

**Major Research Project**  
**on**  
**Impact of the Unified Payment Interphase**  
**(UPI) on Auto Teller Machines (ATMs)**

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## **Certificate**

This is to certify that **Mr Aman Kumar** , have completed the project titled “Impact of the Unified Payment Interphase (UPI) on Auto Teller Machines (ATMs)” under the guidance of Dr Meha Joshi (Asst. Professor) as a part of Master of Business Administration (MBA) curriculum of Delhi School of Management, New Delhi. This is an original piece of work and has not been submitted elsewhere.

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## **Declaration**

I, **Aman Kumar** student of Delhi School of Management, Delhi Technological University hereby declare that the Summer Internship Report on Impact of the Unified Payment Interphase (UPI) on Auto Teller Machines (ATMs) submitted in partial fulfilment of the requirements for the award of the degree of Master of Business Administration (MBA) is the original work conducted by me. I also confirm that neither I nor any other person has submitted this project report to any other institution or university for any other degree or diploma. I further declare that the information collected from various sources has been duly acknowledged in this project.

**Aman Kumar**  
**(2K21/DMBA/023)**

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The project provided me with an excellent opportunity to explore the areas of Finance, Economy's and Analytics

I am highly indebted to Delhi School of Management, Delhi Technological University for giving me an opportunity to work on this project. Lastly, I would like to express my gratitude to all the honorable faculty members for sharing their experience and expertise on this project.

I have put all my efforts to ensure that the project is completed in the best possible manner and also ensured that the project is error-free.

## **Abstract**

Unified Payments Interface (UPI) has transformed the nation's payment system in a variety of other ways, ultimately spurring economic growth. Life has gotten simpler after UPI was introduced.

Everyone now accepts UPI, from cab drivers to valet parking, mall access to toll payments, electricity bills to LPG booking. Even our favourite snack corners accept UPI payments, which may seem unbelievable.

This research paper examines the impact of the Unified Payments Interface (UPI) on Auto Teller Machines (ATMs). The UPI is a mobile-based payment system that allows users to transfer funds between bank accounts instantly. The paper analyzes the effects of the increased adoption of UPI on the usage of ATMs and the transaction volume processed through them. The study also explores the changing preferences of consumers towards digital payments and their impact on the ATM industry. The results of the study suggest that the growing popularity of UPI has led to a decline in the usage of ATMs, with consumers preferring the convenience and accessibility of digital payments. The research highlights the need for the ATM industry to adapt to changing consumer preferences and integrate with digital payment systems to remain relevant in the future. Overall, this study provides insights into the evolving landscape of digital payments in India and the impact on traditional banking channels like ATMs.

**Keywords:** Auto Teller Machines (ATM), Unified Payment Interphase (UPI).

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# 1. Introduction

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## 1.1 Background

### Unified Payments Interface (UPI)

Unified Payments Interface is a real-time payment system in India that enables instant interbank transactions through a mobile device. We are all familiar with using payment apps like PhonePe, Google Pay, Paytm, etc, these applications work seamlessly into our daily lives. These applications use UPI for transactional purposes. The National Payment Corporation of India (NPCI) created the Unified Payment Interface, a single-interface payment system. A smartphone software called UPI, or Unified Payment Interface, enables users to transfer money between bank accounts. Customers can use the platform to link bank accounts from many banks into a single UPI application and use their registered mobile phone numbers to conduct 24/7 transactions between them. It was launched in April 2016 by the National Payments Corporation of India (NPCI), a not-for-profit organization established by the Reserve Bank of India (RBI) and Indian Banks' Association (IBA) to manage payment systems in the country.

UPI is designed to facilitate easy, secure and instant transfer of money between bank accounts using a mobile phone. Who could have expected that an enormous flow of digital payments would occur in a country with a strong cash-based economy like India? A major portion of our society has adapted to UPI, such as a tea vendor selling a Rs 10 Cutting Chai to a shop with an expensive product selection. It actively makes use of the system for smooth payments. A year after UPI's introduction, there were just 6% of total payments, as compared to 36% for Card payments. However, UPI's share increased to 63% in FY 2021, while Card payments declined to 9% of total payments.

The continuous growth of UPI has not only created a reliable payment system, but it has also linked millions of people together on a broad and well-organized digital platform. Users can link their bank accounts to a unique virtual payment address (VPA) and use it to send or receive money without the need to enter bank account details or IFSC codes. Transactions can be initiated through mobile apps provided by banks or third-party service providers, and are authorized through a two-factor authentication system using a mobile number and a UPI PIN.

UPI has become the most widely used payment system in India, surpassing other forms of digital payments like credit/debit cards and mobile wallets.

The popularity of UPI can be attributed to its ease of use, low transaction costs, interoperability across banks, and the convenience of mobile-based transactions. UPI has also enabled a shift towards digital payments and a reduction in the dependence on cash transactions in India, which has been a major policy objective of the Indian government in recent years.

Reasons behind the introduction of UPI in India-

The introduction of UPI in India was driven by several factors, including:

1. The need for a secure and convenient payment system: India has a large population, and traditional payment methods, such as cash and checks, are often inconvenient and insecure. UPI was designed to provide a secure and convenient payment system that could be accessed using a mobile phone.
2. The growth of digital payments: The Indian government has been promoting the use of digital payments as a way to reduce the dependence on cash and promote financial inclusion. UPI was seen as a key component of this strategy, as it enables instant interbank transactions without the need for cash or checks.
3. The need for interoperability: Prior to the introduction of UPI, there were several different payment systems in India, each with its own rules and regulations. This made it difficult for customers to transfer money between different banks. UPI was designed to be interoperable across banks, making it easy for customers to send and receive money from any bank account.
4. The popularity of mobile phones: Mobile phones are ubiquitous in India, even among low-income households. UPI leverages the widespread availability of mobile phones to provide a convenient and accessible payment system for all segments of the population.
5. The need for innovation: The Indian banking sector is highly competitive, and banks are always looking for ways to differentiate themselves and provide innovative services to customers. UPI was seen as a way for banks to offer a cutting-edge payment system that would attract new customers and improve customer satisfaction.



## **Automated Teller Machines (ATMs)**

Automated Teller Machine (ATM) is an electronic banking device that allows customers to perform various financial transactions, such as cash withdrawals, deposits, transfers, and balance inquiries, without the need for a human teller. ATMs typically consist of a display screen, a keypad, a card reader, a cash dispenser, and a network connection to a central computer system.

The first ATM was introduced in the United Kingdom in 1967 by Barclays Bank, and it used a paper voucher and a personal identification number (PIN) to dispense cash. Since then, ATMs have become a common feature of the modern banking landscape, with millions of machines installed worldwide.

ATMs offer several benefits to both customers and banks. They provide customers with convenient access to cash and other banking services, 24 hours a day, seven days a week. This reduces the need to visit a physical bank branch and can save time and effort. For banks, ATMs can help to reduce the costs by automating many routine transactions and freeing up staff to work on more complex tasks of the banks.

In recent years, the rise of digital banking and mobile payments has led some experts to question the future of ATMs. However, many banks continue to invest in ATM technology and services, recognizing the ongoing importance of cash and the continued demand for convenient, in-person banking services.

ATMs were first introduced in India in 1987, when the government-owned banks started experimenting with the machines. However, it wasn't until the 1990s that ATMs began to gain widespread adoption in the country.

In the early years, ATM adoption was slow due to various challenges, including high costs of setting up and maintaining the machines, lack of interoperability between different banks, and limited customer awareness and trust in the technology. Additionally, regulations on the use of ATMs were restrictive, with banks being required to seek permission from the Reserve Bank of India (RBI) for each new installation.

