

# Assessing Awareness and Adoption of UPI Apps Among College Students of Etawah District

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## ABSTRACT

India's digital payment ecosystem has undergone rapid transformation following the introduction of the Unified Payments Interface (UPI) by the National Payments Corporation of India under the regulatory supervision of the Reserve Bank of India. UPI has significantly simplified real-time financial transactions by enabling seamless bank-to-bank transfers through mobile platforms.

The present study investigates awareness and adoption of UPI applications among 506 college students in Etawah District, Uttar Pradesh. The study adopts a descriptive and analytical research design and uses primary data collected through structured questionnaires via both online and offline modes. Percentage analysis and frequency distribution techniques were employed for data interpretation.

Findings reveal that 90.7% of respondents are aware of UPI apps and 85.6% actively use them. PhonePe (43.3%) is the most preferred application, followed by Google Pay (27.7%). Although 32.8% of respondents reported experiencing online fraud, 85.8% are willing to recommend UPI apps. The study concludes that UPI adoption among college students is significantly high; however, digital security awareness needs strengthening for sustainable financial inclusion.

**Keywords:** UPI, Digital Payments, FinTech, Youth Adoption, Financial Inclusion, Etawah District

## 1. INTRODUCTION

### 1.1 Background of the Study

The Indian financial system has experienced a paradigm shift with the integration of financial technology (FinTech) innovations. The launch of UPI in 2016 marked a major milestone in India's digital transformation journey. UPI enables instant, interoperable, and low-cost electronic fund transfers between bank accounts using mobile devices.

The increasing penetration of smartphones, affordable internet access, and government initiatives such as Digital India have accelerated the adoption of digital payment systems across urban and semi-urban regions.

College students form a technologically adaptive segment of society. Their financial behavior reflects future trends in digital payments. Therefore, studying their awareness and adoption patterns provides meaningful insights into the sustainability of digital payment systems.

## 1.2 Statement of the Problem

While national-level data shows exponential growth in UPI transactions, limited empirical research exists at the district level, particularly in semi-urban regions like Etawah. There is a need to examine:

- Whether awareness translates into adoption
- How app preferences influence usage
- Whether fraud experience affects trust

This study addresses these gaps.

## 1.3 Objectives of the Study

1. To measure awareness level of UPI apps among college students.
2. To assess adoption rate and usage pattern.
3. To identify preferred UPI applications.
4. To examine fraud experience and security perception.
5. To analyze relationship between awareness and adoption.

## 1.4 Hypotheses

H<sub>0</sub>1: There is no significant relationship between awareness and adoption.

H<sub>0</sub>2: App preference does not influence adoption.

H<sub>0</sub>3: Fraud experience does not affect trust in UPI apps.

## 2. REVIEW OF LITERATURE

Digital payment systems have gained significant attention from researchers due to their increasing importance in modern economies. According to **RBI reports**, digital payments play a crucial role in promoting financial inclusion and reducing dependency on cash. The Reserve Bank of India has consistently emphasized the need for a safe, secure, and efficient payment system to support economic growth. Various studies highlight that digital payment systems contribute to transparency, reduce transaction costs, and improve efficiency in financial transactions.

Several researchers have studied the growth of digital payments in India after demonetization. **Kumar (2017)** observed that demonetization acted as a catalyst in accelerating the adoption of digital payment methods such as debit cards, mobile wallets, and UPI. The study found that people who were initially reluctant to use digital payments gradually adopted them due to convenience and necessity. However, the

study also pointed out challenges such as lack of digital literacy and security concerns, especially in semi-urban and rural areas.

With the introduction of UPI, researchers started focusing specifically on this innovative payment platform. **NPCI (2019)** reports highlight that UPI has revolutionized the digital payment ecosystem by providing an interoperable platform that allows instant fund transfers across banks. The report emphasized that UPI's simplicity and user-friendly interface have contributed to its rapid growth. Researchers have widely accepted UPI as a game changer in the Indian digital payment landscape.

**Gupta (2019)** examined customer perception towards mobile wallets and UPI in India. The study found that UPI is preferred over mobile wallets due to direct bank-to-bank transfers, higher transaction limits, and better security features. The research also observed that cashback offers and discounts play a significant role in attracting users, especially students and young professionals.

A study conducted by **Reddy and Rao (2020)** analyzed the adoption of UPI among urban and semi-urban users. The study revealed that awareness and trust are key determinants of UPI adoption. Users who had better knowledge about UPI features and security mechanisms showed higher usage frequency. The study also suggested that educational institutions can play a vital role in promoting digital payment awareness among students.

