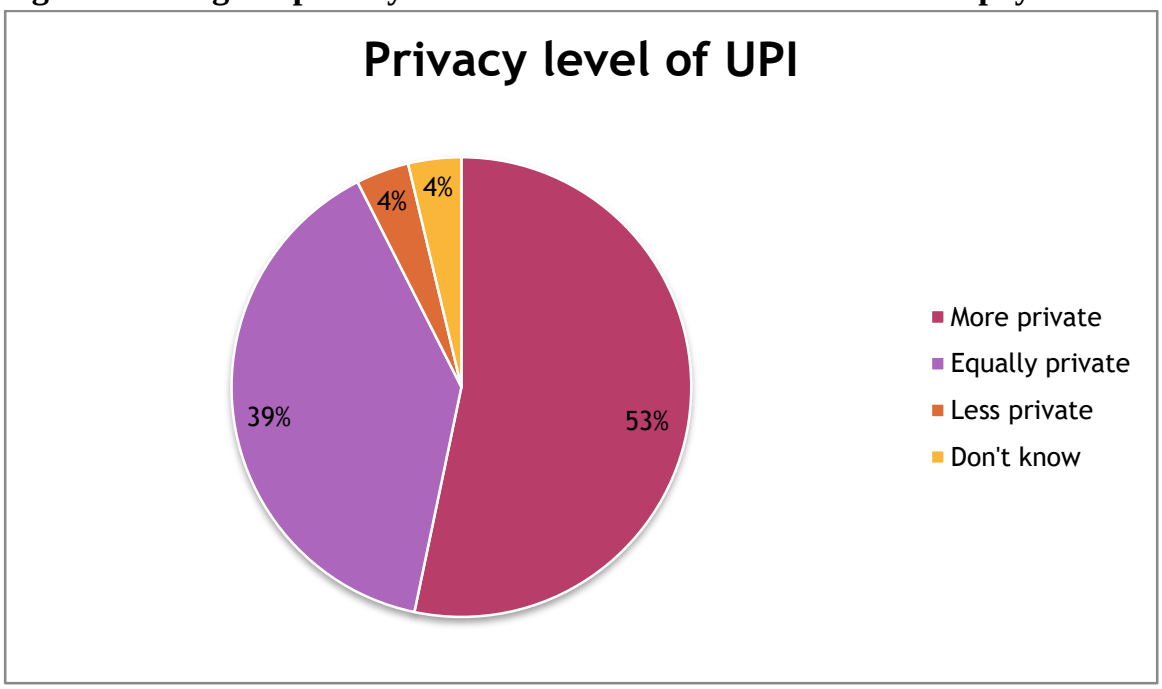
4.17 table

Table showing the privacy level of UPI over the other traditional payment methods

Particulars	No of respondents	Percentage
More private	57	53.27%
Equally private	42	39.25%
Less private	4	3.73%
Don't know	4	3.73%
	107	100%

4.17 Figure

Figure showing the privacy level of UPI over the other traditional payment methods



INTERPRETATION

According to Table 4.17, of the 107 respondents, 53.27 percent believe UPI to be more private than other traditional payment methods, 39.25 percent believe UPI to be equally private as other traditional payment methods, 3.7 percent believe UPI to be less private than other traditional payment methods, and 3.7 percent are unsure of UPI's privacy level. Most individuals believe that UPI is more private than other conventional payment options.

4.18 How do you feel about the level of security offered by UPI compared to other traditional payment methods?

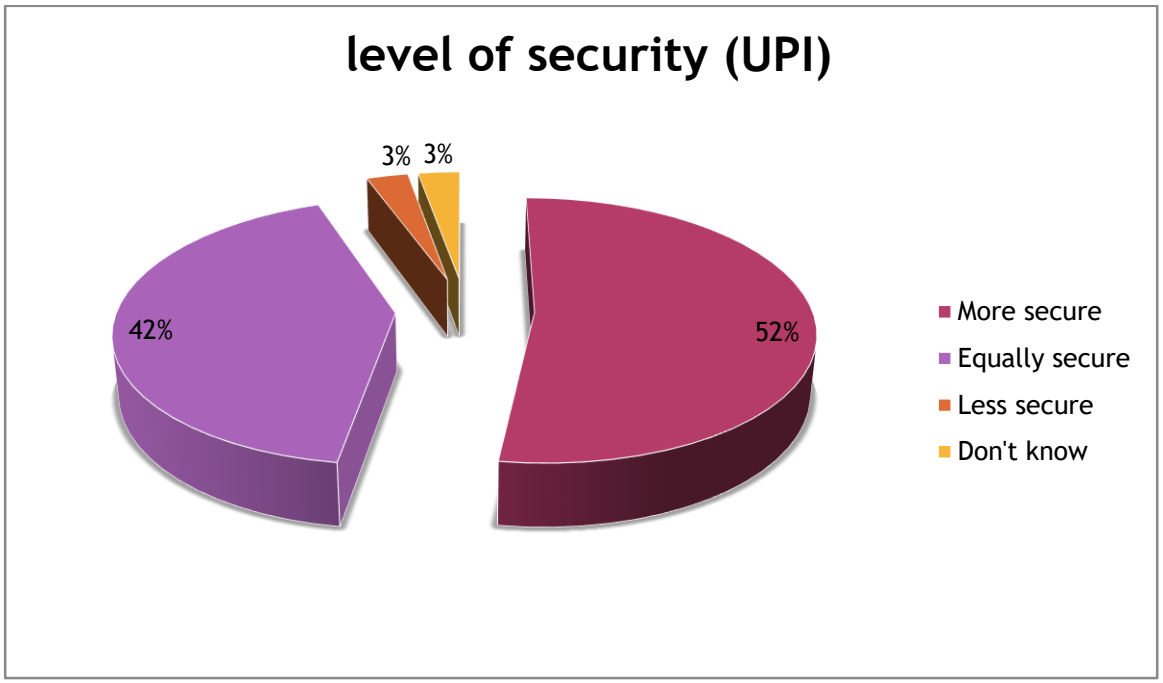
4.18 Table

Table showing the data of the level of security offered by UPI compared to other traditional payment methods

Particulars	No of respondents	Percentage
More secure	56	52.33%
Equally secure	45	42.05%
Less secure	3	2.80%
Don't know	3	2.80%
	107	100%

4.18 Figure

Figure showing the data of level of security offered by UPI compared to other traditional payment methods



INTERPRETATION

Based on Table 4.18, out of 107 respondents, 52.33% believe that UPI is more secure than other traditional payment methods, 42.05% believe that it is equally secure as other traditional payment methods, 2.80% believe that UPI is less secure, and the remaining 2.80% are unsure of UPI's security level. The majority of respondents said UPI was safer than other conventional payment options.

4.19 Have you ever used UPI to pay utility bills?

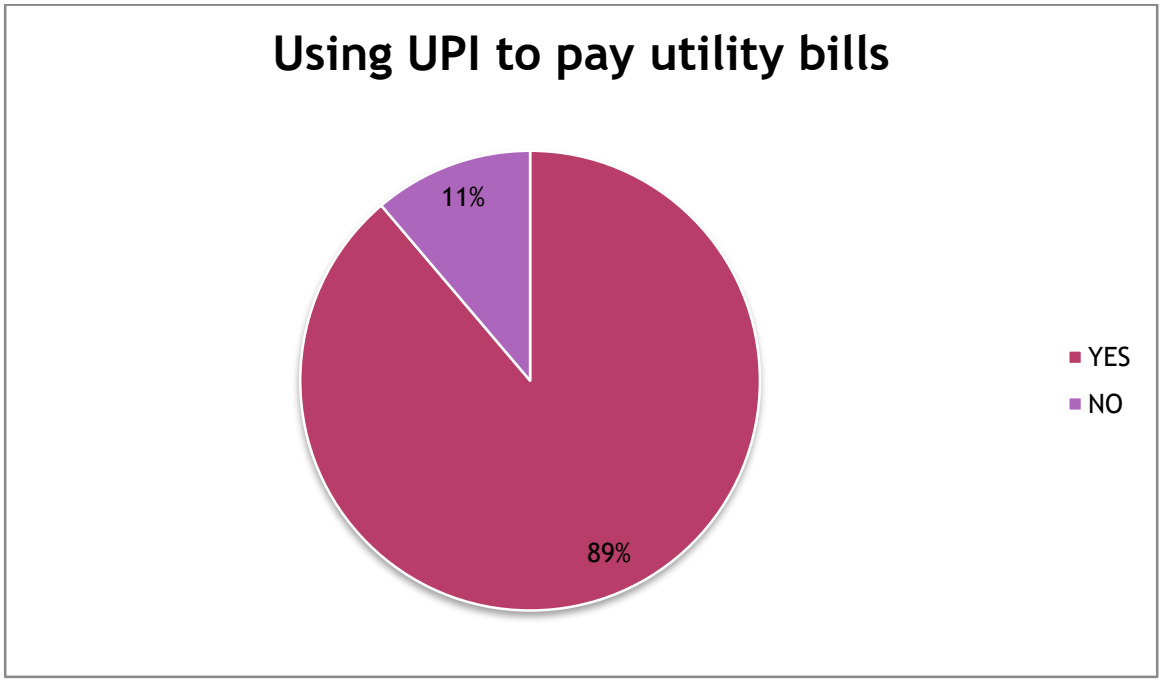
4.19 table

Table showing data of respondents using UPI to pay utility bills

Particulars	No of respondents	Percentage
YES	95	88.78%
NO	12	11.21%
Total	107	100%

4.19 Figure

figure showing data of respondents using UPI to pay utility bills



INTERPRETATION

From Table 4.19 and, it is clear that out of 107 respondents, 88.78% of respondents was using the UPI to pay utility bills and 11.29% of people was not paying utility bills though UPI.