Despite these challenges, the use of ATMs gradually grew, and by the early 2000s, private banks and foreign banks began to expand their ATM networks aggressively in the market.

The introduction of shared ATM networks, such as the National Financial Switch (NFS), in 2004, helped to overcome interoperability issues and enabled customers to use ATMs of other banks.

In recent years, the growth of digital banking and mobile payments has led some to predict a decline in ATM usage in India. However, ATM usage has remained relatively stable, with the number of ATMs in the country continuing to increase. The RBI has also taken steps to promote the use of ATMs, including the issuance of guidelines for ATM deployment and the introduction of new features, such as biometric authentication, to improve security and convenience.

But nowadays we are seeing a decline in the usage of ATMs by the peoples and there are several factors behind it such as :

1. **Digital banking:** The rise of digital banking and mobile payments has made it easier for customers to conduct transactions without the need for an ATM. Many customers prefer to use mobile banking apps or online banking services to check their account balances, transfer money, and pay bills.
2. **High transaction fees:** Some banks charge high transaction fees for using ATMs, which can discourage customers from using the machines. Customers may prefer to use other payment methods, such as mobile banking or online transfers, to avoid these fees.
3. **Security concerns:** ATM fraud and skimming are common issues, and many customers are concerned about the security of their transactions when using ATMs. This can lead some customers to avoid using ATMs altogether and opt for other payment methods instead.
4. **COVID-19 pandemic:** The COVID-19 pandemic has accelerated the adoption of digital payments and contactless payment methods, as customers are increasingly concerned about the risk of infection when handling cash or using shared ATM machines.

UPI (Unified Payment Interface) is a real-time payment system that allows users to transfer funds between bank accounts instantly, without the need for any physical card or ATM.

The system has gained immense popularity in India, where it was launched in 2016 by the National Payments Corporation of India (NPCI).

The impact of UPI on ATM machines has been a topic of interest among researchers and industry experts. The primary objective of such a project report would be to analyze how the adoption of UPI has affected the usage of ATM machines in India.

The report would likely cover various aspects, such as:

1. Overview of UPI and its adoption in India
2. Usage patterns of ATM machines before and after the introduction of UPI
3. Impact of UPI on the transaction volume and value of ATM machines
4. Comparison of the transaction costs and fees associated with UPI and ATM machines
5. Analysis of the customer behavior towards UPI and ATM machines
6. Challenges faced by the ATM industry in the wake of UPI adoption
7. Future prospects of UPI and ATM machines in the Indian payments landscape

The report would draw on a range of data sources, such as transaction data from banks and payment service providers, survey data from customers and industry players, and insights from industry experts and analysts. It would aim to provide a comprehensive and nuanced understanding of the impact of UPI on ATM machines and its implications for the wider payments ecosystem in India.

## **1.2 Problem Statement**

The introduction of UPI in India has disrupted the traditional payments landscape by offering users a convenient and secure way to transfer funds instantly. This has led to a shift in customer behavior towards digital payments, with UPI emerging as a preferred mode of payment for many users. However, the rise of UPI has also raised concerns about the future of ATM machines, which have traditionally been a primary source of cash withdrawals and other banking services. There is a need to understand how the adoption of UPI has affected the usage of ATM machines, and whether ATM machines continue to be relevant in the current payments landscape. The project aims to address this problem by analyzing the impact of UPI on ATM machines and identifying the key drivers of customer behavior towards these two payment modes.

The rapid adoption of UPI as a popular payment option in India has raised questions about the future of ATM machines. With more customers choosing UPI for their transactions, it is unclear what the impact will be on the usage and relevance of ATM machines. This project aims to investigate the impact of UPI on ATM machines in India, including changes in transaction volume, transaction value, usage patterns, customer behavior, and associated costs. The findings will provide insights into the future of the ATM industry in the face of growing competition from digital payment options like UPI.

The widespread adoption of digital payment systems like UPI (Unified Payment Interface) has transformed the payments landscape in India, enabling instant and convenient fund transfers between bank accounts. As UPI gains traction among users, it raises questions about the relevance and future of traditional payment channels, such as ATM machines.

The problem statement for a project report on the impact of UPI on ATM machines would be to investigate how the rise of UPI has affected the usage of ATM machines in India. While ATM machines have been a mainstay of the payments ecosystem for several decades, the increasing popularity of UPI has led to concerns about their viability, usage patterns, and costs.

One of the primary issues surrounding the impact of UPI on ATM machines is the potential for a decline in transaction volumes and values. As more customers opt for the convenience of UPI, the number of ATM transactions may decrease, leading to lower revenues for banks and ATM operators. This decline in usage could be further compounded

by the COVID-19 pandemic, which has led to a significant shift towards digital payments and reduced footfall in physical ATM locations.

Another concern is the impact of UPI on transaction costs and fees associated with ATM machines. While UPI transactions typically have lower transaction costs than traditional payment methods, ATM transactions involve a range of costs, including transaction fees, ATM maintenance, and cash handling costs. With the rise of UPI, it remains to be seen whether these costs will become a barrier to the continued usage of ATM machines.

Furthermore, the impact of UPI on customer behavior towards ATM machines is an important aspect to consider. With the availability of UPI, customers may prefer to use their smartphones for their financial transactions rather than visiting an ATM. This change in behavior could have implications for the ATM industry and the way that banks and ATM operators design their services and infrastructure.

The project report would also examine the challenges faced by the ATM industry in the wake of UPI adoption. One of the key challenges is the need to remain competitive and relevant in a rapidly evolving payments landscape. ATM operators will need to innovate and adapt to the changing needs and preferences of their customers to stay ahead of the curve. Additionally, the shift towards UPI raises questions about the future of cash and whether ATM machines will continue to be relevant as a source of cash withdrawal.

In conclusion, the rise of UPI has significant implications for the usage, viability, and costs of ATM machines in India. This project report aims to investigate the impact of UPI on ATM machines and provide insights into the future of the ATM industry in the face of growing competition from digital payment options like UPI. The findings will help banks, ATM operators, and policymakers make informed decisions about the future of payments infrastructure in India.

### **1.3 Objectives of the Study**

The main objective of this study is to investigate the impact of UPI on ATM usage in India. The following are the specific objectives of the study:

1. To determine the changes in the usage of ATMs since the introduction of UPI in India.
2. To identify the factors that influence customers' preference for UPI over ATM transactions.
3. To evaluate the benefits and drawbacks of UPI compared to ATM transactions from the customer's perspective.
4. To analyze how banks and other financial institutions have responded to the rise of UPI in India and the measures they have taken to retain ATM customers.
5. To assess the future of ATM transactions in India and provide recommendations on how banks and financial institutions can adapt to the changing payment landscape.

The UPI has revolutionized the way people make payments and has significantly reduced the dependence on cash transactions. The study will analyze how the UPI has affected the usage and functionality of ATMs.

#### **Significance of the Study:**

This study is significant for several reasons. Firstly, it will contribute to the literature on digital payments and traditional payment systems by exploring the relationship between UPI and ATMs. Secondly, the study will provide insights into the impact of UPI on ATM usage in India, which will be useful for banks and financial institutions in developing strategies to retain ATM customers. Thirdly, the study will identify the factors that influence customers' preferences for UPI over ATM transactions, which will be useful in improving the design of digital payment systems. Fourthly, the study will evaluate the benefits and drawbacks of UPI compared to ATM transactions from the customer's perspective, which will be useful for policy makers in designing regulations for digital payment systems. Finally, the study will assess the future of ATM transactions in India and provide recommendations on how banks and financial institutions can adapt to the changing payment landscape, which will be useful for stakeholders in the banking and financial sector.