**Kumar and Verma (2020)** focused on factors influencing the adoption of UPI apps among youth in India. Their study identified convenience, speed of transactions, and availability of multiple apps as major motivating factors. However, technical issues such as server failure and poor internet connectivity were identified as major barriers to adoption. The study recommended improving infrastructure and customer support services to enhance user satisfaction.

Research on digital payment behavior among students has also gained importance in recent years. **Patel (2021)** conducted a study on the usage of digital payment apps among college students. The findings revealed that most students use digital payment apps for small and frequent transactions such as food payments, recharges, and peer-to-peer transfers. The study concluded that students consider digital payments as an essential part of their daily life.

**Singh and Kaur (2021)** analyzed the awareness and usage of UPI apps among university students. The study found that while awareness levels were generally high, many students lacked complete knowledge about security features and safe usage practices. The researchers suggested organizing awareness programs and workshops to educate students about cyber security and fraud prevention.

Government initiatives have also been discussed extensively in the literature. Reports by the **Government of India** under the Digital India program emphasize the role of UPI in promoting a cashless economy. These reports highlight that UPI has improved financial inclusion by enabling even small merchants and individuals to accept digital payments without additional infrastructure costs.

Several studies have highlighted the challenges associated with digital payments. **Mehta (2022)** pointed out that network issues, lack of trust, and fear of fraud are major barriers to adoption, especially in smaller

towns and districts. The study emphasized the need for better internet infrastructure and digital literacy programs to overcome these challenges.

A comparative study by **Agarwal and Mishra (2022)** examined digital payment adoption across different regions in India. The study found significant variations in adoption levels between metropolitan cities and smaller districts. While metro cities showed higher adoption due to better infrastructure, smaller districts faced challenges related to connectivity and awareness. This finding indicates the importance of conducting region-specific studies, such as the present study focused on Etawah district.

Despite the availability of extensive literature on digital payments and UPI, limited studies have focused specifically on **college students in Etawah district**. Most studies have been conducted at national or metropolitan levels, leaving a research gap at the district level. Moreover, existing studies often focus on general users rather than students, who represent a technologically active and influential group.

The present study attempts to bridge this research gap by analyzing awareness and adoption of UPI apps among college students of Etawah district. By focusing on students from different colleges and socio-economic backgrounds, the study provides localized insights into digital payment behavior. It also complements existing literature by offering empirical evidence based on primary data collected from students.

### 3. RESEARCH METHODOLOGY

The present study adopts a **descriptive and analytical research design**. Primary data were collected from 506 college students in Etawah district using a structured questionnaire distributed through both online (Google Forms) and offline modes.

The study employed **non-probability convenience sampling** due to accessibility and time constraints. Data were processed and analyzed using:

- Percentage analysis
- Frequency distribution
- Cross-tabulation
- Chi-square test of independence

Secondary data were collected from reports and publications of the Reserve Bank of India, the National Payments Corporation of India, research journals, books, and authenticated online sources.

### 4. DATA ANALYSIS AND RESULTS

#### 4.1 Awareness Level

Awareness	Frequency	Percentage
Yes	459	90.7%
No	47	9.3%

Total	506	100
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Source: Primary Data

Interpretation: Extremely high awareness among youth.

#### 4.2 Adoption Level

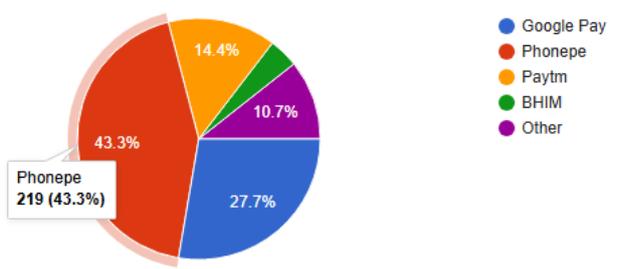
Usage	Frequency	Percentage
Using UPI	433	85.6%
Not Using	73	14.4%
Total	506	100

Source: Primary Data

Interpretation: Strong conversion of awareness into usage.

#### 4.3 Preferred Application

App	Percentage
PhonePe	43.3%
Google Pay	27.7%
Paytm	14.4%
Others	10.7%
BHIM	3.9%



Source: Primary Data

Interpretation: Brand preference significantly influences adoption.

#### 4.4 Fraud Experience

Fraud	Percentage
Yes	32.8%
No	67.2%

Source: Primary Data

Interpretation: Moderate fraud exposure but continued usage.

