

CHAPTER 5

Comparative Analysis on Adoption of UPI amongst Gen-Z and Millennials

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ABSTRACT

This research analyses Unified Payments Interface (UPI) adoption patterns between Gen Z (18–26) and Millennials (27–42) in India. As UPI anchors the digital economy, this study examines how generational shifts influence financial behaviour, trust, and digital literacy. Using a quantitative survey of 100 respondents, it evaluates three dimensions: adoption drivers, perceived security risks, and post-adoption spending habits. Findings indicate that while Gen Z prioritizes transaction speed and social integration, Millennials emphasize security and banking reliability. Both cohorts report increased impulse spending—the “Invisible Money” effect—though Gen Z faces greater challenges in manual budgeting. By applying Likert scales and statistical analysis, the research provides insights for FinTech developers to bridge the “trust gap” and mitigate debt risks. Ultimately, the study highlights how the transition from “Digital Pioneers” to “Digital Natives” shapes India’s cashless future.

Keywords: Unified Payments Interface (UPI), Gen Z, Millennials, Digital payment Adoption.

1.0 Introduction

The Unified Payments Interface (UPI) has significantly impacted the Indian financial system since its inception by the National Payments Corporation of India (NPCI). UPI is a “real-time payment system which enables immediate peer-to-peer as well as person-to-merchant transactions between participating banks.” The theoretical foundation for UPI acceptance is supported by technology acceptance models, such as Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT), which cite Perceived Usefulness, Perceived Ease of Use, and Social Influence as key factors influencing consumer behaviour.

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Currently, UPI has moved beyond being simply an interface for monetary transactions to becoming an ecosystem with gamification, financial systems, and consumer psychology. The ease of digital transactions has reduced the “pain of paying,” which is reflected by changes in consumer spending patterns. This study aims to examine consumer behavior, security, and psychological factors related to UPI, with special emphasis on differences between Generation Z and Millennials.

2.0 Literature Review

The rapid growth of digital payment systems, especially UPI in India, has been a topic of great academic interest over the last five years. The existing literature on digital payment systems, especially UPI, has regarded this phenomenon as a revolution not only in technology but also in consumer psychology and behavioural finance. This paper attempts to synthesize existing literature under four major areas: Adoption Dynamics, Generational Behavioural Nuances, Trust and Security, and Digital Overspending.

2.1 Adoption dynamics and gamification

The initial studies on UPI adoption were based on TAM theory. In their study, Kaur and Arora (2020) highlighted that ease of use and interoperability were key factors for UPI adoption by users who switched from cash-based systems to digital systems. However, later studies have highlighted the role of gamification in retaining UPI users. In this regard, Singh and Srivastava (2022) highlighted that although cashbacks and scratch cards act as major gamification factors, their effect is limited to initial usage. In support of this, Pal, De', and Herath (2021) highlighted that app stickiness, which is crucial for retaining UPI users, is actually influenced by factors such as UI speeds and server reliability, as opposed to other incentives. Furthermore, Verma (2022) highlighted that the widespread adoption of QR codes by unorganized retail for P2M transactions has been a major factor for forming consumer behaviour among urban populations.

2.2 Generational divides in digital finance

The concept of the digital divide has now progressed beyond the basic issue of accessibility. Jain & Patel (2023) undertook an analysis of the comparative adoption of FinTech services. Generation Z considers digital payment systems as social and lifestyle products, with strong network effects of their peers. On the other hand, Millennials consider the adoption of FinTech services as an extension of their professional and financial management skills, as emphasized in the Deloitte report of 2022. PwC's report on the FinTech industry for 2021 also established that Millennials consider the ability to connect their bank accounts for wealth management as an important criterion, whereas Gen Z considers the speed of micro-payments between their peers as an important criterion.