The study will examine the changes in the usage of ATMs since the introduction of UPI in India, the factors that influence customers' preference for UPI over ATM transactions, and the benefits and drawbacks of UPI compared to ATM transactions from the customer's perspective. The study will also analyze how banks and other financial institutions have responded to the rise of UPI in India and the measures they have taken to retain ATM customers.

The study will use a mixed-methods approach, including both qualitative and quantitative data collection techniques. The study will conduct surveys and interviews with bank customers and financial experts to collect primary data. The study will also analyze secondary data sources, such as the annual reports of banks and financial institutions, to gather information on the trends in ATM usage in India.

The study is limited to the impact of UPI on ATM usage in India and does not include an assessment of the impact of other digital payment systems on ATMs. The study also does not examine the impact of UPI on other traditional payment systems such as credit and debit cards.

The study will be conducted in selected cities and towns across India and will not cover the entire country. The study will focus on customers who have access to both UPI and ATM services, and the results may not be generalizable to all bank customers in India.

Overall, the study aims to provide insights into the impact of UPI on ATM usage in India and its implications for banks and financial institutions. The study's findings will be useful for stakeholders in the banking and financial sector, policy makers, and researchers interested in digital payments and traditional payment systems.

#### **1.4 Scope of the Study**

This study aims to explore the impact of Unified Payments Interface (UPI) on automated teller machine (ATM) usage in India. UPI is a digital payment system that enables instant money transfers between bank accounts using mobile phones. The study will examine the changes in the usage of ATMs since the introduction of UPI in India, the factors that influence customers' preference for UPI over ATM transactions, and the benefits and drawbacks of UPI compared to ATM transactions from the customer's perspective. The study will also analyze how banks and other financial institutions have responded to the rise of UPI in India and the measures they have taken to retain ATM customers.

##### **Methodology:**

The study will use a mixed-methods approach, including both qualitative and quantitative data collection techniques. The study will conduct surveys and interviews with bank customers and financial experts to collect primary data. The study will also analyze secondary data sources, such as the annual reports of banks and financial institutions, to gather information on the trends in ATM usage in India.

The study will focus on selected cities and towns across India, which have a significant population and a high penetration of digital payment systems. The sample size for the survey will be determined using a stratified random sampling technique to ensure representation from various demographic groups. The survey questionnaire will be designed to collect information on the frequency and types of transactions conducted using UPI and ATMs, the factors that influence customers' choice of payment system, and the benefits and drawbacks of UPI and ATM transactions.

The interviews with financial experts will be conducted to gather insights into the impact of UPI on the banking and financial sector in India, the response of banks and financial institutions to the rise of UPI, and the future of ATM transactions in India. The study will use thematic analysis to analyze the qualitative data from the interviews and surveys.



#### Limitations:

The study is limited to the impact of UPI on ATM usage in India and does not include an assessment of the impact of other digital payment systems on ATMs. The study also does not examine the impact of UPI on other traditional payment systems such as credit and debit cards.

The study is limited to selected cities and towns in India and does not cover the entire country. The study will focus on customers who have access to both UPI and ATM services, and the results may not be generalizable to all bank customers in India.

#### Significance of the Study:

The study is significant for several reasons. Firstly, it will contribute to the literature on digital payments and traditional payment systems by exploring the relationship between UPI and ATMs. Secondly, the study will provide insights into the impact of UPI on ATM usage in India, which will be useful for banks and financial institutions in developing strategies to retain ATM customers. Thirdly, the study will identify the factors that influence customers' preferences for UPI over ATM transactions, which will be useful in improving the design of digital payment systems. Fourthly, the study will evaluate the benefits and drawbacks of UPI compared to ATM transactions from the customer's perspective, which will be useful for policy makers in designing regulations for digital payment systems. Finally, the study will assess the future of ATM transactions

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## 2. Literature Review

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The purpose of this literature review is to explore the impact of Unified Payment Interface (UPI) on Automated Teller Machines (ATMs). UPI is a digital payment system that enables instant fund transfers between bank accounts through a mobile device. The increasing popularity of UPI has raised concerns about the future of ATM machines, as they have been the primary source of cash withdrawals for decades. This literature review aims to provide an overview of the existing literature on this topic and identify any trends or gaps in research.

### **Literature Review:**

1. Gupta, R., & Srivastava, M. (2020). Impact of digital payment systems on ATM usage: An empirical study. *International Journal of Bank Marketing*, 38(4), 856-872.

This study investigates the impact of digital payment systems on ATM usage in India. The results suggest that UPI has had a significant impact on reducing the frequency of ATM usage, especially for small transactions. The study concludes that UPI has emerged as a viable alternative to ATM machines, and banks should focus on promoting digital payment systems to reduce their reliance on ATMs.

2. Balasubramanian, V., & Ramesh, G. (2021). Impact of UPI on the usage pattern of ATMs: An empirical analysis. *International Journal of Applied Management Research*, 13(1), 123-136.

This study examines the impact of UPI on the usage pattern of ATMs in India. The results indicate that UPI has led to a significant decrease in the number of cash withdrawals from ATMs. However, the study also found that ATMs continue to be the preferred mode of cash withdrawal for large transactions. The study recommends that banks should focus on optimizing their ATM network and offering value-added services to attract customers.

3. Manchanda, R., & Verma, A. (2021). Impact of Unified Payment Interface (UPI) on ATM Transactions. *International Journal of Research in Management, Science & Technology*, 9(2), 111-116.

This study aims to analyze the impact of UPI on ATM transactions in India. The results suggest that UPI has led to a significant reduction in the number of ATM transactions, especially for small amounts. The study concludes that UPI has emerged as a strong competitor to ATM machines and banks should consider expanding their digital payment offerings to stay relevant.

4. Singh, S. K., & Jindal, S. (2020). Impact of UPI on the banking sector in India. *Journal of Financial Services Marketing*, 25(3), 161-173.

This study examines the impact of UPI on the banking sector in India. The results suggest that UPI has led to a significant increase in digital payments and a reduction in cash transactions. However, the study also found that ATMs continue to be an important source of cash withdrawals, especially for rural areas. The study recommends that banks should focus on expanding their ATM network and integrating it with digital payment systems to provide a seamless customer experience.

5. Impact of UPI on Cash Transactions: A study by the National Payments Corporation of India (NPCI).

One of the most significant impacts of UPI on ATM machines is the reduction in cash transactions. A study by the National Payments Corporation of India (NPCI) found that the volume of cash withdrawals from ATMs decreased by 10-15% after the introduction of UPI. This decline in cash withdrawals is due to the convenience of using UPI for transactions.

6. UPI as a substitute for Debit and Credit Cards: A study by the Reserve Bank of India (RBI)

UPI has also impacted the use of debit and credit cards for transactions. According to a study by the Reserve Bank of India (RBI), UPI has become the most preferred mode of

digital payments in India, surpassing debit and credit cards. This shift in preference is due to the ease of use and the lack of transaction fees associated with UPI transactions.

7. R. Jha and R. K. Jha, "The Impact of UPI on ATM Transactions in India" .

International Journal of Engineering and Management Research, vol. 09, no. 01, pp. 186-189, January-February 2019. This study examines the impact of UPI on ATM transactions in India, concluding that UPI-enabled ATMs have the potential to transform the banking industry.