4.19.1 What are the utility bills you are used to pay through UPI

4.19.1 Table

Table showing data of respondents using UPI to pay utility bills

Particulars	No of respondents	Percentage
Mobile phone bill	15	15.78%
Internet bill	2	2.10%
Water bill	2	2.10%
Electricity bill	10	10.52%
Internet bill Mobile phone bill	4	4.21%
Electricity bill Mobile phone bill	10	10.52%
Internet bill Mobile phone bill Cable or satellite TV bill	1	1.05%
Electricity bill Mobile phone bill Cable or satellite TV bill	4	4.21%
Electricity bill Internet bill Mobile phone bill	7	7.36%
Electricity bill Gas bill Mobile phone bill	2	2.10%
Electricity bill Gas bill Internet bill	1	1.05%
Electricity bill Internet bill Mobile phone bill Cable or satellite TV bill	9	9.47%
Electricity bill Gas bill Internet bill Mobile phone bill	2	1.86%
Electricity bill Water bill Internet bill Mobile phone bill	2	2.10%
Electricity bill Gas bill Internet bill Mobile phone bill Cable or satellite TV bill	2	2.10%
Electricity bill Water bill Internet bill Mobile phone bill Cable or satellite TV bill	1	1.05%
Electricity bill Water bill Gas bill Internet bill Mobile phone bill	5	5.26%
Electricity bill Water bill Gas bill	15	15.78%

Internet bill Mobile phone bill Cable or satellite TV bill		
	95	100%

4.19.2 Table

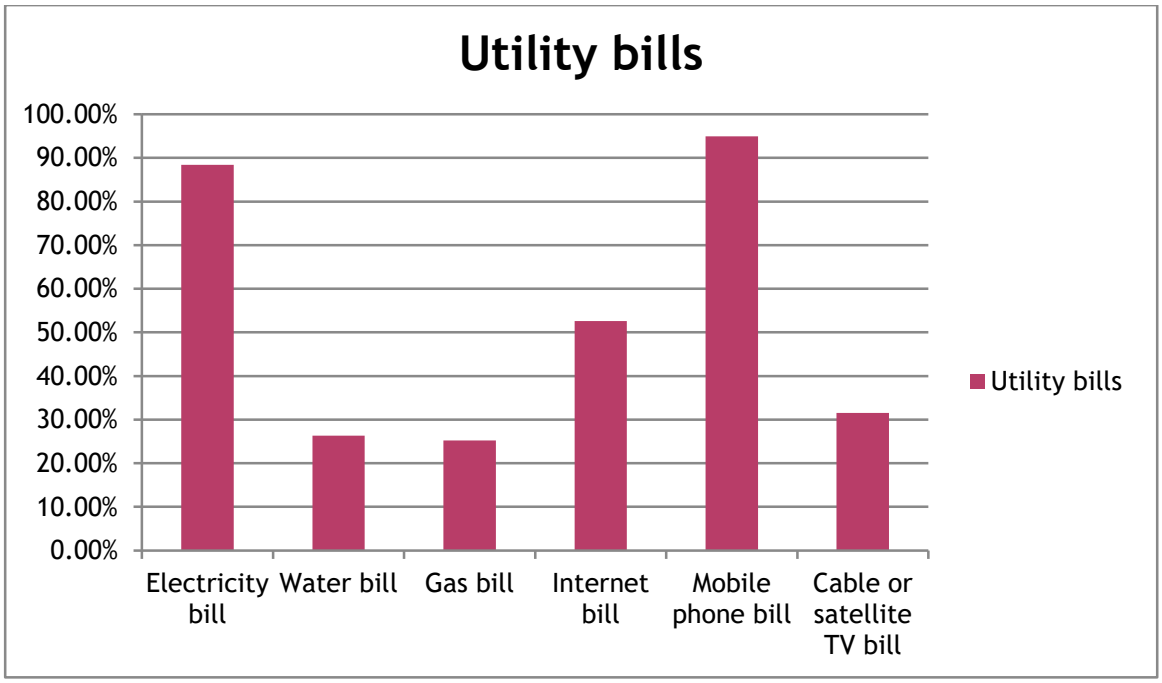
Table showing data of utility bills paid by respondents each option

***multiple options can answer**

Particulars	No of respondents	Percentage
Electricity bill	84	88.42%
Water bill	25	26.31%
Gas bill	24	25.26%
Internet bill	50	52.63%
Mobile phone bill	90	94.93%
Cable or satellite TV bill	30	31.57%

4.19.2 Figure

Figure showing data of utility bills paid by respondents each option



INTERPRETATION

From Table 4.19, it is clear that out of 107 respondents, 88.78% of respondents was using the UPI to pay utility bills and 11.29 of people was not paying utility bills though UPI.

From table 4.19.1, 4.19.2, it clear that 88.78%of respondents using UPI for utility bills , using UPI payment in different types of utility bills they're, 94.93% of respondents was using UPI for mobile phone bills and 88.42% respondents using for electricity bill, 52.63% respondents was using for internet bill,28 respondents was unseeing for TV bill, 26.31% respondents was using for water bill and 25.26% respondents was using or gas bill .according survey data most of the respondents was using UPI for mobile phone bill and electricity bill.

4.20 What percentage of your total monthly transactions do you make using UPI?

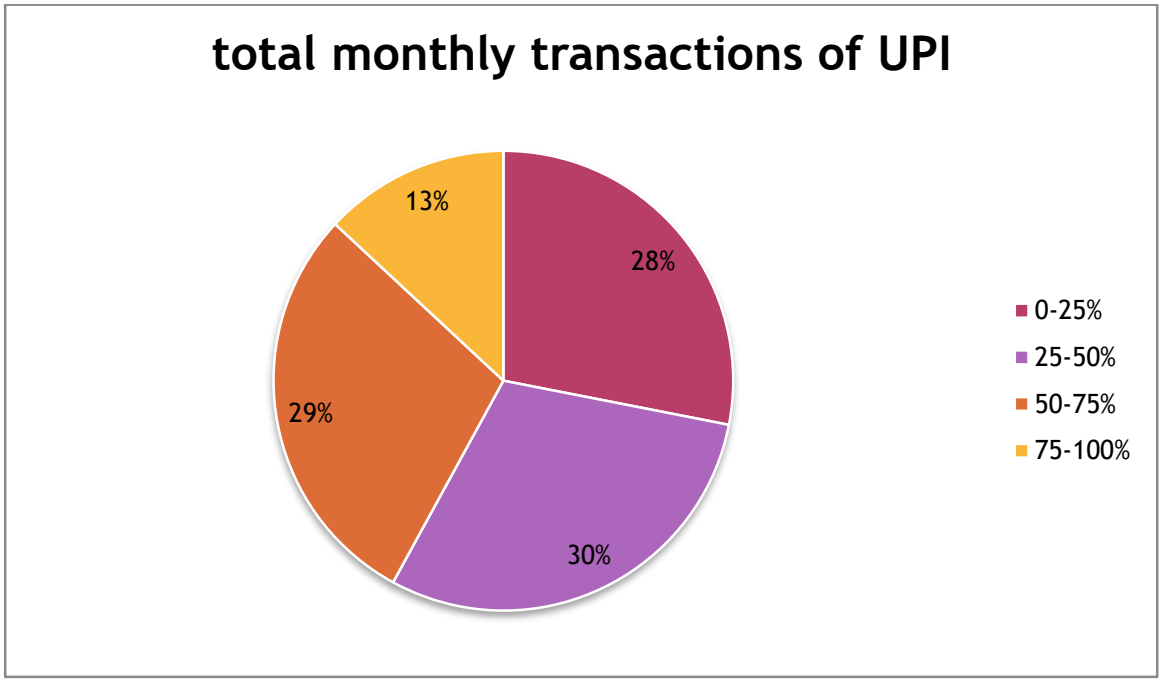
4.20 Table

Table showing the data of respondents total monthly transactions

Particulars	No of respondents	Percentage
0-25%	30	28.09%
25-50%	32	29.90%
50-75%	31	28.97%
75-100%	14	13.08%
	107	100%

4.20 Figure

Figure showing the data of respondents total monthly transactions of UPI



INTERPRETATION

Table 4.20 shows that, of the 107 respondents, 28.09% used UPI for 0–25% of their monthly transactions, followed by 25–50%, 50–75%, and 75–100%. Of the remaining respondents, 29.90% used UPI for 25–50% of their monthly transactions, 28.97% used 50–75%, and 13.08% used 75–100%. The majority of those respondents used UPI for 25-75% of their monthly purchases.