Sharma & Gupta (2023) also emphasized that the younger demographic does not show brand loyalty, frequently changing their ‘primary’ FinTech apps due to temporary changes in the UI or due to the influence of their network, whereas Millennials stick to their early adopter FinTech apps

2.3 Security perceptions and transaction anxiety

Although the Unified Payments Interface (UPI) is highly popular, psychological factors still exist, particularly for high-value transactions. Kumar & Sharma (2023) undertook an analysis of the difference between trust in the system, also known as trust in NPCI/Banks, and trust in the platform, also known as trust in the FinTech application. They concluded that the general population trusts the system but experiences high transactional anxiety due to technical failures. Iyer’s report of 2022 undertook an analysis of transactional anxiety. According to the report, fear of human error, such as sending money to the wrong Virtual Payment Address, deters Generation Z from undertaking high-value transactions. However, the older demographic, including Millennials, is more concerned about sophisticated cyber-attacks, including phishing emails and links, as emphasized in the report of Deshmukh of 2023. However, the critical divide that exists, as emphasized in the report of Sethi et al. of 2021, is that adhering to high standards of personal security does not have an impact on the level of transactional anxiety.

2.4 Behavioural economics: The pain of paying and overspending

The most impactful influence of Unified Payments Interface (UPI) is its implications for individual-level financial discipline. Using the tools of behavioural economics, Chatterjee and Das (2022) argue that the “invisible currency” created by digital payments considerably reduces the psychological pain of paying traditionally linked to the loss of physical cash. In this regard, the study by Zhao, Zhang, and Chen (2021) offers empirical support that the ease of use of scan-and-pay technologies increases the likelihood of small-ticket impulse purchases. In this context, Mishra (2021) argues that the impact of the post-pandemic shift to digital payments has led to the erosion of conventional notions of mental accounting, resulting in the overspending that is now endemic in the budgets of individuals. Recent research by Ali and Khan (2023) reveals that the phenomenon of overspending is not income-dependent, thus indicating a universal shift in human behaviour that is driven by the ease of use of technology.

3.0 Research Gap

In spite of the considerable volume of research that has focused on the overall adoption of UPI as well as its technical framework, there is a considerable gap in the

empirical research that compares the psychological impact of UPI among generational cohorts such as Gen Z versus millennials. Furthermore, the overall literature has not quantified the relationship between an individual's strictness in following digital security measures and their local-level financial anxiety in high-value transactions. This study aims to bridge the research gap by analysing primary data to shed light on the nuances of the overall phenomenon.

4.0 Research Methodology

4.1 Objectives of the study

- To identify and compare the primary drivers of UPI adoption between Gen-Z and Millennials.
- To analyse the impact of perceived risk and security concerns on usage frequency.
- To evaluate the shift in spending budgeting habits, post adoption amongst Gen-Z and Millennials.

4.2 Research design

The study adopts a descriptive and analytical cross-sectional research design to examine the behaviour and preferences of digital payment users. Primary data were collected through a structured online Google Form consisting of sections related to demographics, app preferences and motivations, usage patterns and spending behaviour, as well as security and trust perceptions. The respondents were selected using convenience and snowball sampling techniques, resulting in a sample size of 101 active UPI users belonging to Gen Z (18–26 years) and Millennials (27–42 years). Data analysis was conducted using Microsoft Excel through descriptive statistics, weighted mean ranking, and Pearson correlation analysis. The scope of the study is confined to smartphone-literate individuals actively participating in India's digital economy.

4.3 Data interpretation

Table 1: Comprehensive Demographic Profile of Respondents

Demographic Variable	Category	Gen Z (n=65)	Millennials (n=36)
Gender	Male	69.2%	69.4%
	Female	30.8%	30.6%
Educational Qualification	Under Graduation	16.9%	22.2%
	Graduate	61.5%	50.0%

	Postgraduate	13.8%	13.9%
	Professional	7.7%	13.9%
Occupation	Student	70.8%	41.7%
	Salaried Employee	15.4%	27.8%
	Business Owner	10.8%	16.7%
	Self-employed / Others	3.1%	13.9%
Monthly Income Level	Below ₹20,000	41.5%	30.6%
	₹20,001 – ₹40,000	18.5%	25.0%
	₹40,001 – ₹60,000	4.6%	5.6%
	Above ₹60,000	35.4%	38.9%

Source: Primary data

Interpretation: The demographic profile suggests that the Gen Z population is mostly composed of students (68-71%), with a significant percentage earning less than ₹20,000 (41.5%) as their monthly income. On the other hand, the Millennial population has a diverse occupational background, with a significant percentage engaged in salaried (27.8%) and business (16.7%) professions, indicating higher earnings levels, with 38.9% earning more than ₹60,000 as their monthly income. This is the basic context, and with this, we understand how Gen Z is using UPI for lifestyle management as students, whereas Millennials are using it for professional and household purposes.