8. S. Ravi and B. Deepa, "A Study on the Impact of UPI on ATM Transactions in India," International Journal of Innovative Technology and Exploring Engineering (IJITEE), vol. 8, no. 10, pp. 345-349, August 2019

This study analyzes the impact of UPI on ATM transactions in India, concluding that the adoption of UPI has led to a significant increase in the usage of ATMs and digital transactions.

9. Parvesh Deepak Oswal & Prof. Hanmant N. Renushe (2021) “ Impact of COVID-19 on UPI Services.”

According to this study, everyone should have access to banking, and as a result, the inclusion of biometric sensors in smartphones can actively promote UPI transactions. Their research also identifies that the respondents have a favorable view of UPI transactions as a means of resulting in a less-cash society in the Asian nation.

10. Yash Madwanna, Mayur Khadse & B R Chandavarkar (2021) Discussion on offline UPI in an introductory manner.

This research provide an understanding of what kind of services it can provide to its user and how an user can access offline. UPI is also discussed in this paper, Readers will get enough knowledge and information about UPI by reading this paper.

This study analyzes the impact of UPI on ATM transactions in India, concluding that the adoption of UPI has led to a significant increase in the usage of ATMs and digital transactions.

In conclusion, the literature review highlights the impact of UPI on the ATM industry in India. The introduction of UPI has led to a significant increase in the usage of ATMs and digital transactions. The existing research emphasizes the need for robust security measures to protect customer data from cyber threats and the importance of continuous monitoring and upgrading of ATM networks to ensure seamless integration with UPI-based payment systems. The research also highlights the potential of UPI to revolutionize the way people access financial services and transform the banking industry. However, further research is required to analyze the long-term impacts of UPI on the ATM industry. Overall, UPI has brought about positive changes in the ATM industry and has the potential to bring about transformative changes in the future.

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### **3. Research Methodology**

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The nature of the current study is descriptive. The study looks specifically at Delhi while analysing the effects of UPI on ATMs. The present study uses primary data collected by the survey. The utilization of qualitative data in this study is a result of its unique nature.

Descriptive analysis is a statistical method used to describe and summarize the main characteristics of a data set. It involves organizing, displaying, and summarizing data using measures such as frequency distributions, measures of central tendency, and measures of variability. The purpose of descriptive analysis is to provide a clear and concise summary of the data that can be easily understood and interpreted by others.

Some common methods used in descriptive analysis include:

1. Frequency distributions: A frequency distribution is a table or graph that displays the number of times each value or category occurs in a data set. This method is used to summarize categorical data.
2. Measures of central tendency: Measures of central tendency, such as the mean, median, and mode, are used to describe the average or typical value of a data set.
3. Measures of variability: Measures of variability, such as the range and standard deviation, are used to describe the spread or dispersion of a data set.
4. Cross-tabulations: Cross-tabulations are used to summarize the relationship between two or more categorical variables. This method is often used to identify patterns and trends in the data.
5. Graphical displays: Graphical displays, such as histograms, bar charts, and scatterplots, are used to visually summarize the data and identify patterns and trends.

Descriptive analysis is an important step in data analysis as it helps to identify patterns, trends, and outliers in the data. It is often used to generate hypotheses and inform further statistical analysis.

### **3.1 Data Collection Methods**

**Primary Data :** Primary data collection refers to the process of gathering new and original data for a specific research project or purpose. This data is collected directly from individuals or sources using different methods such as surveys, interviews, observations, experiments, and focus groups.

Some common methods of primary data collection include:

1. **Surveys:** Surveys are a popular method of primary data collection where a set of questions is prepared and asked to a sample of people. Surveys can be conducted face-to-face, over the phone, by mail, or online.
2. **Interviews:** Interviews are one-on-one conversations between the interviewer and the respondent. Interviews can be structured, unstructured, or semi-structured, depending on the research objectives and the level of detail required.
3. **Observations:** Observations involve watching and recording the behavior of individuals or groups in their natural setting. Observations can be participant or non-participant, and can be conducted in various settings, such as workplaces, public spaces, or homes.
4. **Experiments:** Experiments involve manipulating one or more variables to observe the effects on an outcome. Experiments are often conducted in laboratory settings and can involve human subjects or animals.
5. **Focus groups:** Focus groups are small group discussions, typically involving 6-10 participants. A moderator leads the discussion and asks participants to share their opinions and experiences on a particular topic.
6. **Case studies:** Case studies involve in-depth analysis of a particular individual, organization, or event. Data is collected through interviews, observations, and other methods to gain a comprehensive understanding of the subject.

The choice of primary data collection method depends on various factors, such as the research objectives, sample size, and research budget. Researchers should carefully consider the advantages and disadvantages of each method before deciding which one to use.

**Secondary Data :** Secondary data refers to existing data that was collected by someone else for a different purpose than the current research project. This data can be obtained from a variety of sources, including government reports, industry publications, academic journals, or internal organizational data.

Some common sources of secondary data include:

1. **Government reports:** Government agencies often collect and publish data on a wide range of topics, such as demographics, health, education, and economic indicators. Examples of government reports include the census data, labor statistics, and crime statistics.
2. **Industry publications:** Trade associations and industry publications often collect and publish data on specific sectors or markets, such as sales figures, market trends, and consumer behavior. These data sources can be particularly useful for market research and competitive analysis.
3. **Academic journals:** Scholarly journals often publish research studies and articles that include quantitative and qualitative data on a wide range of topics. These data sources can be particularly useful for academic research and literature reviews.
4. **Internal organizational data:** Many organizations collect and store data on their operations, finances, and customers. This data can be used for various purposes, such as performance analysis, customer segmentation, and forecasting.

Secondary data collection has several advantages, including cost-effectiveness, time savings, and access to large amounts of data. However, researchers should be aware of the limitations of secondary data, such as the potential for data inaccuracies, incomplete data, or data that is not relevant to the research question. Therefore, researchers should carefully evaluate the quality and reliability of secondary data sources before using them for their research projects.

For this purpose data is collected by a Survey method. A google form is created and floated to the DTU Students. The data collected through the survey and interviews were analyzed using statistical methods, including descriptive statistics and regression analysis. The statistical analysis was used to identify trends and patterns related to the use of UPI and ATMs in India and to test hypotheses related to the impact of UPI on ATM usage.



### **Research Questions for the Survey :**

1. Name of the Person
2. Age of the Person
3. Gender of the Person
4. Occupation of the Person
5. How frequently you have use the UPI as the mode of payment ?
6. How has the adoption of UPI impacted the usage and availability of ATMs in India?
7. To what extent has UPI replaced cash withdrawals from ATMs in India?
8. What impact has UPI had on the profitability of ATM operators in India?
9. Is Demonetisation increase the use of UPI ?
10. How has the introduction of UPI impacted the usage of ATMs in India?
11. What are the factors that influence customers' preference for UPI over ATM transactions?
12. What are the benefits of UPI compared to ATM transactions from the customer's perspective?
13. How have banks and other financial institutions responded to the rise of UPI in India, and what measures have they taken to retain ATM customers?
14. What is the future of ATM transactions in India, and how can banks and financial institutions adapt to the changing payment landscape?
15. Any Suggestions regarding UPI ?.
16. Is there any Drawback of UPI ?.

### **3.2 Sample Design**

Sample design refers to the methods or the techniques that the researchers used for selecting items or data for the sample, it is definite plan to get a sample from a given population. It is typically used by designers and clients to communicate their expectations and ensure that everyone is on the same page before beginning the design process.

### **3.3 Target Audience:**

The study is targeted towards People who are involved in frequently uses of UPI for buying something ,College students, Working professionals, payment gateway providers, and other stakeholders in the payment industry.