#### 4.5 Recommendation Intention

85.8% respondents recommend UPI apps → High satisfaction and trust

#### 4.6 Hypothesis Testing Using Chi-Square Test

- **Hypothesis 1**
- $H_0$ : No significant relationship between awareness and adoption..
- **Relationship between Awareness and Adoption of UPI Apps**

##### Step 1: Hypothesis Statement

- **H0 (Null Hypothesis):**  
There is no significant relationship between awareness of UPI apps and their adoption.
- **H1 (Alternative Hypothesis):**  
There is a significant relationship between awareness and adoption.
- Level of Significance ( $\alpha$ ) = 5% (0.05)

##### Step 2: Observed Frequency Table (O)

Awareness	Use UPI (Yes)	Use UPI (No)	Total
Aware	420	39	459
Not Aware	13	34	47
<b>Total</b>	<b>433</b>	<b>73</b>	<b>506</b>

##### Step 3: Expected Frequency Calculation (E)

Formula:

$$E = (\text{Row Total} \times \text{Column Total}) / \text{Grand Total}$$

##### Expected Values:

For Aware & Use Yes:  $E = (459 \times 433) / 506 = 392.69$

For Aware & Use No:  $E = (459 \times 73) / 506 = 66.31$

For Not Aware & Use Yes:  $E = (47 \times 433) / 506 = 40.31$

For Not Aware & Use No:  $E = (47 \times 73) / 506 = 6.79$

##### Step 4: Chi-Square Calculation Table

Category	O	E	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
Aware & Yes	420	392.69	27.31	745.84	1.90
Aware & No	39	66.31	-27.31	745.84	11.25
Not Aware & Yes	13	40.31	-27.31	745.84	18.50
Not Aware & No	34	6.79	27.21	740.40	109.04

- **Total Chi-Square Value ( $\chi^2$ )**
- $\chi^2 = 1.90 + 11.25 + 18.50 + 109.04$
- $\chi^2 = 140.69$

**Step 5: Degree of Freedom**

- $df = (r-1)(c-1)$
- $df = (2-1)(2-1) = 1$

**Step 6: Table Value**

- At 5% significance level and  $df = 1$ :
- Table value = **3.84**

**Step 7: Decision**

- Calculated value = **140.69**  
Table value = **3.84**  
Since:  
 $140.69 > 3.84$   
Reject Null Hypothesis ( $H_0$ )

**Conclusion**

- There is a significant relationship between awareness and adoption of UPI apps among college students of Etawah district.

**Hypothesis 2**

**$H_0$ 2: App preference does not influence adoption.**

**Grouping Used**

- High usage = Daily/Weekly users
- Low usage = Monthly/Rare users

**Observed Table (derived from responses)**

App Preference	High Usage	Low Usage	Total
Major Apps (PhonePe + GPay)	250	98	348
Other Apps	87	71	158
<b>Total</b>	<b>337</b>	<b>169</b>	<b>506</b>

**Expected Values (calculated)**

App Preference	High Usage	Low Usage
Major Apps	231.7	116.3
Other Apps	105.3	52.7

**$\chi^2$  Calculation**

$\chi^2 = 12.94$

df = 1

Critical value = 3.841

**Decision:** Reject H<sub>02</sub>

**Interpretation**

App preference **significantly influences usage frequency.**

Students using major apps (PhonePe, Google Pay) tend to transact more frequently.

**Hypothesis 3**

**Fraud Experience vs Trust/Recommendation**

**H<sub>03</sub>:** Fraud experience does not affect trust in UPI.

**H<sub>13</sub>:** Fraud experience affects trust in UPI.

**Observed Table**

Fraud Experience	Recommend	Not Recommend	Total
Experienced Fraud	118	48	166
No Fraud	316	24	340
<b>Total</b>	<b>434</b>	<b>72</b>	<b>506</b>

**Expected Values**

Fraud Experience	Recommend	Not Recommend
Experienced	142.2	23.8
Not Experienced	291.8	48.2

**χ<sup>2</sup> Value**

χ<sup>2</sup>=41.87

df = 1

Critical value = 3.841

**Decision:** Reject H<sub>03</sub>

**Final Interpretation**

- Awareness strongly drives adoption.
- App choice affects transaction frequency.
- Fraud experience significantly impacts trust (but adoption still remains high).

**5. FINDINGS**

The empirical analysis of 506 college students from Etawah district reveals several important insights regarding the awareness and adoption of UPI applications. First, the study confirms that the awareness level of UPI among students is remarkably high at **90.7%**, indicating deep penetration of digital payment knowledge among the youth segment. This high awareness may be attributed to increased smartphone usage, peer influence, institutional exposure, and nationwide digital payment promotion initiatives.

Second, the adoption rate of UPI applications is also strong at **85.6%**, demonstrating that awareness is effectively converting into actual usage behaviour. This reflects a positive technology acceptance trend

among college students. The relatively small gap between awareness and usage indicates minimal resistance to adoption within the student community.