Table 2: Initial Motivation to Download a UPI App (Ranked Analysis)

This table orders the initial drivers from most influential (Rank 1) to least influential (Rank 5)

Rank	Gen Z (n=65)	%	Millennials (n=36)	%
1	Peer Influence (Friends/Family)	38.5%	Professional Necessity (Work)	33.3%
2	Merchant Requirement	23.1%	Peer Influence (Friends/Family)	30.6%
3	Professional Necessity (Work)	18.5%	Merchant Requirement	22.2%
4	Social media Trends/Ads	15.4%	Social media Trends/Ads	11.1%
5	Seeking Promotional Rewards	4.6%	Seeking Promotional Rewards	2.8%

Source: Primary data

Interpretation: The ordered data show that there is a notable generational difference in terms of adoption motivators. Gen Z, considered “Digital Natives,” is driven by factors related to social integration, with Peer Influence (38.5%) being the major motivator. Millennials, who adopt technology later in life, are driven by factors related to utility, such as Professional Necessity (33.3%) and Merchant Requirements (22.2%)

Table 3: Primary Factors for Choosing a Specific App (Ranked Analysis)

This table ranks the practical reasons users stay loyal to their primary UPI application

Rank	Gen Z (n=65)	%	Millennials (n=36)	%
1	Better User Interface (UI) & Speed	47.7%	Better User Interface (UI) & Speed	47.2%
2	It was the first app I ever installed	23.1%	It was the first app I ever installed	25.0%
3	Higher success rate of transactions	16.9%	Higher success rate of transactions	19.4%
4	Better rewards & gamified features	12.3%	Better rewards & gamified features	8.3%

Source: Primary data

Interpretation: While the initial drivers differ, the two generations show the same level of priority in terms of app retention. A seamless user experience, as captured by the presence of Superior UI and Speed, is the most important driver for Gen Z (47.7%) and Millennials (47.2%). Interestingly, the idea of a “first-mover advantage” continues to play a significant role in app retention, with the first-installed app feature ranking second in priority for Gen Z and Millennials.

Table 4: Influence of Cashback and Rewards (Likert Scale Analysis)

(Scale: 1 = Not at all, 2 = Neutral, 3 = Somewhat influential, 4 = Extremely influential)

Influence Level	Gen Z (%)	Millennials (%)
4 - Extremely influential	32.3%	27.8%
3 - Somewhat influential	27.7%	16.7%
2 - Neutral	21.5%	25.0%
1 - Not at all (Convenience only)	18.5%	30.6%
Weighted Mean Score	2.74 (Moderate-High)	2.41 (Moderate-Low)

Source: Primary data

Interpretation: The results of the Likert scale show that Generation Z is more susceptible to gamification. The results show a higher weighted mean for Generation Z (2.74), with about 60% of the results indicating that rewards were either extremely or somewhat influential in the process. On the other hand, 30.6% of Millennials stated that rewards were “Not at all” influential, indicating a desire for convenience alone, resulting in a lower mean of 2.41.

Table 5: Most Essential UPI Features for Daily Lifestyle (Ranked Analysis)

Rank	Gen Z (n=65)	%	Millennials (n=36)	%
1	QR Code scanning (P2M)	64.6%	QR Code scanning (P2M)	63.9%
2	In-app utility payments (Recharges)	20.0%	Linking multiple bank accounts	19.4%
3	Linking multiple bank accounts	13.8%	In-app utility payments (Recharges)	13.9%
4	Integration with online checkouts	1.5%	Integration with online checkouts	2.8%

Source: Primary Data

Interpretation: P2M QR code scanning is the quintessential functionality of UPI for both the generations, contributing to over 63% of the essentiality for each. This reveals that physical environments are the main domain for digital payments. Millennials have slightly higher emphasis on the functionality of interlinking bank accounts, which is at Rank 2, than Gen Z, reflecting the more complex portfolio of the former.