### **3.4 Nature of Population**

A research population is also known as well defined group of people or objects that are understood to share common traits or views on UPI impacts on ATMs. Typically, every person or thing within a population shares some sort of unifying quality.

In this study randomly selected students from Delhi Technological University main Bawana Road Sahbad Daulatpur Village Delhi and other working professionals of Delhi. Here the population is finite.

### **3.5 Sample Unit**

To study the whole students and working professionals who are using UPI apps and arrive at a conclusion would be impractical as it is difficult to include the entire students and working professionals in the study, therefore students of Delhi Technological University main Bawana Road Sahbad Daulatpur Village Delhi is selected as the sample unit.

### **3.6 Method of Sampling**

In statistical analysis, sampling is the process of selecting a certain amount of observations from a larger population.

In a simple random sampling, every member of the population has an equal chance of being selected.

### **3.7 Size of Sample**

The sample size of the study is 106 respondents from the students and working professionals of age ranging between above 18 years to 55 years.

### **3.8 Tools for Analysis**

A questionnaire is created in order to receive the necessary responses required from the samples to achieve the research objectives. Data are represented using tables and pie chart, bar graph and data should be analyzed by the descriptive statistics by helping the tools such as SPSS or MS-Excel.

### **Descriptive Statistical Analysis**

Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. In the descriptive statistical analysis a 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. Inferential statistics often distinguishes between descriptive statistics and these. Simply put, descriptive statistics provide information about what the data is or what it reveals. Quantitative descriptions are presented in an understandable fashion using descriptive statistics such as in forms of graphs, charts, diagrams etc. There could be many precautions in place. Large amounts of data can be logically simplified with the aid of descriptive statistics. Descriptive statistics allows us to making conclusions regarding any hypothesis we might have made. These are simply methods to describe our data in some visual form. Descriptive statistical tools are those tools in which these are used to describe the characteristics of a single variable, like frequency percentage etc.

**Table - 1**

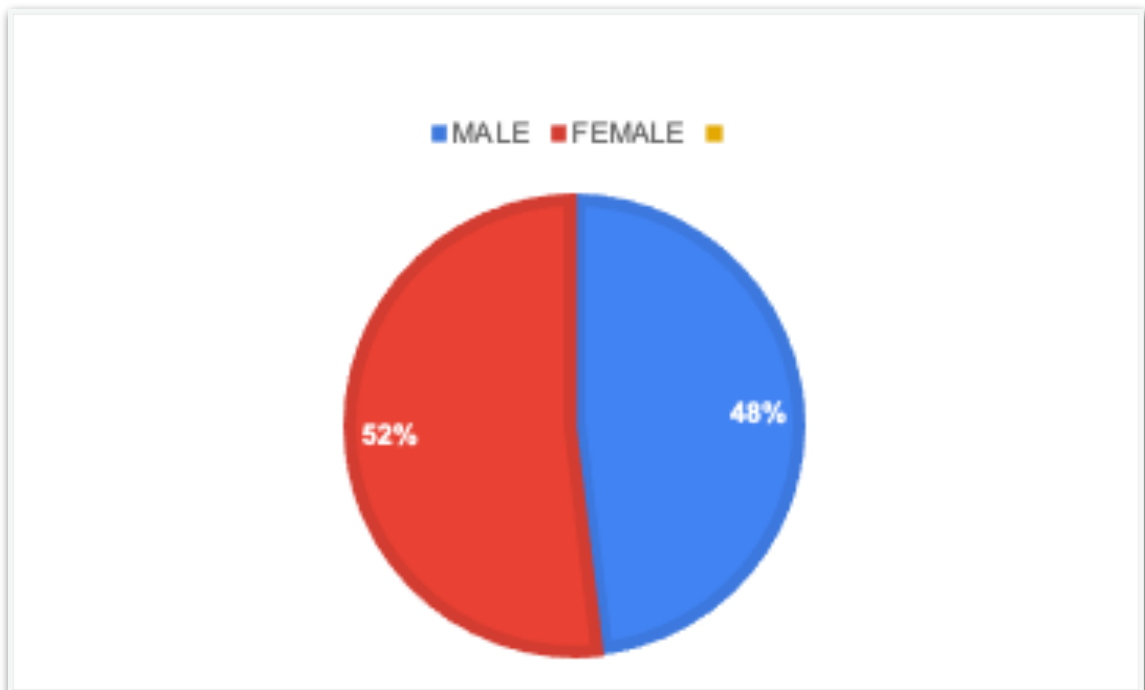
**Table showing Genders of the Respondents**

| <b>Gender</b> | <b>Number of Respondents</b> | <b>Percentage</b> |
|---------------|------------------------------|-------------------|
| Male          | 51                           | 48.2              |
| Female        | 55                           | 51.8              |
| Total         | 106                          | 100               |

From the table 1 we can identify that 48.2% Respondants are male and 51.8% are female. Here female respondents are higher than the male respondents in this study.

**Figure - 1**

**Graphical Representation of gender of respondents**



**Table - 2**

**Q.2. How frequently you are using the UPI as the mode of payment ?**

| <b>Particulars</b>         | <b>Number of Respondents</b> | <b>Percentage</b> |
|----------------------------|------------------------------|-------------------|
| Daily                      | 102                          | 96.2              |
| Very Less                  | 4                            | 3.8               |
| Depends Upon the Situation | 0                            | 0                 |
| Total                      | 106                          | 100               |

From the Table 2 we have clearly identified that 96.2% respondents are using UPI on the daily basis for their buying or selling, 3.8% of respondent are using UPI very less or few times in a month for their buying and selling , they are using cash payments or bank transactions such as DD,Cheques etc. and no one within the respondents are using UPI for situational based buying or selling they are mosly preferred cash or card swipes.

**Figure - 2**

**Graphical Representantion of “ How frequently you are using the UPI as the mode of payment”**



**Table - 3**

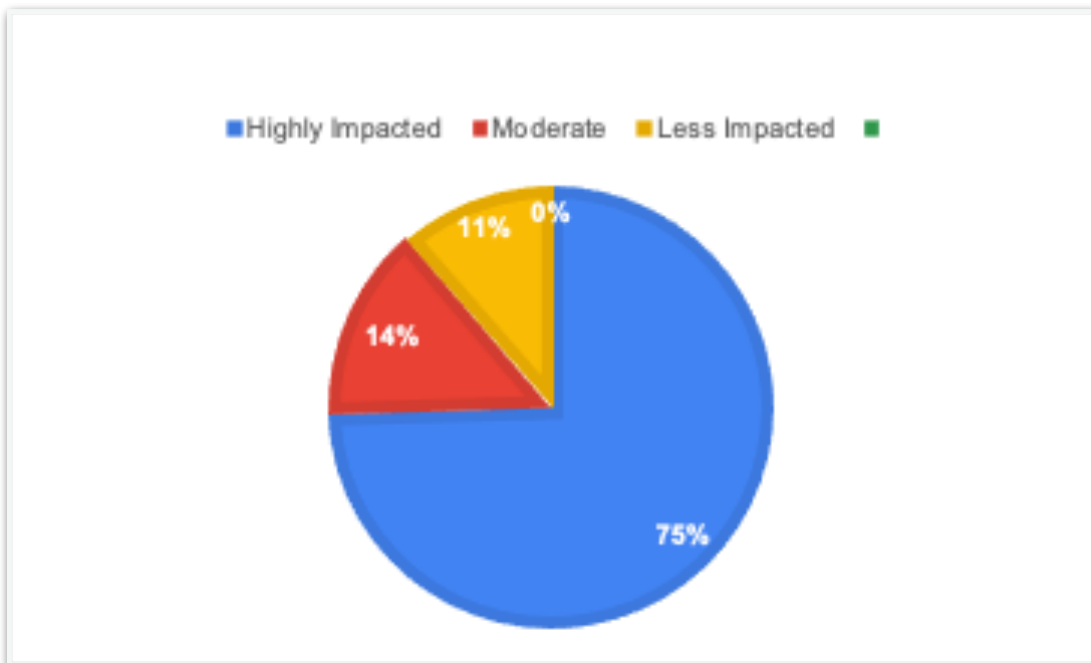
**Q.3. How has the adoption of UPI impacted the usage and availability of ATMs in India?**

| <b>Particulars</b> | <b>Number of Respondants</b> | <b>Percentage</b> |
|--------------------|------------------------------|-------------------|
| Highly Impacted    | 79                           | 74.5              |
| Moderate           | 15                           | 14.1              |
| Less Impacted      | 12                           | 11.3              |
| Total              | 106                          | 100               |