4.21 Have you ever experienced any fraudulent activity while using UPI?

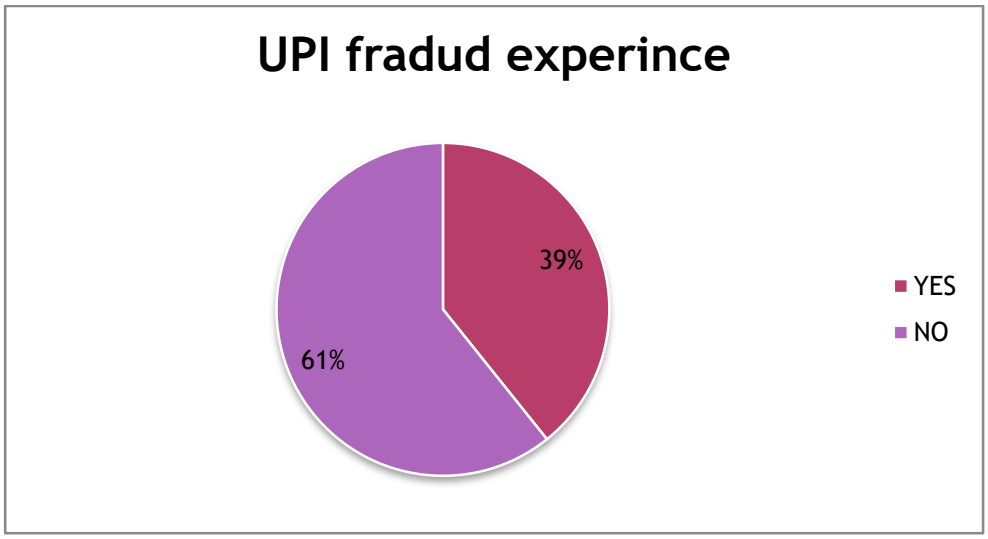
4.21 Table

Table showing the data of experience of fraudulent activity while using UPI by respondents

Particulars	No of respondents	Percentage
YES	42	39.25%
NO	65	60.74%
Total	107	100

4.21 Figure

Figure showing the data of experience of fraudulent activity while using UPI by respondents



INTERPRETATION

From Table 1.20, it is clear that out of 107 respondents, 60.74% of respondents was not experienced any type of fraudulent activity, and 39.25% of respondents was experienced fraudulent activity wile using the UPI payment method.

4.21.1Which type of fraudulent activity experienced while using UPI?

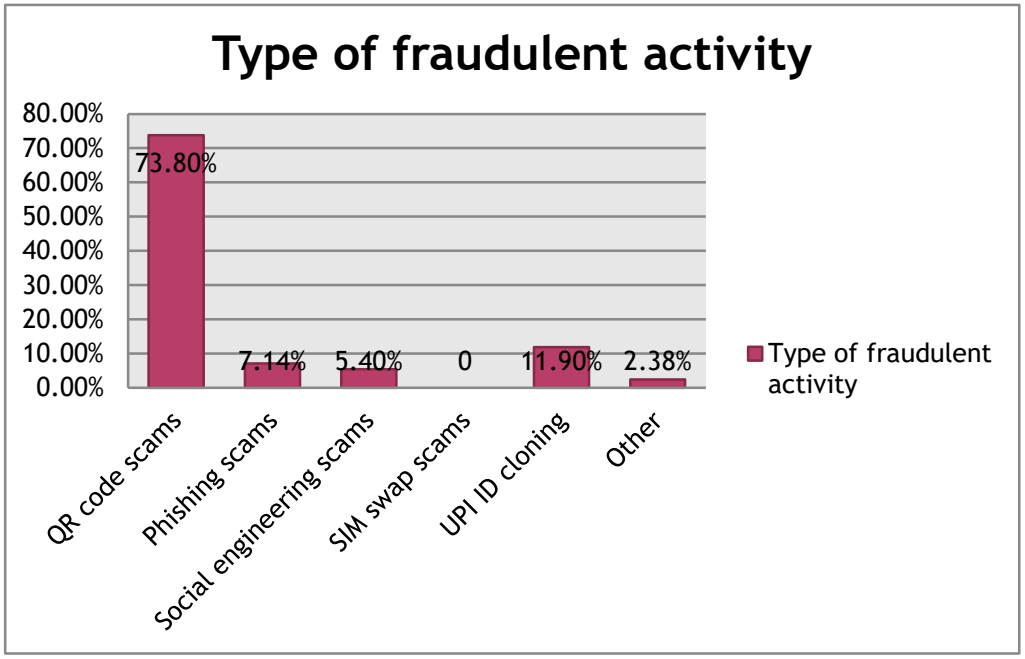
4.21.1 Table

Table showing that type of fraudulent activity experienced while using UPI

Particulars	No of respondents	Percentage
QR code scams	31	73.80%
Phishing scams	3	7.14%
Social engineering scams	2	5.4%
SIM swap scams	-	-
UPI ID cloning	5	11.90%
Other	1	2.38%
	42	100%

4.21.1 Figure

Figure showing that type of fraudulent activity experienced while using UPI



INTERPRETATION

According to Table 4.21.1, of the 42 respondents who had been faced to fraudulent actions, 73.80% of them fell victim to QR code scams, while 11.90% also encountered UPI ID cloning, 7.14 Phishing scams, 5.4% social engineering scams, and 2.28% other scams. Most of the respondents had dealt with frauds involving QR codes.

4.22 Have you ever faced any technical issues while using UPI for making payments?

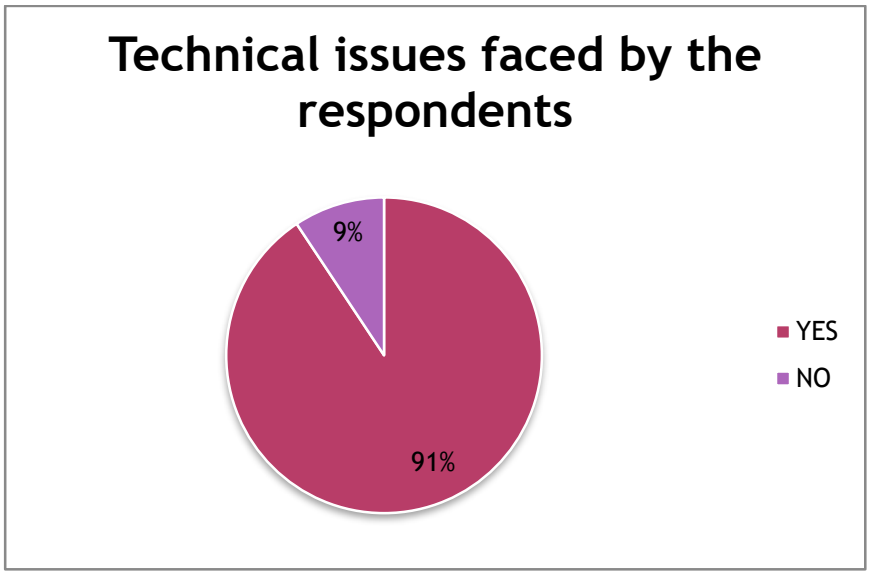
4.22 table

Table showing the data of technical issues faced by the respondents

Particulars	No of respondents	Percentage
YES	97	90.65%
NO	10	9.34%
	107	100%

4.22 Figure

Figure showing the data of technical issues faced by the respondents



INTERPRETATION

From Table 4.22, it is clear that out of 107 respondents, 9.34% of respondents was not experienced any type of technical issues, and 90.65% of respondents was experienced technical issues while using the UPI payment method.