**Table 6: Anxiety Level During High-Value Transactions (>₹10,000)
(Likert Scale Analysis)**

(Scale: 1 = No anxiety, 2 = Low, 3 = High, 4 = Very High)

Level of Anxiety	Gen Z (%)	Millennials (%)
1 - No anxiety; I trust the system	29.2%	47.2%
2 - Low; I double-check the name	46.2%	19.4%
3 - High; I prefer Net Banking/Cards	23.1%	27.8%
4 - Very High; I avoid large transfers	1.5%	5.6%
Weighted Mean Score	1.97 (Low Anxiety)	1.92 (Low Anxiety)

Source: Primary data

Interpretation: The results indicate that the assumption of lower trust levels in digital systems for older age groups is questionable, as indicated by the results, where 47.2% of Millennials reported no anxiety, as opposed to 29.2% of Gen Z. However, the results also indicate that Millennials are polarized, as indicated by the fact that a significant number (33.4%) still experience high to very high levels of anxiety and prefer traditional Net Banking for high-value transactions. Despite the differences, both groups show low overall mean score results, indicating maturity of trust in the UPI infrastructure.

Table 7: Security Threats and Impact of Failures (Comparative Analysis)

This merges the perception of threats with the behavioural impact of experiencing a failure.

Security Perception & Resilience	Category	Gen Z (%)	Millennials (%)
Biggest Security Threat	Technical failures (Money debited)	40.0%	47.2%
	Human error (Sending to wrong ID)	36.9%	19.4%
	Fraudulent links and Phishing scams	16.9%	27.8%
	Data privacy and app tracking	6.2%	5.6%
Impact of Transaction Failure	Temporary impact; switch to cash for day	63.1%	52.8%
	No impact; try again immediately/later	32.3%	38.9%
	Long-term impact; reduce UPI usage	4.6%	5.6%

Source: Primary data

Interpretation: While both groups rank internal system failures, such as money being deducted with no receipt of the money, as the main threat (40.0% and 47.2%), Millennials are more worried about external attackers, with phishing concerns being at 27.8%, compared to Gen Z's 16.9%. On the other hand, Gen Z is quite hard on themselves, ranking "Human error" quite high at 36.9%. On the bright side, such issues rarely lead to loss of trust, with both groups resorting to using cash for the time being.

Table 8: Strictness in Following Security Protocols (Likert Scale Analysis)

(Scale: 1 = Never, 2 = Rarely, 3 = Moderately, 4 = Very Strictly)

Strictness Level	Gen Z (%)	Millennials (%)
4 - Very strictly (Monthly updates)	15.4%	25.0%
3 - Moderately (When prompted by app)	64.6%	44.4%
2 - Rarely (Only use original PIN)	12.3%	19.4%
1 - Never	7.7%	11.1%
Weighted Mean Score	2.88 (Moderate)	2.83 (Moderate)

Source: Primary Data

Interpretation: From the above discussion on security hygiene practices, it is evident that the apps are more relied upon than the user themselves. The most surprising figure is that a whopping 64.6% of Gen Z and 44.4% of Millennials only interact with the security protocols "moderately," i.e., only when prompted to do so by the app itself. While a quarter of the Millennials perform strict monthly audits, the figures do suggest that FinTech app developers should include the security prompts in the app itself, since users don't tend to do this naturally.

Table 9: Impulse Purchases and Cash-in-Hand Behaviour (Comparative Analysis)

This assesses the tangible shift towards cashless, frictionless spending.

Behavioural Shift	Category	Gen Z (%)	Millennials (%)
Increase in Impulse Purchases	Significant increase	58.5%	58.3%
	Marginal increase	36.9%	33.3%
	No change	4.6%	8.3%
Cash-in-hand Behaviour	Carry minimal cash for emergencies (<₹500)	53.8%	58.3%
	Carry zero cash now	24.6%	27.8%
	No change in cash behaviour	13.8%	5.6%
	Still carry a full wallet but prefer UPI	7.7%	8.3%

Source: Primary data

Interpretation: The emergence of digital currency has revolutionized the economics of consumers in a fundamental manner. A majority of Gen Z respondents, amounting to 58.5%, and Millennials, amounting to 58.3%, report a “Significant increase” in small ticket impulse purchases, indicating the elimination of the “pain of paying” effect. At the same time, the traditional wallet is made redundant, with over 78% of Gen Z and 86% of Millennials storing either zero or minimal cash, only in emergency situations.