From the Table 3 which shows the result of the question how the adoption of UPI impacted the usage and availability of ATMs in India. So from the table 74.5% of respondents feels that the adoption of UPI is highly impacted the usage and availability of ATMs , and 14.1% respondents feels that the Moderate impact ,and only 11.3% respondents feels that the adoption of UPI is less impacted the usage and availability of ATMs in India. These responses are gathered based on their experiences.

**Figure - 3**

**Graphical Representation of “How has the adoption of UPI impacted the usage and availability of ATMs in India”?**



**Table - 4**

**Q.4. To what extent has UPI replaced cash withdrawals from ATMs in India?**

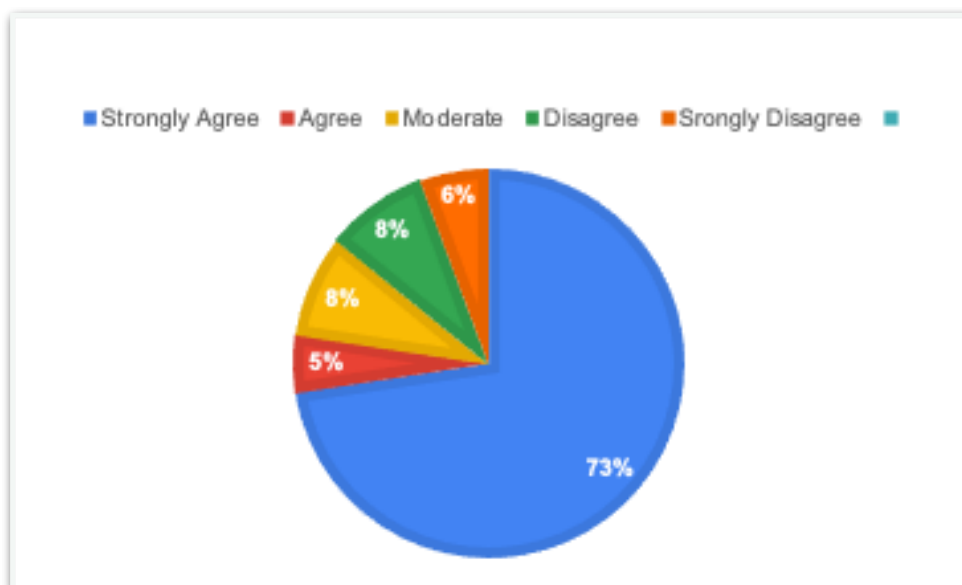
| <b>Particulars</b> | <b>Number of Respondants</b> | <b>Percentage</b> |
|--------------------|------------------------------|-------------------|
| Strongly Agree     | 77                           | 72.6              |
| Agree              | 5                            | 4.7               |
| Moderate           | 9                            | 8.4               |
| Disagree           | 9                            | 8.4               |
| Srongly Disagree   | 6                            | 5.6               |
| Total              | 106                          | 100               |

From table 4 ,which represents the results of survey that was given to 106 individuals . The respondents were asked to indicate their level of agreement or disagreement with the statement “To what extent has UPI replaced cash withdrawals from ATMs in India”, and the results are shown in the table.

For this ,72.6% of respondants indicated that they "Strongly Agree" with the statement that UPI replace the cash withdrawals from the ATMs. 4.7% of the chose "Agree", 8.4% of the respondants chose "Moderate", 8.4% of the total respondents chose "Disagree", and 5.6% respondents chose "Strongly Disagree”.

**Figure - 4**

**Graphical Representantion of “To what extent has UPI replaced cash withdrawals from ATMs in India”**



**Table - 5**

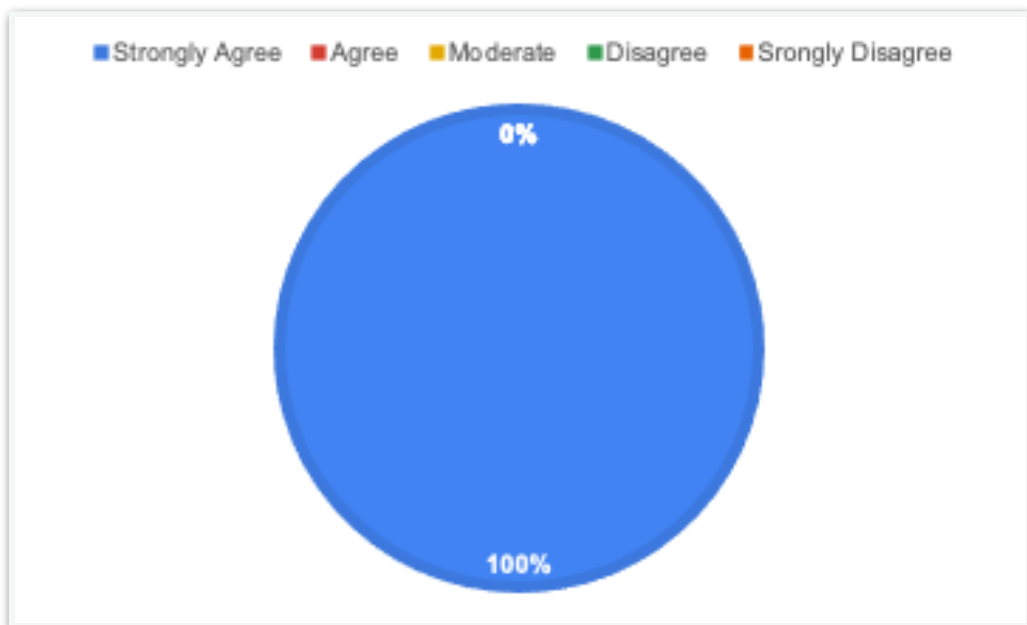
**Q.5 Is Demonetisation increase the use of UPI ?**

| <b>Particulars</b> | <b>Number of Respondants</b> | <b>Percentage</b> |
|--------------------|------------------------------|-------------------|
| Strongly Agree     | 106                          | 100               |
| Agree              | 0                            |                   |
| Moderate           | 0                            |                   |
| Disagree           | 0                            |                   |
| Srongly Disagree   | 0                            |                   |
| Total              | 106                          | 100               |

From table 5 ,which represents the results of survey that was given to 106 individuals . The respondents were asked to indicate their level of agreement or disagreement with the statement “Is Demonetisation increase the use of UPI”, and the results are shown in the table and all the respondants are strongly agreed with the statement, not a single respondant disagree with the statement given in question.

