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Behavioural Dependency or Habitual Adoption? Examining UPI Usage Patterns Among Gen Z University Students at Dharwad, India

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Abstract

In India the development of technology has made major impact on lifestyle of people. New Generation Z is more used to technology & Digital payment has become part of their life. UPI is dominating all other Digital payment methods. The study is aimed to assess the behavioural pattern of entrenched, routine, and difficult to discontinue usage nature among Gen Zs, specifically Local University Students at Dharwad. A Study of Usage pattern among 221 Gen Z students of Dharwad, Karnataka is conducted using structured questionnaire & Technology Acceptance Model (TAM) & Habitual use theory. Sample size is calculated by using Cochran's Sample Size Formula. Major five key factors: frequency, intensity, Convenience, ease of use & Fear of risk. The data is analysed using correlation coefficient, R^2, Cronbach's Alpha, P Value, Standard Deviation & Reliability. Cronbach's Alpha of 0.610 indicates acceptable internal consistency. Pearson correlation, Simple regression and R^2 reveals significant positive associations between frequency, intensity, convenience and ease of use with UPI usage & fear of risk shows significant negative association with frequency & convenience. After all the calculations & findings we can conclude that the respondents agreed to the Indicators & Hypothesis are accepted. Over 90.0% of the population chose UPI over other payment methods & it has become major part of their routine life. It also presented that it has dark side impact also and 74% of the population have faced the frauds while using UPI & 53.2% of the population use UPI with the fear & risk of fraud.

Keywords: TAM, Frequency, Intensity, Convenience, Ease of use, Digital Payment.

Introduction

As digital payment system became famous in India after introduction of UPI by National Payments Corporation of India (NPCI) in the year 2016, cash less transaction has been given importance & measures were taken by Indian government to help people to adopt UPI. Many players entered a market & initially tried to attract people with more discounts, rebates etc. now people are choosing Digital payments over Cash transactions. Today India is widely recognised as number 1 in digital payments globally. In the year 2025, Global digital payment market estimated at around USD 157 Trillion in total transaction value among that India's share is 49%.

As per latest record of RBI, In the H1 of 2025 Digital payments accounted for 99.8% of all transactions & they made up 97.7% of the total transaction value, among that UPI handles a huge portion, around 80-85% of India's digital payments. The widespread penetration of smartphones, affordable internet access & supportive government initiatives are accelerators for adoption of Digital Payments.

Among these segments, Generation Z – the individuals born between the mid-1990s & early 2010s has emerged as the most active & influential user group of digital payment system. If we take above data majority of the usage share is holed by the people of the age 18 to 26 years.
Established frameworks such as Technology acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), Diffusion of Innovation Theory examines adoption of Digital Payment systems.
Growing adoption of digital payments reflects technological progress & financial inclusion, concerns have been raised regarding the behavioural consequences of excessive digital payment usage. The convenience, speed, reward mechanisms & reduced "Pain of Paying" associated with digital transactions encourages frequent usage.

Review of Literature

In recent years, convenience, adoption, changing trends & discounts/ Rebate drivers have resulted rapid expansion of digital payment system. Among that major share is captured by UPI system among all other digital payment platforms. The contribution of young generation, specifically Gen Z's is clearly noticeable & it plays very important role. The reason behind it can be explained with one of the hypothesis of Usman,, B., Rianto & Aujirapongpan (2025), Digital payment has direct connection with Financial literacy, the comfortness with usage of mobile, also plays an important role.
It has also covered several theoretical models. The TAM (Davis, 1989) points that ease of use & usefulness are primary indicators of technology acceptance. The UTAUT (Venkatesh et al., 2003) include social influence & facilitationg conditions. Innovation Diffusion Theory (Rogers, 1995) further highlights compatibility & observability as determinants of adoption speed.
Consistent with Fakriah et al. (2025), Ease of use also plays an important role, Comparing to non-Gen Z's, Gen Z's have more adoptive behaviour towards mobile, internet or technology. So any digital payment system is not only considered as option it is their choice as it is easy for them to use. This ease leads to continued usage that builds trust among generation that leads to adoption that shifts to habitual dependence. Addition to that as per Kawamoto (2023), Mobile payment technology innovations around globe have different characteristics, In a developing country like India government is encouraging people to adopt technology which becomes key driver for adoption of Digital payments.
The study by Oladipo, Adenike O (2025) examined digital payment system adoption among undergraduate students in Kwara state universities, considering Internet access, Frequency of Tech usage & mobile devise ownership establishes finding that convenient, flexibility, time consuming & effectiveness in expenditure tracking, strongly motivates college students to adopt & addict to UPI. Similar study by Khikamatullaev Ismoilkhuja (2025), the study of Uzbekistan students examines the adoption of cashless payment system. It also presents similar indications that the choice of students of digital payment relies on Behavioural preferences, trust & usage, speed, convenience & ease of financial tracking.
Analysing Behavioural shifts in the Era of Cashless payments by Aula Ahmad Hafidh Saiful Fikri (2025), studies adoption of mobile payments using Innovation Diffusion Theory (IDT) & Technology Acceptance Model (TAM), as these frameworks effectively explains user's behavioural intention towards new financial technologies. As per study of Rizka Ramayanti (2024), TAM, UTAUT, DOI, TPB are some of the theories employed to study Exploring intention & actual use in digital payments.
From the study of Mohd Safwan Ramli(2021)'s Innovation Diffusion & Mobile payment adoption amongst post graduation students also indicates that the key drivers are Perceived usefulness, Perceived