Table 10: Digital Budgeting Challenges & Overspending (Comparative Likert)

This evaluates whether the “Invisible Money” effect derails monthly budgets.

Budgeting & Spending Habits	Category	Gen Z (%)	Millennials (%)
Impact of “Invisible” Money	Yes, I lose track of how much I’ve spent	60.0%	69.4%
	No, the digital record makes me disciplined	26.2%	13.9%
	It has no impact on my budgeting	13.8%	16.7%
Frequency of Overspending	Frequently (Almost every month)	52.3%	36.1%
	Occasionally	24.6%	22.2%
	Rarely	20.0%	25.0%
	Never	3.1%	16.7%

Source: Primary data

Interpretation: The table shows the most pronounced consequence of the adoption of Unified Payments Interface (UPI), which is the “Invisible Money” phenomenon. The absence of physical currency exchange is correlated with 60.0% of Generation Z and 69.4% of Millennials losing track of their expenditure. This leads to a deterioration in the performance of budgeting. More than half of Generation Z, 52.3%, frequently overspend in comparison to their budgeted limit for the month. Although the problem is also experienced by the Millennials, their higher level of maturity allows them to limit their actual overspending better than the members of Generation Z.

5.0 Recommendations

For Application Developers: Since users consider UI, speed, along with high transaction success rates, as the major factors for continued usage of the application, developers must focus on minimizing server downtime rather than relying on the cashback marketing strategy, which does not show significant long-term retention effects for Millennials.

Addressing High-Value Anxiety: Developers must ensure that the application interface contains a “cooling period” or a “double verification” screen for transactions above ₹10,000, addressing the high-value anxiety caused due to human errors, such as the transfer of money to the wrong account, which was highly emphasized by Generation Z.

Financial Wellness Tools: Since almost half of the users lose track of their budgets due to the perceived invisible nature of the money transferred through the UPI platform, the application must ensure the presence of mandatory budget-tracking tools.

6.0 Conclusion

The results of the current study indicate that the adoption of the Unified Payments Interface is highly divergent between the two generational cohorts. Generation Z primarily uses the digital payment platform due to the influence of their peers, along with the presence of gamified rewards, considering the technology an integral part of their lives. Millennials, on the other hand, use the platform due to the practicality of the application, their professional needs, as well as the expectations of merchants.

However, the presence of a trust gap between the two cohorts is also visible, where Generation Z shows the characteristics of the “click and forget” behaviour, along with low transactional anxiety. Millennials, on the other hand, show high perceived risks related to phishing, along with the need for stringent security measures. Moreover, the ease of transaction through the digital platform led to the presence of the “Invisible Money” phenomenon, resulting in the increase of impulse purchases for both cohorts. However, whereas Millennials show the presence of financial experience, which helps in the reduction of actual overspending, Generation Z faces high difficulties in manual budgeting, resulting in high monthly overspending. Therefore, FinTech developers must address the above issues through the creation of transparent interfaces for Millennials, along with the presence of budgeting tools for Generation Z.

7.0 Future scope of Research

The study offers some rudimentary information about generational financial behavior; however, there are tremendous opportunities for researchers in the field of digital finance. Future studies should employ a longitudinal design to measure the impact of effortless digital spending on debts as Generation Z joins the workforce full-time. The study was limited to urban dwellers; however, future studies should explore the impact of digital literacy and trust barriers in semi-rural populations in Tier 2 and Tier 3 cities. It is also vital to explore the impact of AI-driven cybercrimes and phishing risks on digital finance adoption among risk-averse Millennials. Future studies should also explore the impact of

emerging technology such as 6G technology, NFC technology, and cardless UPI ATMs on overall convenience. An experimental design should be employed to measure the impact of behavioral interventions such as budgeting nudges and gamified financial literacy programs on highly impulsive consumers and their experience of paying.

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