4.22.1 Which type of technical issues faced while using UPI for making payments?

4.22.1A Table

Table showing the data of types of technical issues faced by the respondents

Particulars	No of respondents	Percentage
Server downtime	25	25.77%
Payment failures	15	15.46%
Slow internet connectivity	5	5.14%
Server downtime **Payment failures**	20	20.61%
Server downtime **Slow internet connectivity**	3	3.09%
Payment failures **Slow internet connectivity**	1	1.03%
Server downtime **Payment failures** **Compatibility issues**	1	1.03%
Server downtime **Payment failures** **App crashes**	2	2.06%
Server downtime **Payment failures** **Slow internet connectivity**	14	14.43%
Server downtime **Payment failures** **App crashes** **Compatibility issues**	1	1.03%
Server downtime **Payment failures** **Slow internet connectivity** **Compatibility issues**	4	4.12%

Server downtime Payment failures Slow internet connectivity App crashes	1	1.03%
Server downtime Payment failures Slow internet connectivity App crashes Compatibility issues	2	2.06%
Total	97	100%

4.21.1B Table

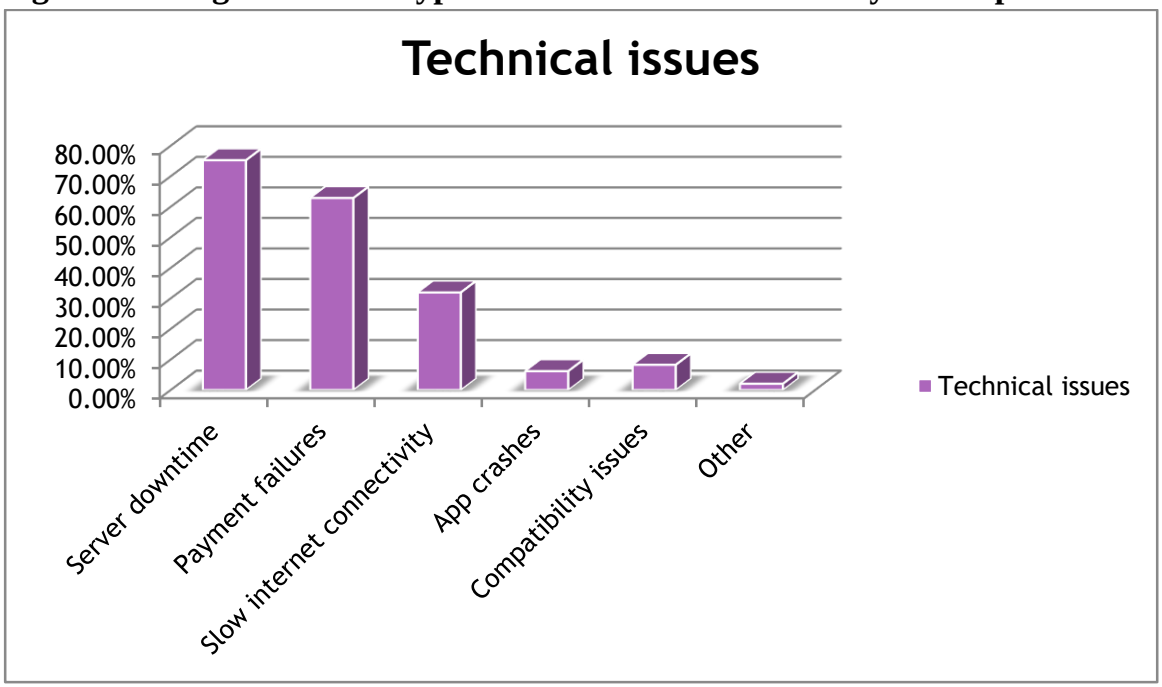
Table displaying data on the percentage of technical problems experienced by responders

***multiple options can answer**

Particulars	No of respondents(97)	Percentage (100)
Server downtime	73	75.25%
Payment failures	61	62.88%
Slow internet connectivity	31	31.95%
App crashes	6	6.18%
Compatibility issues	8	8.24%
Other	2	2.06%

4.22.1 Figure

Figure showing the data of types of technical issues faced by the respondents



INTERPRETATION

Table 4.22,4.22.1A, and4.22.1B show that out of 97 respondents, 97.25 percent of them reported experiencing server downtime, 62.88% reported experiencing payment failure, 31.95% reported experiencing slow internet connectivity, 8.24% reported experiencing compatibility issues, 6.18% reported experiencing app crashes, and 2.06% reported experiencing other technical issues. The majority of respondents had problems with payments failing and servers going down.

How do you agree with these statements

4.23 Respondents satisfaction and awareness about the these basic statements about UPI

4.23.1 I use UPI payment because I find it very useful

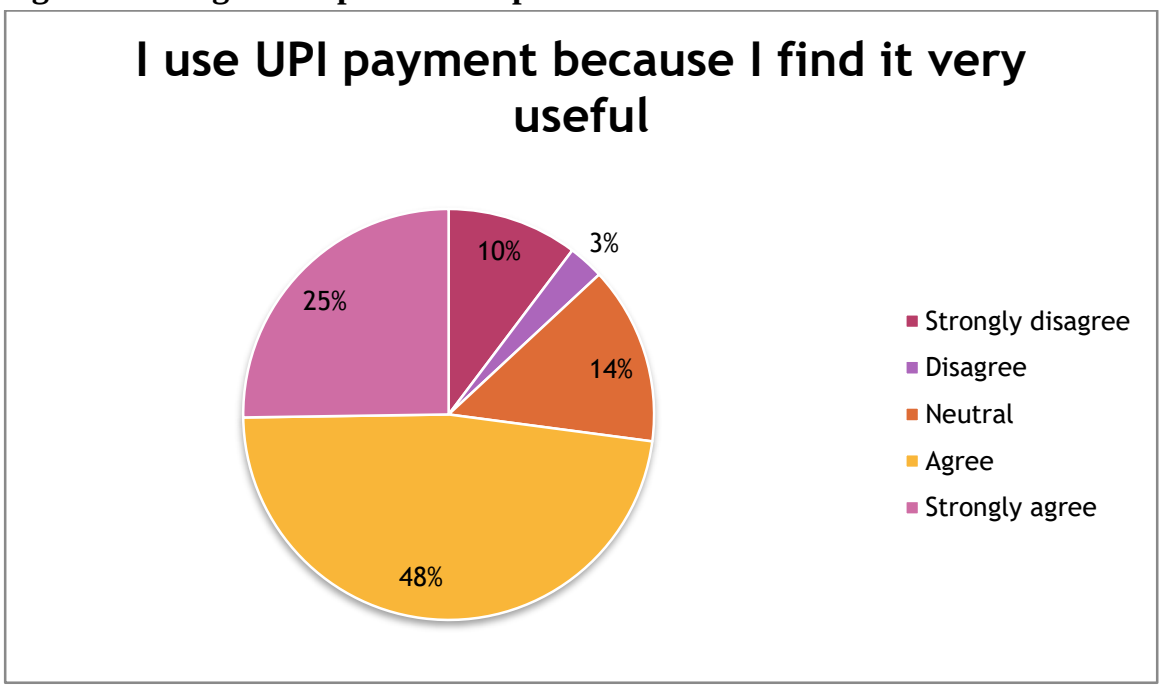
4.23.1 Table

Table showing the response of respondent to the statement

Particulars	No of respondents	Percentage
Strongly disagree	11	10.28%
Disagree	3	2.80%
Neutral	15	14.01%
Agree	51	47.66%
Strongly agree	27	25.23%
Total	107	100

1.23.1 Figure

Figure showing the response of respondent to the statement



INTERPRETATION

From Table 4.23.1, it is clear that out of 107 respondents, 47.66% of respondents was agreed they are using UPI because of UPI is Very useful,25.23 % of UPI using respondents was strongly agreed UPI is very useful, 14.01% of respondents was neutral about the statement and finally reaming respondents was no agreed the statement. Most of the respondent was agreed the statement.

1.23.2 I use UPI payments because it makes my payment quick

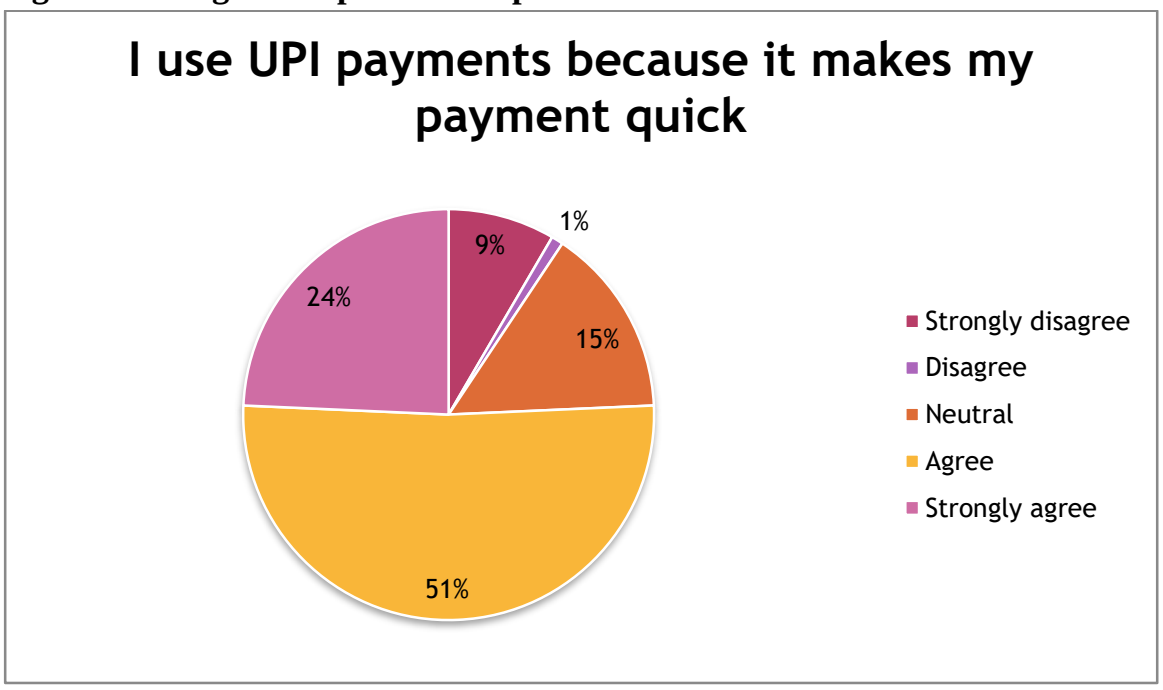
4.23.2 Table

Table showing the response of respondent to the statement

Particulars	No of respondents	Percentage
Strongly disagree	9	8.41%
Disagree	1	0.93%
Neutral	16	14.95%
Agree	55	51.40%
Strongly agree	26	24.29%
	107	100%

4.23.2 Figure

Figure showing the response of respondent to the statement



INTERPRETATION

Table 4.23.2 shows that out of 107 respondents, 51.40 percent of respondents agreed that they use UPI because it makes payments quickly, 24.29 percent of UPI users strongly agreed that UPI makes payments quickly, 14.95 percent of respondents were neutral about the statement, and 9.34 percent of respondents disagreed with the statement. The majority of respondents agreed with the statement.