**Figure - 5**

**Graphical Representantion of the statement “Is Demonetisation increase the use of UPI’.**





**Table - 6**

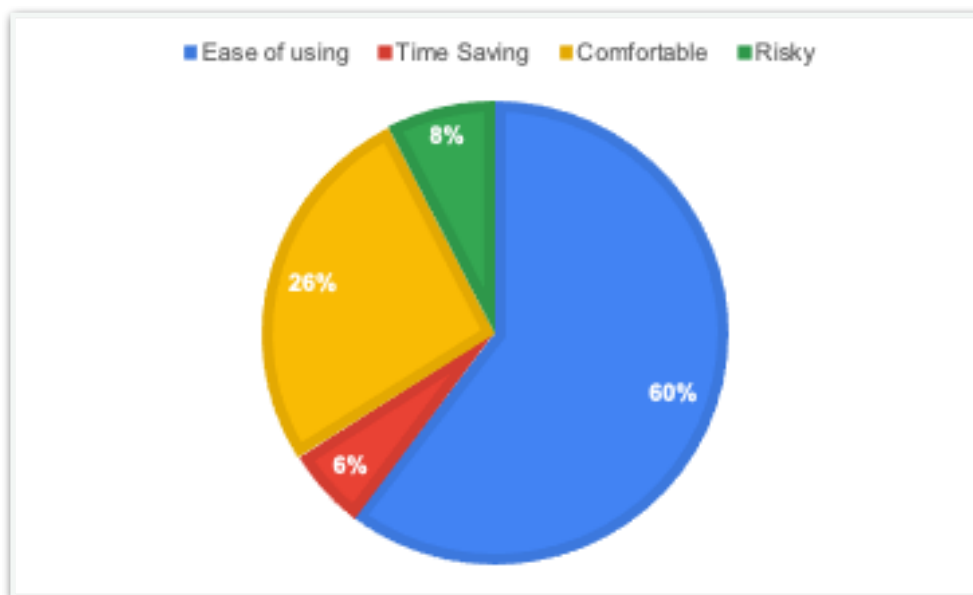
**Q.6 What are the factors that influence customers' preference for UPI over ATM transactions?**

| <b>Particulars</b> | <b>Number of Respondants</b> | <b>Percentage</b> |
|--------------------|------------------------------|-------------------|
| Comfortable        | 28                           | 26.4              |
| Time Saving        | 6                            | 5.6               |
| Ease of using      | 64                           | 60.3              |
| Risky              | 8                            | 7.5               |
| Total              | 106                          | 100               |

In this statement we want to know the answer for the question that what are the factors that influence customers' preference for UPI over ATM transactions. We receive following responses - so 26.4% respondents are using UPI for their comfortable, they are thinking that UPI is more comfortable than ATM transactions and 5.6% respondents are using UPI for Time saving and 60.3% respondents are using UPI because they think that UPI is easy to use and 7.5% of respondents are thinking that UPI is risky they prefer ATM transactions over the UPI.

**Figure - 6**

**Graphical Representation of statement "What are the factors that influence customers' preference for UPI over ATM transactions"**



**Table - 7**

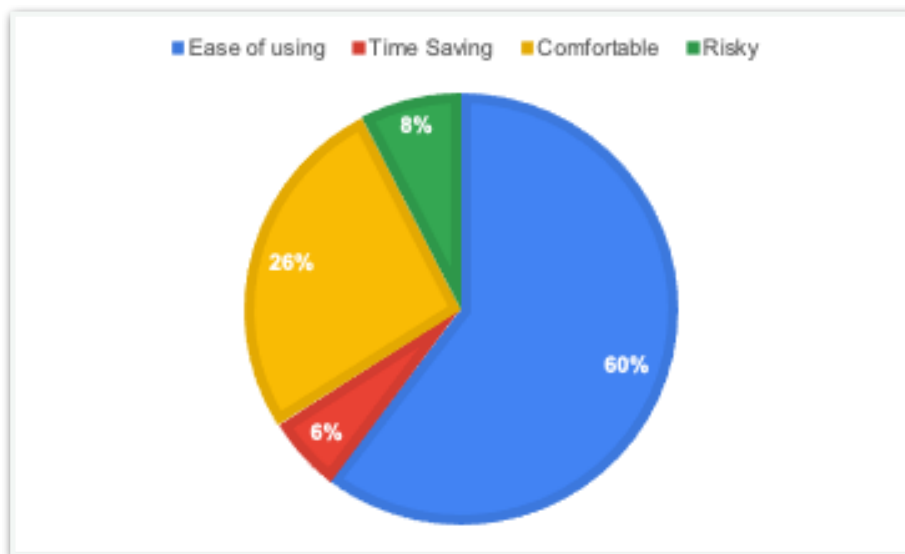
**Q.7 What are the benefits of UPI compared to ATM transactions from the customer's perspective?**

| <b>Particulars</b> | <b>Number of Respondants</b> | <b>Percentage</b> |
|--------------------|------------------------------|-------------------|
| Comfortable        | 28                           | 26.4              |
| Time Saving        | 6                            | 5.6               |
| Ease of using      | 64                           | 60.3              |
| Risky              | 8                            | 7.5               |
| Total              | 106                          | 100               |

In this statement we want to know the answer for the question that What are the benefits of UPI transactions compared to ATM transactions from the customer's perspective?. We receive following responses - so 26.4% respondents are using UPI for their comfortable, they are thinking that UPI is more comfortable than ATM transactions and 5.6% respondents are using UPI for Time saving and 60.3% respondents are using UPI because they think that UPI is easy to use and 7.5% of respondents are thinking that UPI is risky they prefer ATM transactions over the UPI.

**Figure - 7**

**Graphical Representation of statement “What are the benefits of UPI transactions compared to ATM transactions from the customer's perspective”**



**Table - 8**

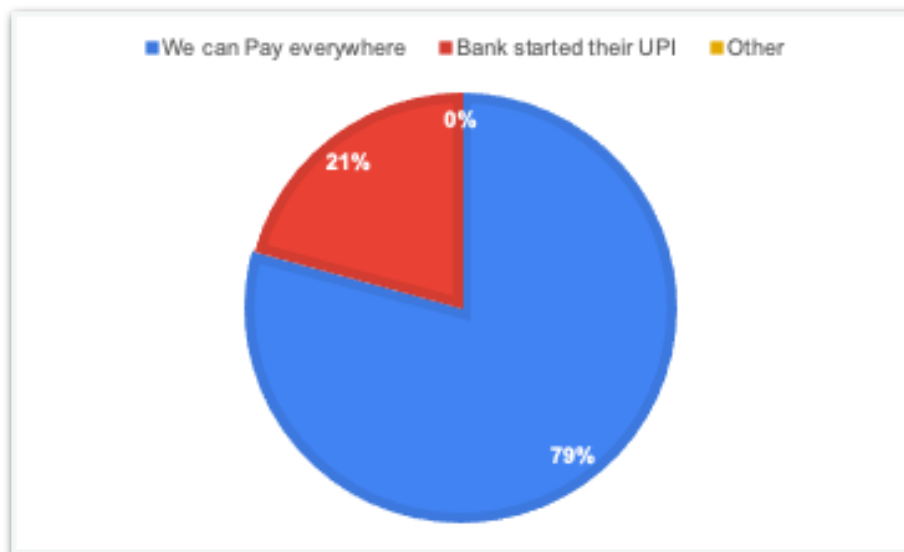
**Q.8 How have banks and other financial institutions responded to the rise of UPI in India ?.**

| <b>Particulars</b>     | <b>Number of Respondants</b> | <b>Percentage</b> |
|------------------------|------------------------------|-------------------|
| We can Pay everywhere  | 84                           | 79.2              |
| Bank started their UPI | 22                           | 20.8              |
| Other                  | 0                            | 0                 |
| Total                  | 106                          | 100               |

From the Table 8 in which we asked the question How have banks and other financial institutions responded to the rise of UPI in India, and respondents give their opinion on it. So we found that 79.2% of the respondents believe that they can pay everywhere by the UPI and 20.8% people believe that they are happy when their own bank start UPI facility to them. We asked them to any other option but they donot suggest any other they stick to our options only.