ease of use, perceived compatibility, individual's mobility etc. Glenn Ises G Bangguiyac (2025) concludes that higher education students are generally ready & willing to adopt digital payments, influenced primarily by how helpful & easy these systems are to use.

In summary, all the above existing literature examines extent of adoption of Digital payments by undergraduate, Graduate & Post graduate students & gives similar view that the key factors attracting Gen Zs towards UPI/Digital payments are eased to use, usefulness & adoption of Mobiles & Internet access. The present study focusses on how this adoption of UPI is shifting to addiction among young generations, specifically Gen Zs.

Objectives

1. To examine whether frequency & intensity of UPI usage among Gen Z students are indicative of habitual, dependency
2. To identify key technological, psychological & economic drivers influencing UPI addiction among Genz
3. To analyse usage pattern of Digital payment among Genz
4. To assess the extent of adoption of UPI among Genz users
5. To examine whether high frequency UPI usage is associated with impulse spending behaviour

Hypothesis Testing

H1: The frequency & intensity of UPI payment among Genz are positively associated with habitual usage behaviour

H2: Convenience & ease of use have a significant positive impact on habitual usage of digital payment

H3: Perceived fraud risk is negatively associated with UPI usage frequency among Gen Z students

Research Methodology

Research Design:

In this paper, Descriptive & Analytical analysis design is used to examine the usage pattern of UPI among Genz's. It also studies distinction between adoption & addictive behaviour. The study is empirical in nature & it is based on primary data collected through a structured questionnaire.

Population & Size:

Target population is Gen z users, individuals between the ages of 18 to 26 years old. A sample size 221 is considered adequate to ensure statistical reliability & representativeness as per Cochran's Sample Size Formula. Owing to the accessibility of Gen Z users through educational institutions.

$n = (z^2 \times p \times q) / e^2$

where, $z = 1.96$ (95% confidence level), $p = 0.5$ (maximum variance assumption), $q = 1 - p = 0.5$, and $e = 0.066$ (margin of error). This yields $n \approx 221$, which is considered adequate for the study's analytical technique.

Data Source:

Primary Data: Collected through a self-administered structured questionnaire distributed Online.

Secondary Data: Sourced from research journals, books, reports by RBI, Publications to support theoretical & empirical discussions.

Tools & Techniques of Analysis:
Statistical Tools used for the study are – Mean & Standard Deviation, Correlation, Cronbach's Alpha, P-Value & Beta Results (β)

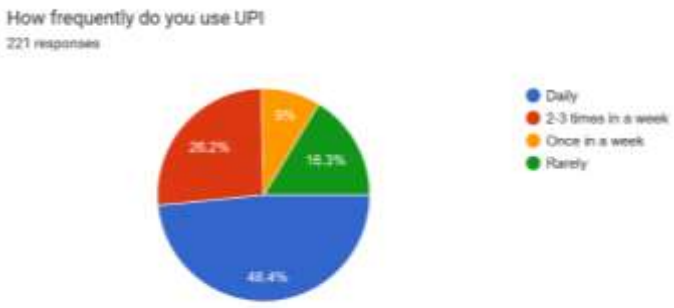
Limitations of the study:
- Limited Sample representation
- Mixed measurement scales
- Lack of advanced statistical analysis
- Regional Differences

Data Analysis & Interpretation
The key factors considered for our study are Intensity, Frequency, Convenience, Ease of use & Fear of Risk. To prove these 5 factors are major influencers for UPI addiction these are included in the questionnaire & the responses of 221 respondents is considered. The analysis of responses relating to these key factors is presented below with the help of figures. These figures also help us to prove that our Hypothesis are accepted by respondents.