4.23.3 I use UPI payment because I can use it from anywhere at anytime

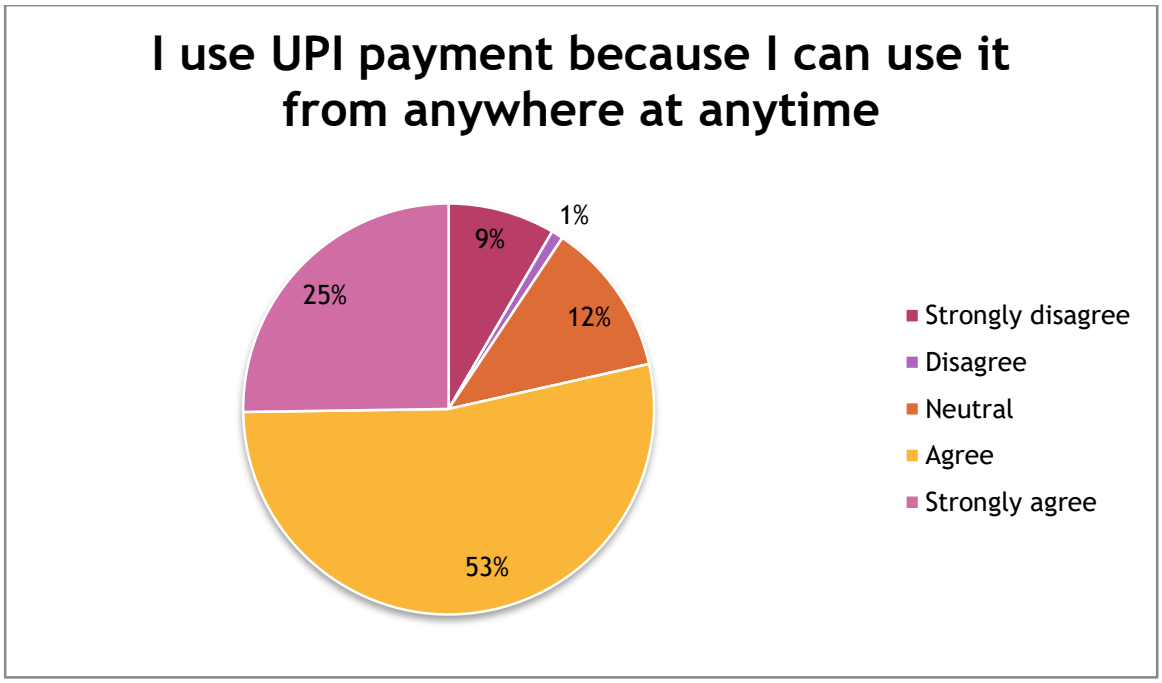
4.23.3 Table

Table showing the response of respondent to the statement

Particulars	No of respondents	Percentage
Strongly disagree	9	8.41%
Disagree	1	0.93%
Neutral	13	12.14%
Agree	57	53.27%
Strongly agree	27	25.23%
Total	107	100%

4.23.3 Figure

Figure showing the response of respondent to the statement



INTERPRETATION

From Table 4.23.3, it is clear that out of 107 respondents, 53.27% of respondents was agreed they are using UPI because of they use UPI anywhere at any time , 25.23% of UPI using respondents was strongly agreed UPI can use anywhere at anytime, 12.14% of respondents was neutral about the statement and finally 9.34% of respondent was no agreed the statement. Most of the respondent was agreed the statement.

4.23.4 I use UPI payment because it helps me to keep track of my day to day expense

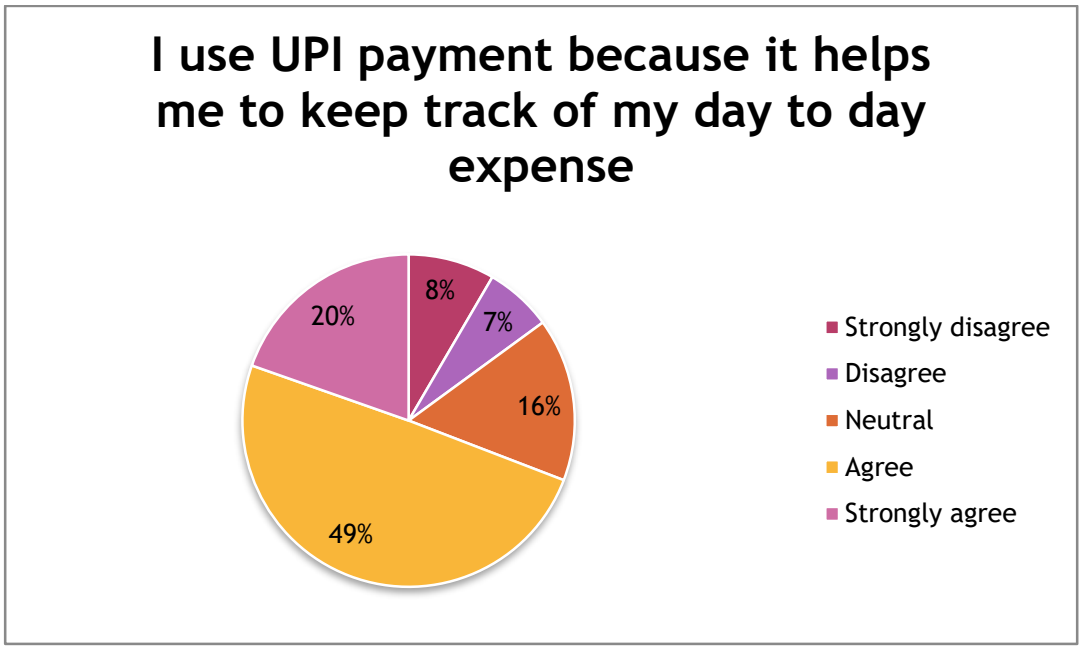
4.23.4 Table

Table showing the response of respondent to the statement

Particulars	No of respondents	Percentage
Strongly disagree	9	8.41%
Disagree	7	6.54%
Neutral	17	15.88%
Agree	53	49.53%
Strongly agree	21	19.62%
Total	107	100

4.23.4 Figure

Figure showing the response of respondent to the statement



INTERPRETATION

According to Table 4.23.4, out of 100 respondents, 49.53% agreed that UPI helps to track day to day expenses, 19.62% strongly agreed that UPI helps to track day to day expenses. 15.88% of respondents neutral with the statement and 14.95% of respondents not agreed the statement. The majority of respondents agreed with the statement.