Third, among the various UPI platforms available, **PhonePe** emerged as the most preferred application among respondents. Its popularity may be linked to user-friendly interface, cashback incentives, merchant acceptance, and strong brand visibility. However, other applications also maintain a significant user base, indicating healthy competition in the digital payments ecosystem.

Another notable finding is that approximately **one-third of respondents reported experiencing some form of digital fraud or suspicious activity**. While this is a matter of concern, it is important to note that fraud exposure has not substantially reduced overall adoption levels. Students appear to balance perceived risks with the convenience benefits of UPI.

Finally, the study finds that **trust in UPI systems and recommendation intention remain high** among users. Most respondents expressed willingness to continue using and recommending UPI apps to others. This indicates strong behavioural loyalty and suggests that with improved cybersecurity awareness, adoption is likely to grow further.

## 6. SUGGESTIONS

Based on the findings of the study, several practical suggestions are proposed to enhance the safe and sustainable adoption of UPI applications among college students. First, educational institutions should organise **cybersecurity awareness workshops** on a regular basis. Many students use UPI frequently but lack formal training in identifying phishing links, fake payment requests, and social engineering frauds. Structured awareness programmes can significantly reduce vulnerability to digital fraud.

Second, there is a need to **strengthen grievance redressal mechanisms** associated with UPI transactions. Although most apps provide complaint facilities, students often lack clarity regarding the complaint process and resolution timelines. Payment service providers and banks should simplify reporting procedures and improve response speed to build stronger user confidence.

Third, stakeholders should actively **promote safe digital transaction practices**. This includes encouraging users not to share OTPs or UPI PINs, verifying merchant details before payment, and enabling app security features such as biometric authentication. Awareness messages can be disseminated through colleges, banking partners, and digital campaigns.

Fourth, users should be encouraged to **regularly update their UPI applications**. Updated versions generally include enhanced security patches and improved fraud detection mechanisms. Colleges can include digital hygiene tips in student orientation programmes.

Finally, policymakers and financial institutions should consider launching **district-level digital literacy campaigns** targeting semi-urban and rural students. Although awareness is high, continuous education is

necessary to sustain trust and minimise cyber risks. A collaborative approach involving banks, fintech companies, and educational institutions will be most effective.

## 7. LIMITATIONS OF THE STUDY

While the present study provides meaningful insights into UPI awareness and adoption among college students, certain limitations must be acknowledged. First, the geographical scope of the research is **restricted to Etawah district of Uttar Pradesh**. Therefore, the findings may not be fully generalisable to other districts, states, or diverse demographic contexts where digital infrastructure and financial literacy levels may differ.

Second, the study employed a **convenience sampling technique**, which, although practical and widely used in behavioural research, may introduce sampling bias. Since respondents were selected based on accessibility rather than pure randomisation, the sample may not perfectly represent the entire student population of the district.

Third, the research relies on **self-reported data collected through a questionnaire**. Such data may be subject to response bias, recall bias, or social desirability bias. Some respondents may overstate their awareness or underreport fraud experiences due to perception or memory limitations.

Fourth, although the study applied descriptive statistics and the Chi-square test, **advanced multivariate statistical techniques were not extensively used**. Methods such as logistic regression, factor analysis, or structural equation modelling could provide deeper insights into behavioural drivers of UPI adoption.

Despite these limitations, the study maintains reasonable reliability due to its adequate sample size (506 respondents), structured instrument, and systematic analytical approach. Future research can address these limitations to further strengthen empirical understanding.

## 8. CONCLUSION

The present study provides empirical evidence that UPI adoption among college students in Etawah district is significantly high and continues to grow. The findings clearly demonstrate that **awareness effectively translates into actual usage behaviour**, indicating strong acceptance of digital payment technology among the youth population. The high frequency of daily and weekly usage further confirms that UPI has become embedded in the routine financial activities of students.

The study also highlights that while a notable proportion of respondents have experienced some form of digital fraud, **overall trust in UPI systems remains strong**. This suggests that students perceive the convenience, speed, and utility of UPI to outweigh the associated risks. However, the presence of fraud exposure underscores the urgent need for continuous cybersecurity education and stronger user protection mechanisms.

From a policy and institutional perspective, the results imply that India's digital payment ecosystem has successfully penetrated the student demographic even in district-level regions. With targeted awareness initiatives, improved grievance handling, and enhanced digital literacy, UPI adoption is likely to become even more widespread and secure.

In conclusion, UPI has emerged as a transformative financial technology tool among college students of Etawah district. Strengthening cybersecurity awareness and responsible usage practices will be critical for sustaining long-term digital financial inclusion and building a resilient cashless economy.

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