Figure 1: Intensity

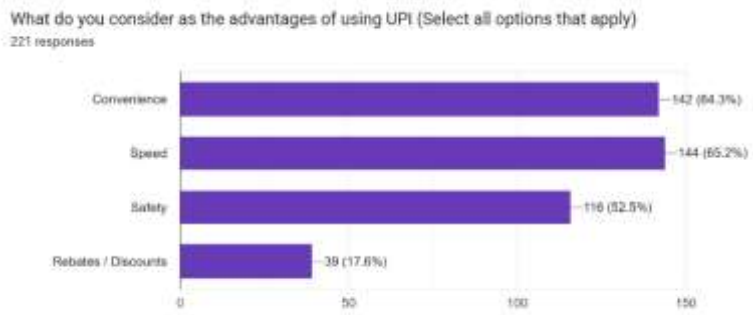
To measure intensity of usage these 2 questions are referred which explains that over 85.3% of the sample size use digital platforms, among that 91% uses UPI for payment.

Figure 2: Frequency



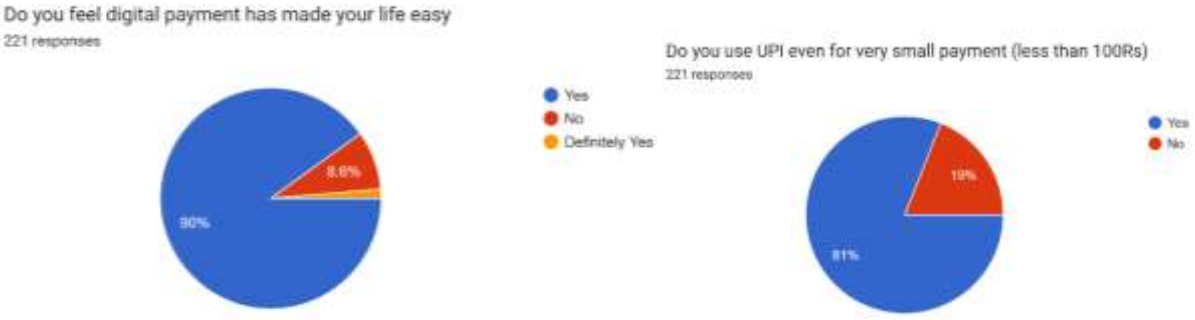
In the above figure we can observe that only 16.3% of the students use UPI rarely all others use at least once in a week, it shows that the students use UPI frequently.

Figure 3: Convenience



The above figure exhibits that among 221, 142 students agree that they use UPI because it is convenient.

Figure 4: Ease of Use



90% of the students agree that UPI has made their life easy & over 81% of the students use UPI even for small payments

Figure 5: Risk of fraud

We can observe in above figures that over 74.2% of the people experienced fraud & over 64.1% of the students feel fear of fraud limits their UPI usage

Table 1: Descriptive Statistics

Variable	Mean	SD	Interpretation
Do you use Digital payment platform	0.85	0.35	Majority of respondents use digital payment platform
How secure do you feel using UPI on your phone	2.56	0.74	Moderately secure while using UPI
Do you prefer UPI over Cash	2.25	0.77	Moderate preference for UPI over Cash
Do you feel anxious or uneasy while using UPI	1.64	0.76	Low anxiety level while using UPI
Digital payment has made life easy	1.93	0.77	Agreed that Digital payment has made their life easy
Major dependency on UPI	0.58	0.49	More than half are depending on UPI
Use UPI for small payments	0.81	0.39	Majority use UPI for small payments
Believe that its important for the country to adopt cashless system	0.76	0.43	Strongly support national adoption of UPI
UPI influences spending more	0.63	0.48	Moderate influence
Risk of fraud in UPI	0.47	0.50	Less than half perceived fraud risk
Fear of fraud limits UPI usage	2.11	0.78	Strongly believe that they fear to use
UPI helps manage finance better than cash	2.22	0.77	Strongly feel it improves their financial management

Table 2: Reliability Analysis

Cronbach's Alpha

Average of Inter-item Correlation

$$= \frac{0.612+0.458+0.421-0.337+0.489+0.466+0.398+0.672-0.412-0.385}{10}$$

$$= \frac{2.382}{10}$$

$$= 0.238$$

Cronbach's Alpha

$$= \frac{k\ X\ r}{1+(k-1)r}$$

$$= \frac{5\ X\ 0.238}{1+(5-1)\ 0.238}$$

$$= \frac{1.190}{1.952} \quad = \quad \mathbf{0.610}$$

The Cronbach's Alpha value is 0.610, which shows an acceptable level, which suggest the measurement instrument used in the study is reasonably reliable. The data level above 0.60 is generally considered acceptable in social science research. It suggests that 0.610 exhibit a reasonable degree of homogeneity among 5 items- Frequency, Intensity, Convenience, Ease of Use & Risk.