4.23.5 I use UPI payment because it eases my transaction while shopping online or booking

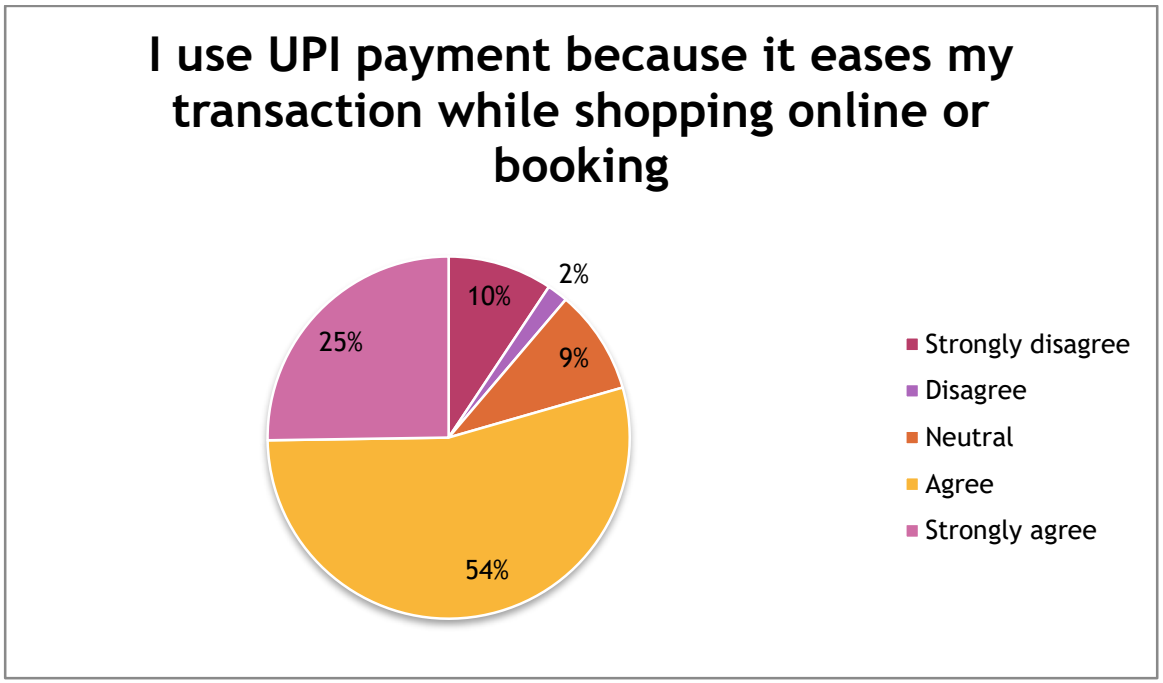
4.23.5 Table

Table showing the response of respondent to the statement

Particulars	No of respondents	Percentage
Strongly disagree	10	9.34%
Disagree	2	1.86%
Neutral	10	9.34%
Agree	58	54.20%
Strongly agree	27	25.23%
	107	100%

4.23.5 Figure

Figure showing the response of respondent to the statement



INTERPRETATION

Table 4.23.5 shows that out of 107 respondents, 54.20 percent agreed that using UPI makes booking or purchasing online easier, and 25.23 percent strongly agreed with this statement. 9.34% of respondents said they agreed or disagreed with the statement, and 11.21% said they disagreed. The statement was accepted by the vast majority of participants.

4.23.6 I will continue using UPI payment in future

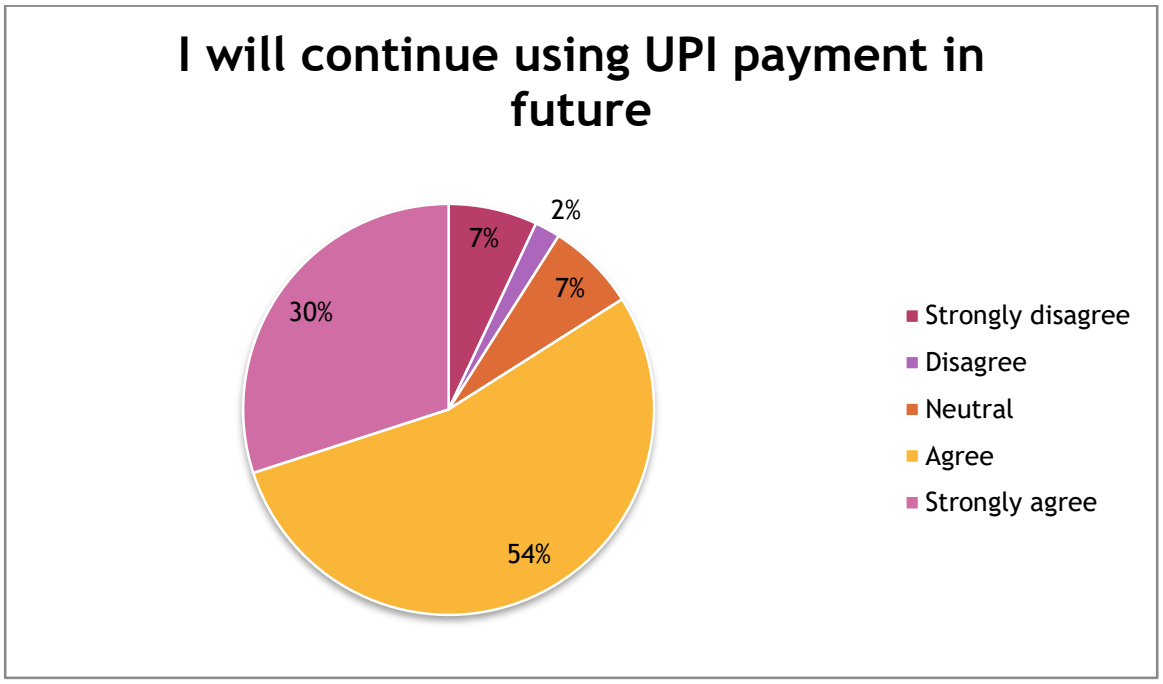
4.23.6 Table

Table showing the response of respondent to the statement

Particulars	No of respondents	Percentage
Strongly disagree	7	6.54%
Disagree	2	1.86%
Neutral	8	7.47%
Agree	57	53.27%
Strongly agree	33	30.84%
	107	100%

4.23.6Figure

Figure showing the response of respondent to the statement



INTERPRETATION

According to Table 4.23.6, out of 107 respondents, 53.27% agreed that they will continue using UPI payment in future, 30.84% strongly agreed that they will continue using UPI payment in future. 7.47% of respondents neutral with the statement and 8.41% of respondents not agreed the statement. The majority of respondents agreed with the s

5. MAJOR FINDINGS OF THE STUDY

5.1 The study is to know the consumer awareness and consumer satisfaction towards UPI.

Based on the data given by the respondents of 121 samples, 116 respondents were aware of UPI services. The survey was conducted on a random sample given by students, employees, and unemployed people of different ages, like youth, middle-aged, and older people. Out of 121 respondents, 107 were using UPI payment services, and 64 were very satisfied with UPI payment services, 34 were satisfied with UPI payment services, and the remaining 9 respondents were neutral about UPI satisfaction. However, out of 121 respondents, 116 were aware of the UPI, but only 107 were using it. 9 respondents used UPI, but now they are abandoning the UPI services because they are not satisfied with the UPI services. the level of satisfaction of the UPI using respondents was shown in below table

5.1 Table

Table showing the users satisfaction of UPI payment method

Particulars	No of respondents	Percentage
Very satisfied	64	59.81%
Satisfied	34	31.77%
Neutral	9	8.41%
Dissatisfied	-	-
Very dissatisfied	-	-
Total	107	100%

5.2 To identify the variance between UPI services and traditional services

Of the 121 respondents, 107 used UPI payment services; according to them, 74 agreed that UPI payment was better than other traditional payment services, only 7 disagreed, and the remaining 25 were neutral about the question. The respondent was given an answer regarding the objectively related questions.

5.2.1 What do you think are the main advantages of using UPI over other traditional payment methods?

Out of 107 UPI users, 58 said UPI is faster and more convenient than other traditional payment methods, 27 said UPI eliminates the need to carry cash, cheques, and cards, 20 said instant transfer of funds is another advantage of UPI payment services, and No transaction fees or charges is another advantage over traditional payment methods.

5.2.1 Table

Table showing main advantages of using UPI over other traditional payment methods

Particulars	No of respondents	Percentage
Faster and more convenient	58	54.20%
No need to carry cash or cheques	27	25.23%
Instant transfer of funds	20	18.69%
No transaction fees or charges	3	2.80%
Carry less use more with comfort	2	1.86%
Total	107	100%

5.2.2 What do you think are the main disadvantages of using UPI compared to other traditional payment methods

According to the 107 respondents given data, 71 respondents say UPI payment requires a mobile phone and internet connection, and 21 respondents say it has Limited acceptance by merchants or individuals was another disadvantage, and 12 respondents said security problems were also a disadvantage to the UPI. These are the drawbacks of the UPI payment system compared to other traditional payment systems.

5.2.2 Table

Table showing the data of main disadvantages' of using UPI over the traditional payment methods

Particulars	No of respondents	Percentage
Requires a mobile phone and internet connection	71	66.5%
Limited acceptance by merchants or Individuals	21	19.62%
Security concerns	12	11.21%
Other	4	3.73%
Total	107	100%

5.2.3 How do you feel about the level of privacy offered by UPI compared to other traditional payment methods?

Based on the data given by the respondents, 57 respondents agreed that UPI was more private than the other payment services, 42 respondents said it was equally private as traditional payment methods, 4 respondents said it was less private, and 4 respondents said it was natural. Most of the respondents said UPI payment services were more private than the other payment services.

5.2.3 Table

Table showing the privacy level of UPI over the other traditional payment methods

Particulars	No of respondents	Percentage
More private	57	53.27%
Equally private	42	39.25%
Less private	4	3.73%
Don't know	4	3.73%
Total	107	100%

5.3.4 How do you feel about the level of security offered by UPI compared to other traditional payment methods?

According to the data collected from 107 respondents, 56 believe UPI payment services are more secure than other payment services, 45 believe both UPI and traditional payment services are equally secure, and only three believe they are less secure. The majority of the respondents said UPI payment services were more secure than other payment services.