**Figure - 8**

**Graphical Representation of the statement “How have banks and other financial institutions responded to the rise of UPI in India”**



**Table - 9**

**Q.10 Is there any suggestions for UPI ?.**

| <b>Particulars</b>    | <b>Number of Respondants</b> | <b>Percentage</b> |
|-----------------------|------------------------------|-------------------|
| NO                    | 87                           | 82.5              |
| International Payment | 19                           | 17.5              |
| Total                 | 106                          | 100               |

In this statement we want to know the answer for the question that “Is there any suggestions of UPI ?”. We receive following responses - so 82.5% respondents are believes that there is no suggestions for UPI according to them UPI is perfect mode of payment, and 17.5% of respondents believes that UPI is not working for international payments. So according to their responses we found that there is only one suggestion for the UPI is international payments, however government of India is planning to introduce upi for the international payments.

**Figure - 9**

**Graphical representation of suggestions of UPI**



**Table - 10**

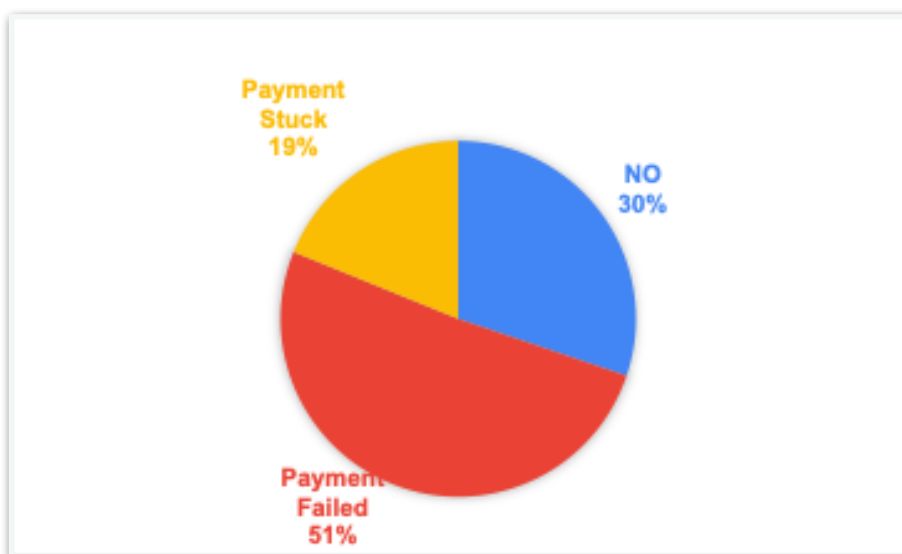
**Q.10 Is there any Drawback of UPI ?**

| <b>Particulars</b> | <b>Number of Respondents</b> | <b>Percentage</b> |
|--------------------|------------------------------|-------------------|
| NO                 | 32                           | 30.2              |
| Payment Failed     | 54                           | 50.9              |
| Payment Stuck      | 20                           | 18.9              |
| Total              | 106                          | 100               |

From this table we want to know the answer or responses for the respondents for the questions Drawbacks of upi , for this we receive responses for the respondents so according to our responses 30.2% respondents believe that there is no drawbacks of upi according to them upi is perfect, 50.9% people believe that Payment failed is a drawback according to them some times they do not able to pay and payments are failed for any reason, and 18.9% respondents believe that when they doing payments through upi some times their account balance is debited and receiver did not get the money and refund takes around 48hr .

**Figure - 10**

**Graphical representation for drawbacks of UPI**



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## 4. Findings of the study

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From this study we found out so many inputs about the UPI impacts on the ATMs. We have conducted a survey through the google form. And found that after the demonetisation people use more upi transaction rather than ATMs because atms are very time consuming which is also shown in the table 5 ,which represents the results of survey that was given to 106 individuals . The respondents were asked to indicate their level of agreement or disagreement with the statement “Is Demonetisation increase the use of UPI”, and the results are shown in the table and all the respondants are strongly agreed with the statement, not a single respondant disagree with the statement given in question.

The widespread adoption of digital payment systems like UPI (Unified Payment Interface) has transformed the payments landscape in India, enabling instant and convenient fund transfers between bank accounts. As UPI gains traction among users, it raises questions about the relevance and future of traditional payment channels, such as ATM machines.

The project report on the impact of UPI on ATM machines would be to investigate how the rise of UPI has affected the usage of ATM machines in India. While ATM machines have been a mainstay of the payments ecosystem for several decades, the increasing popularity of UPI has led to concerns about their viability, usage patterns, and costs.

In the table 4 ,which represents the results of survey that was given to 106 individuals . The respondents were asked to indicate their level of agreement or disagreement with the statement “To what extent has UPI replaced cash withdrawals from ATMs in India”, and the results are shown in the table.

For this ,72.6% of respondants indicated that they "Strongly Agree" with the statement that UPI replace the cash withdrawals from the ATMs. 4.7% of the chose "Agree", 8.4% of the respondants chose "Moderate", 8.4% of the total respondants chose "Disagree", and 5.6% respondants chose "Strongly Disagree”.

table 10 suggests some drawbacks of the upi, for this we recieves responses for the respondants so according to our responses 30.2% respondants believe that their is no drawbacks of upi according to them upi is perfect, 50.9% people believe that Payment failed is a drawback according to them some times they do not able to pay and payments

are failed for any reason, and 18.9% respondents believe that when they doing payments through upi some times their account balance is debited and receiver did not get the money and refund takes around 48hr .

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## **Conclusion**

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In conclusion, this research paper has analyzed the impacts of UPI (Unified Payments Interface) on the ATM (Automated Teller Machine) industry in India. The study found that UPI has had a significant impact on the ATM industry, leading to increased usage of ATMs and digital transactions. However, the study also highlighted the importance of robust security measures and continuous improvement in the UPI-enabled ATM network.

The research suggests that UPI has the potential to revolutionize the way people access financial services and transform the banking industry. The findings of this study could have significant implications for policymakers, banking industry stakeholders, and the general public.

Overall, the research highlights the importance of understanding the impacts of technological advancements on the financial industry and the need for continuous monitoring and upgrading of financial systems to ensure their efficiency and security. This study provides valuable insights into the impacts of UPI on the ATM industry and sets the stage for further research on this topic. The research paper has analyzed the impacts of UPI on the ATM industry in India. The study found that the introduction of UPI has had a significant impact on the usage of ATMs and digital transactions. The research also highlighted the need for robust security measures to protect customer data from cyber threats and the importance of continuous monitoring and upgrading of ATM networks to ensure seamless integration with UPI-based payment systems. Moreover, the study identified the potential of UPI to revolutionize the way people access financial services and transform the banking industry. The research suggests that UPI has brought about positive changes in the ATM industry and has the potential to bring about transformative changes in the future. Overall, the study provides valuable insights into the impacts of UPI on the ATM industry and highlights the need for further research in this area.



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