Table 3: Correlation Analysis

Variables	Frequency	Intensity	Convenience	Ease of Use	Risk
Frequency	1.000	0.612	0.458	0.421	-0.337
Intensity	0.612	1.000	0.489	0.466	0.398
Convenience	0.458	0.489	1.000	0.672	-0.412
Ease of Use	0.421	0.466	0.672	1.000	-0.385
Risk	-0.337	0.398	-0.412	-0.385	1.000

Hypothesis	Variables Tested	Expected Relationship	Result	Decision
H1	Frequency-Intensity	Positive	Significant	Accepted
H2	Convenience – Ease of Use	Positive	Significant	Accepted
H3	Risk – Frequency	Negative	Significant	Accepted

In the above table correlation is calculated under Pearson's correlation matrix. The relationship between 4 different variable, Frequency & Intensity, Convenience, Risk are considered. The results indicate Positive & Significant relationship between H1 Frequency & Intensity, H2 is also shows strong positive correlation with ease of use. H3, Risk concept indicates negative relationship with frequency. Hence, all proposed hypotheses are accepted.

Table 4: R^2

Predictor Variable	r with Risk	R2 = r^2	R^2	Variance Explained
Frequency	-0.337	(-0.337)2	0.114	11.4%
Intensity	0.398	(0.398)2	0.158	15.8%
Convenience	-0.412	(-0.412)2	0.170	17.0%
Ease of Use	-0.385	(-0.385)2	0.148	14.8%

In the above table R^2 is calculated considering, Risk as dependent variable & other 4 variables as predictors. It shows Frequency accounts for 11.4%, Intensity for 15.8%, Convenience for 17% & Ease of use 14.8%. Highest proportion of variance is Convenience & lowest is frequency. We can conclude that the Convenience is Strongest predictor of risk.

Table 5: Regression Analysis

P-Value & Beta Results (β)

To Calculate Beta(β) Risk is considered as Dependent Variable. Frequency, Intensity, Convenience, Ease of Use are considered as Independent Variables. We are applying Simple regression, the standardized Beta(β) value is equal to Pearson's Correlation coefficient(r).

(a) Frequency – Risk

β = -0.337

$p < 0.05$

(b) Intensity – Risk

β = 0.398

$p < 0.01$

(c) Convenience – Risk

$\beta = -0.412$

$p < 0.05$

(d) Ease of use – Risk

$\beta = -0.385$

$p < 0.05$

Independent Variable	β	P-value	Significance
Frequency	-0.337	< 0.05	Significant
Intensity	0.398	< 0.01	Highly Significant
Convenience	-0.412	< 0.05	Significant
Ease of Use	-0.385	< 0.05	Significant

The β is calculated to analyse relative strength & direction of influence of the independent variables on the dependent variable, Risk. In the above table results indicate that Convenience (β = -0.412) shows strongest influence on risk among all predictors.

The P-Value analysis confirms that all independent variables have significant impact on risk. Intensity is the showing high significancy among all other variables.

Findings

The study shows high level adoption of UPI among Gen Z's, with reference to Table 1 we can conclude that the mean score of UPI usage variables is High & the high adoption nature is slowly leading to addiction behaviour among university students. Relatively low Standard Deviation suggests consistency in usage behaviour among respondents.

Cronbach's Alpha value is moderately acceptable, indicates that the questionnaire used to measure adoption of UPI is reliable. The correlation analysis results positive & significant relationship with key factors- Intensity, frequency, convenience, Ease of use. This represented that the students are more addicted to UPI. One more Key factor risk indicates negative relationship. Over all after the study all 3 Hypothesis are Significant & Accepted.

Regression study demonstrates that among all the key factors – Frequency, intensity, convenience, ease of use, convenience shows hog variable rate which means the convenience is the major influencer & strongest determinant of high usage & addiction of UPI among University students.

Conclusion

The study concludes that UPI has become dominance mode of payment among university students, driven by key factors- Frequency, Intensity, Convenience, Ease of use. This study provides evidence that the Gen Z are more used to Digital payments & the high adoption is slowly converting to Addiction. Digital payment has become integral part of life now days & life unimaginable without that. The study also indicates that the emerging pattern of over-reliance on UPI especially for routine small payments.

The study finally indicates that all the 3 Hypothesis are accepted & it is proved that the key factors have affected the usage pattern among university students & the addiction behaviour is identified among them.

Another kay factor Risk indicates that still there is a fear before using Digital payment platforms & fear of fraud is limiting the Usage of UPI. These Security issues must be addressed to promote Digital payments.

As government is also promotion Cashless India this adoption & addiction of UPI is contributing to the success of the aim. As Students are the future of country the Country their contribution towards Digital & Cashless India is Valuable.

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