5.2.4 Table

Table showing the data of the level of security offered by UPI compared to other traditional payment methods

Particulars	No of respondents	Percentage
More secure	56	52.33%
Equally secure	45	42.05%
Less secure	3	2.80%
Don't know	3	2.80%
	107	100%

5.3 To study about factors that effects the consumer perception towards UPI

The 107 respondents' data revealed a number of aspects, but the primary causes can be split into positive and negative elements. The pros included persuasion, security, cost-effectiveness, and quick settlement; the cons included technological difficulties, fraud and security problems, limited acceptance, transaction limits, reliance on mobile devices, and network difficulties.

The questions related to the positive factors. Out of 107 respondents, 87 agreed that they use UPI because they can use it from anywhere at any time. This was a positive factor of UPI services.

Another factor was that UPI is more secure than other payment services. It was agreed upon by 56 of the 107 respondents, and UPI can assist in the payment of utility bills. 95 respondents were using UPI for payment for utility bills. These are the main positive factor that could be affecting consumer participation in UPI.

The questions related to the negative factors. Out of the 107 respondents 42 respondents was faced the fraudulent activity while using the UPI services .31 respondents are faced QR code scams and other respondents was faced by other type of scams of fraudulent activity.

out of the 107 respondents 97 respondents was faced the technical issues while using the UPI services 73 respondents was faced the Server downtime ,73 respondents was faced Payment failures while using UPI, another important negative factor was Slow internet connectivity 31 respondents was faced it these are the main negative factors of effects the consumer perception towards UPI.

these are the result f the survey regarding the objective

5.3.1 I use UPI payment because I can use it from anywhere at anytime

5.3.1 Table

Particulars	No of respondents	Percentage
Strongly disagree	9	8.41%
Disagree	1	0.93%
Neutral	13	12.14%
Agree	57	53.27%
Strongly agree	27	25.23%
Total	107	100%

5.3.2 I use UPI payments because it makes my payment quick

5.3.2 Table

Particulars	No of respondents	Percentage
Strongly disagree	9	8.41%
Disagree	1	0.93%
Neutral	16	14.95%
Agree	55	51.40%
Strongly agree	26	24.29%
Total	107	100%

5.3.3 I use UPI payment because I find it very useful

Table 5.3.3

Particulars	No of respondents	Percentage
Strongly disagree	11	10.28%
Disagree	3	2.80%
Neutral	15	14.01%
Agree	51	47.66%
Strongly agree	27	25.23%
Total	107	100

5.3.4 Table displaying data on the percentage of technical problems experienced by responders

Table 5.3.4

***multiple options can answer**

Particulars	No of respondents(97)	Percentage (100)
Server downtime	73	75.25%
Payment failures	61	62.88%
Slow internet connectivity	31	31.95%
App crashes	6	6.18%
Compatibility issues	8	8.24%
Other	2	2.06%

5.3.5 Have you ever experienced any fraudulent activity while using UPI?

5.3.4 Table

Table showing the data of experience of fraudulent activity while using UPI by respondents

Particulars	No of respondents	Percentage
YES	42	39.25%
NO	65	60.74%
Total	107	100

5.3.5.1 Which type of fraudulent activity experienced while using UPI?

5.3.5 Table

Table showing that type of fraudulent activity experienced while using UPI

Particulars	No of respondents	Percentage
QR code scams	31	73.80%
Phishing scams	3	7.14%
Social engineering scams	2	5.4%
SIM swap scams	-	-
UPI ID cloning	5	11.90%
Other	1	2.38%
	42	100%

5.4. To find out the level of awareness of UPI and its adoption by people of different age groups and income levels

based on the data of respondents out of 121 respondents was are in different age groups they are 61 of respondents are in the 18–24 age range. 35 of people are in the 25–35 age range, 18 are in the 36-55 age range, 6 are in the 55 above age range and 1 respondent is under 18. among the all age gropes respondents are in 18-24 was the most of people using the UPI services because of most of them was educated because of they are aware about the UPI services and they have knowledge about the UPI services and respondents are aged between 25 -35 was also aware about the UPI services they also aware about the UPI services ,according to the data of sample s most of the UPI user s was have age between 18 -35. it was shown below table.

5.4 .1table

Table showing the age of the respondents

Particulars	No of respondents	Percentage
Under 18	1	0.82
18-24	61	50.41%
25-35	35	28.92%
36-55	18	14.87%
55 Above	6	4.95%
Total	121	100%

5.4.2 table

Table showing UPI user in different age groups

Particulars	No of respondents	Percentage
Under 18	1	0.93%
18-24	52	48.59%
25-35	32	29.90%
36-55	17	15.88%
55 Above	5	4.67%
Total	107	100%

Based on the income levels, of the total 121 respondents, 47.10% have monthly incomes below Rs.10000, 23.96% have monthly incomes between Rs.10000 and Rs.30000, 14.04% have monthly incomes between Rs.30000 and Rs.50000, 12.39% have monthly incomes between Rs.50000 and Rs.10000, and the remaining 2.47% have monthly incomes over Rs.10000. The majority of respondents had a monthly income of less than $10,000, with 23.96% earning between $10,000 and $30,000. It was shown in the below table.

5.4.3 Table

Table showing the monthly income of respondents

Particulars	**No of respondents**	**Percentage**
Below 10000	57	47.10%
10001-30000	29	23.96%
30001-50000	17	14.04%
50001-100000	15	12.39%
Above 100000	3	2.47%
Total	121	100%

now the data of UPI users in the total respondents was 107 and 51 of them was in the income level of Below 10000 and 24 respondents was in range in 10001-30000 and 15 respondents was in income level of 30001-50000 and 14 respondents was in income level 50001-100000,and 3 respondents was in above 100000 level .most user according the responds was in below 10000 and it followed by the 10001-30000,30001-50000,50001-10000,Abvove 100000 levels

5.4.4 Table

Table showing the monthly income of respondents

Particulars	**No of respondents**	**Percentage**
Below 10000	51	47.10%
10001-30000	24	23.96%
30001-50000	15	14.04%
50001-100000	14	12.39%
Above 100000	3	2.47%
Total	121	100%

Other non objective findings:

- Majority (84.11%) of the respondents agree that the UPI payments are growing
- and are expected to continue
- Majority (83.7%) of the respondents use Phone Pe as their UPI application.

- Mostly the UPI users are under the age group of 18-24 years and also most of the
- respondents are under post graduates, and students.
- Majority (95.86%) of the respondents are aware about the benefits of UPI services.
- Majority of the respondents agree that the UPI payments can offer you a
- wider range of banking services and Payment options
- 44.62% of the respondents using UPI are students and 32.23% are employed by private companies..
- Majority (75.25%) of the respondents face Server downtime using UPI.
- Payment failures were faced by the 62.88% of the respondents.
- Slow internet connectivity was faced by the 31.95% of respondents.
- Majority (86.92%) of the respondents agree about the secured transactions.
- Majority (75.70%) of the respondents agree UPI is time saving.
- Majority (78.50%) of the respondents agree UPI facilitates transfer and payment
- from any point.
- Majority (69.15%) of the respondents agree that UPI is easier than traditional
- method.

6 CONCLUSIONS AND SUGGESTIONS

This study aimed to understand the perception of customers towards unified payment services and traditional services and how far they have impacted the UPI services in customer satisfaction. It was found that customers have a positive attitude towards unified payment interface services, and there is a relationship between education and usage of UPI services. The growth of smart phone users and internet penetration in such area also facilitated the adoption of UPI services. However, some of the problems faced by customers using UPI services were identified. Government should conduct more awareness programmes for online and banking customers regarding various services offered by NPIC.

Convenience, security, and speed are the three main factors in payment processing. From the barter system to currency to cards to digital payment methods, India's payment system has changed. Consumers' top worry is security, which is also one of the main reasons why the UPI system was adopted. Despite the tremendous rise in the use of digital payment methods, awareness is still low, and India is a cash-dominated nation.

Payment Interface is thought to be UPI payments' major rival. Customers are king, and they want transactions to be as simple and convenient as possible. UPI and online payments are the best solutions for customers.

In this study, an effort was made to comprehend how customers perceive traditional services and unified payment infrastructure (UPI) services, as well as how these perceptions affect how satisfied customers are with UPI services. According to the results of this survey, consumers have a favourable attitude towards unified payment interface services, and there is a connection between respondents' levels of education and their use of UPI services. A well-educated individual is more likely to use UPI services. The adoption of UPI services was also made easier by the increase in smartphone users and internet access in that region. This report also identifies some of the issues that Customers using UPI services encounter. Government should run more campaigns to educate online and banking users about various services.

Bankers are divided on the UPI story so far. One group believes UPI is only attracting dealseekers who will switch back to traditional methods of payment once the deals are gone. Others say the cashbacks and rewards are essential to creating new habits and onboarding users onto digital payments in a country where cash still rules. That while payments to merchants are desirable as they create value, incentives are necessary to chart a path towards that. UPI has brought a big change to peer-to-peer payments, and a lot of recurring cash transactions have perhaps moved to UPI. This is a big positive for the payments ecosystem," said Sujatha Mohan, head of digital and new initiatives at RBL Bank, which runs its own UPI app named BHIM RBL Pay. "Merchant adoption in an interoperable manner has begun but is not at scale. If scale is achieved, then this payment method (UPI) will be as ubiquitous as a credit or debit card. Industry estimates suggest that more than 90% of UPI transactions are peer-to-peer. Regulators do not differentiate peer-to-peer payments and payments to merchants under UPI transaction data. BHIM registered

impressive transaction volumes initially, because of its novelty factor as well as the referral bonuses the government announced to draw more people to the app. That in itself was a novelty. The Reserve Bank of India (RBI) has been trying hard to make the Indian economy a 'cash-free economy'. It is finding ways to reduce the number of transactions based on cash in the entire financial system. The UPI system seeks to make money transfers easy, convenient, hassle-free, and safe. As of now, 29 major banks are a part of the UPI system, out of which 15 banks have already started integrating the interface into their smart phone apps, and this number will multiply very fast as the system gains popularity. In conclusion, ETFs or digital payment gateways have been around for many years, and the economy has greatly benefited from this technological advance. An electronic payment system such as credit cards has facilitated monetary transactions and even provided a way to finance everyday purchases through credit. Because of this, bitcoins are gaining popularity, but there are still many questions and considerations about a virtual economy. However, the risk of identity theft, market euphoria, and privacy issues will always exist. As history has shown us, new technology can cause irrational exuberance that only leads to overvalued securities and ultimately ends in a financial collapse. Nonetheless, new financial technology is not yet perfected and can be very costly. But with new innovations and proper usage, financial technology can be the key to successfully managing one's money. The number of transactions via the real-time payments system, the Unified Payments Interface (UPI), was 1.263 times higher than the number of debit card transactions in 2018-19, according to the Reserve Bank of India's annual report. According to the report, there were as many as 5.35 billion UPI-based transactions, compared to 4.41 billion debit card payments. For the first time, UPI-based transactions overtook debit card payments, indicating a shift in consumers' choices and preferences as far as digital payments are concerned. Besides UPI and debit cards, National Electronic Fund Transfer (NEFT), prepaid payment instruments such as wallets, and internet banking are some other popular e-payment options. The jump is phenomenal, considering UPI was launched three years ago by the RBI-backed National Payments Corporation of India. During 2017–18, there were 915.2 million UPI transactions, compared to 3.34 billion debit card transactions. During 2018–19, the number of card payment transactions carried out through credit cards and debit cards was 1.8 billion and 4.4 billion, respectively. Prepaid instruments recorded about 4.6 billion transactions worth about $2.12 trillion. "The acceptance infrastructure also witnessed substantial growth; the number of point-of-sale (POS) terminals increased by 21% to 3.72 million at the end of March 2019, from 3.08 million at the end of March 2018. However, during the same period, the number of ATMs witnessed a decline from 222,247 to 221,703," the annual report said. Another popular mode of electronic payments, mainly used by businesses, is the NEFT system, which handled 2.3 billion transactions worth 228 trillion in 2018-19, an increase of 19.1% in terms of volume and 32.3% in terms of value over the same period last year. The report said the NEFT facility was available through 144,927 branches of 209 banks. In a boost to the government's digital payment plan, the banking regulator said it will make the online payment system NEFT available 24x7 starting in December. The report also said that the next-generation NEFT will lead to a higher degree of automation and state-of-the-art features ensuring conformity to global standards: "Introduction of ISO 20022 messaging format in NEFT would standardise messages across the payment and settlement systems and ensure interoperability between payment systems. The Reserve Bank will consolidate its network and storage for easier manageability and monitoring," it said.

Suggestions

- Benefits like discounts and cash backs are provided via UPI. Government funding for seminars or TV ads on "How to Be a Cashless Person" is necessary.
- Consumers' top worry is security, which is also a major driving force behind the adoption of UPI payments.
- In rural and urban areas of India, there is a dearth of internet connectivity. Government spending should go towards lowering costs and increasing accessibility to high-speed internet. Online funding transfer will also increase as internet connectivity does.
- To solve the issues users encounter when using such services, e-literacy efforts should be put into place.
- To solve the issues users encounter when using such services, e-literacy efforts should be put into place.
- The consumer's behaviour towards UPI (the unified payments interface) is getting better since trends and consumer preferences are continually changing. based on everyday occurrences.
- The non-credit factors are significant factors that influence online payment applications.
- Money and payment delays brought on by smartphone, network, and other infrastructure-related problems.
- The UPI payment application is primarily used by people for their personal convenience.
- Customers feel that using UPI payments enhances the quality of decision-making when purchasing a product since they can provide customers with a larger variety of banking services and payment options.

More variables should be included in the study to enable a better understanding of how they affect customer preference as this would aid in changing the purchasing habits of the populace using the Unified Payment Interface. This study was majorly focused on Unified Payment Interface only. In future analysis to maintain the comparative analysis it is necessary to take some more way of payments.

REVIEW

A mobile-based payment system called Unified Payments Interface (UPI) was created by the National Payments Corporation of India (NPCI). UPI, which was introduced in 2016 and enables users to conduct immediate transactions from their bank accounts using a mobile phone, has grown to become one of the most widely used payment methods in India.

The simplicity of usage of UPI is one of its main benefits. Users can use a smart phone app or other UPI-enabled platforms to make payments by linking numerous bank accounts to a single UPI ID. Users do not have to wait for a long time to receive or send money because the transaction procedure is quick and easy, and payments are handled in real-time.

A high level of security is another feature of UPI. A user-defined MPIN and a mobile PIN are both used as two-factor authentication for all UPI transactions. Additionally, UPI transactions are carried out over a secure network, protecting consumers' private financial data from online attacks.

The fact that UPI allows a variety of payment use cases is another key benefit. In addition to other use cases, users can pay people or companies, bills, buy goods and services, and even donate money to charities. For a wide spectrum of users, UPI's adaptability and agility make it a very practical payment system.

UPI does have certain restrictions, though. For instance, certain customers might experience problems with UPI transactions because of connectivity or technological concerns. Additionally, because they have a poor understanding of the payment system, some businesses might not accept UPI payments.

Overall, UPI is a potent payment system that has transformed how individuals conduct business in India. Users favour it because of its versatility, security, and ease of use. But there is always space for improvement, especially in terms of boosting its dependability and broadening merchant acceptability.

Any payment system, including UPI, needs consumer knowledge to be successful. Consumer awareness in the context of UPI refers to the degree of knowledge that consumers have regarding the payment system, including how it functions, its advantages, and its disadvantages.

Consumer knowledge of UPI can be increased in a number of ways. Campaigns for outreach and education are among the best strategies. These programmes can be directed at a range of demographics, including low-income groups, seniors, and both urban and rural communities. These ads aim to inform the public of UPI's advantages and practical applications.

Partnering with retailers and other service providers is another efficient way to raise customer awareness of UPI. Collaborations with well-known services that customers frequently use, such as food delivery apps and e-commerce platforms, may be necessary. UPI can broaden its reach and inform people about its features and advantages by collaborating with these sites.

It's also crucial to remember that raising customer awareness involves more than simply educating people about UPI—it also entails listening to their complaints and suggestions. This may entail enhancing the user experience by resolving frequent problems and streamlining and streamlining the payment procedure.

In general, consumer awareness must be improved through partnerships, outreach, and education if UPI is to be successful. UPI can continue to expand and gain more traction in India as a payment method by raising awareness and addressing issues.

Customer satisfaction, especially UPI, is a crucial indicator of the effectiveness of any payment system. Customer satisfaction in the context of UPI refers to the degree to which customers are satisfied with the payment system as a whole, including its dependability, usability, security, and overall user experience.

Surveys are one method of measuring client satisfaction with UPI. These polls, which can be done in person or online, can inquire about users' experiences with the payment method. For instance, customers might be asked to review how satisfied they are overall with UPI, how simple it is to use the payment system, how secure their transactions are, and how much customer assistance they receive.

Analysing transaction data is one more method of gauging client satisfaction with UPI. UPI can determine patterns and trends in transaction data that may show customer pleasure or dissatisfaction. For instance, users may express dissatisfaction with the service if they frequently cancel transactions or report problems with the payment system.

UPI can also raise customer happiness by resolving frequent problems and challenges that consumers experience. For instance, UPI can enhance the overall user experience and boost customer satisfaction by speeding the payment process, optimising the user interface, and offering quick and efficient customer service.

Overall, a key element in UPI's success is client satisfaction. UPI can keep up its high levels of customer satisfaction by resolving common problems and issues, assessing customer satisfaction through surveys and transaction data analysis, and making service improvements.

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