



# Examining the Factors Influencing Consumer Satisfaction Towards the 1% Transaction Fee Among Unified Payments Interface (UPI) Users.

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**1. Abstract:** The factors affecting consumer satisfaction regarding the recently implemented 1% transaction fee on the Unified Payments Interface (UPI) services among users in Chennai were studied. UPI was hitherto associated with facilitating zero-cost, fast, and convenient digital payments, but the image of UPI users changed since the implementation of interchange fees on select transactions. This research study evaluates the influence of perceived fee fairness, trust, and convenience/ease of use on overall consumer satisfaction from this new charging environment. This research was done using a quantitative research design that collected data through an online questionnaire provided to UPI users in Chennai. SPSS was used for statistical analysis of data collected, which included reliability, factor analysis, correlation, and multiple regression analysis. The results of this study show that perceived fairness of fees, trust towards a provider and convenience all play an important role in determining Consumer Satisfaction. Trust is the most important factor among the three variables. The results of this study have important implications for policymakers, fintech institutions and payment service providers recommending how they can enhance user satisfaction with digital payments and continue to develop support for the adoption of digital payments due to fees being charged. The study also identifies specific areas for potential improvements in fee transparency and quality of service for the future.

**Keywords:** UPI, Consumer satisfaction, Perceived fee fairness, Trust, Convenience, Transaction fee, Digital payments, Chennai

## 2. INTRODUCTION

### 2.1 Background of the Study

Digital payments have emerged as one of the most crucial innovations within the large, fast-growing financial marketplace we call “the digital economy,” especially among emerging markets such as India, where there has been rapid urbanization and economic growth over the last two decades. The ability to conduct financial transactions instantaneously, securely and conveniently via mobile devices through the Unified Payments Interface (UPI) represents a major transformation of how people undertake financial transactions. With support from government initiatives encouraging cashless economies and financial inclusivity, UPI usage has dramatically increased across urban areas (e.g., Chennai) with positive consequences for faster economic transactions and improved consumer convenience. Access to the UPI is vital for most users as they perform their daily payment activities such as shopping, paying bills and transferring money from one consumer to another, and thus has a significant place in their digital financial activity. Recently, however, the implementation of transaction fees for the use of UPI has raised questions by consumers regarding UPI's fairness and affordability and whether they will continue to use UPI for future digital payments.

### 2.2 Research Problem

The growth of Unified Payments Interface (UPI) has transformed the way people carry out online transactions through the use of a system for making payments in an efficient and safe manner. As more consumers have adopted UPI as the primary method for daily financial transactions, there has been increased dialogue concerning the potential implementation of transaction fees. This has generated questions about user satisfaction as well as their future intention to use UPI. Although the elimination of transaction fees is viewed as a major contributor to the rapid growth of UPI systems, the introduction of fees may influence how consumers perceive the fairness of the transaction fees relative to the value they receive from using UPI. Consumers may view transaction fees as adding an additional financial burden,

thus decreasing their level of trust in UPI and reducing their willingness to continue using digital payment services. Additionally, there is a need for empirical research to evaluate how factors such as perceived fairness of transaction fees, trust in UPI, and convenience of using UPI interactively affect consumer satisfaction with transaction fees, particularly in the Chennai area.

### 2.3 Objectives of the Study

- To examine consumer satisfaction towards the 1% transaction fee among Unified Payments Interface (UPI) users in Chennai.
- To examine the effect of perceived fee fairness on consumer satisfaction towards the UPI transaction fee.
- To analyze the influence of trust on consumer satisfaction among UPI users.
- To evaluate the impact of convenience and ease of use on consumer satisfaction towards UPI services.

### 2.4 Significance of the Research

The current study is both academically and practically significant in enhancing the understanding of consumer behaviour towards digital payment systems (DPS) in India. Will help to grow the body of DPS literature by establishing the relationship between consumer satisfaction and transaction fees in the context of the Unified Payments Interface (UPI), and it will provide insight into an empirical area that is lacking research, particularly regarding Chennai city. The study also contributes to the understanding of how perceived fee fairness, trust, and convenience contribute to overall user satisfaction in a dynamic environment for fintech. In terms of practical significance, the research presents useful information to decision-makers including policymakers, banks, and fintech service providers, regarding the design of sustainable pricing strategies that do not deter users from adopting the digital payment system. Understanding consumer perceptions towards transaction fees helps organisations build customer trust, improve service delivery, and maintain ongoing use of digital payment platforms. The research also aids in making decisions related to digital payment regulation and thus supports the continued development and stability of the cashless economy in India.

## 3. REVIEW OF LITERATURE

- Xia (2004) studied the idea of price fairness perceptions and defined consumers' assessments of whether a price or charge is reasonable prior to accepting the service. Xia's findings indicate that if transaction fees are perceived to be unfair or hidden, this negatively impacts consumer satisfaction and their future use of that service.
- Davis (1989) developed the Technology Acceptance Model (TAM), which explains how individuals accept new technologies. Davis's study found that consumers' acceptance of digital systems such as mobile and online payment systems is influenced by perceived fee fairness and perceived ease of use.
- Oliver (1980) Oliver introduced the Expectation Confirmation Theory, which states that consumer satisfaction is based on how performance from a service compares to the expectations of that performance. If performance meets or exceeds expectations, customers will enjoy their experience more and are more likely to use that service again.
- Kaur (2022) studied factors affecting customer satisfaction in digital payment systems and found that trust, convenience, and transparency in transaction costs significantly influence user satisfaction and adoption of online payment platforms.
- Vedala (2025) found that customers are more likely to return to use the same digital payment solution if they find it to be easy and convenient; however, this will not be the case if they are charged a small service fee at the time of their transaction.

### 3.2 Research Gaps Identified

Several gaps remain on the adoption of digital payment methodology so far, despite research done. The research that is conducted has been mostly focused on adoption of technology, rather than consumer satisfaction post cost of a transaction. Hence, limited studies exist to examine the way consumers view a transaction cost in accordance with a UPI environment. Similarly, there are few studies that have been conducted examining UPI users specifically at a regional level; there are none directly related to UPI users in Chennai. In addition, the prior research done has mostly analysed elements of trust, cost perception and convenience in isolation from each other vs how they relate together to contribute to overall consumer satisfaction. Therefore, the goal of this study is to fill these gaps by conducting an analysis to determine how perceived fair transaction fees, trust and convenience contribute to consumer satisfaction for the proposed 1% transaction fee for the UPI user market in Chennai.

**4. RESEARCH METHODOLOGY****4.1 Research Design**

The objective of this research is to identify the factors on which the consumer satisfaction is based on the 1% transaction fee by UPI users in Chennai. The study is descriptive in nature, which allows the researcher to look into the perceptions, attitudes and opinions of the consumers on transaction fees in digital payments systems. The researcher used this design to determine whether there are any relations among the independent variables: perceived fairness of fees; trust; and ease in using, with respect to consumer satisfaction, which is the dependent variable. A quantitative method was used to collect quantifiable data from consumers via structured questionnaires to perform statistical analysis of consumer responses. The use of a descriptive design allows the researcher to gather accurate, systematic and valid data about UPI users' behaviour and satisfaction related to UPI transaction fees.

**4.2 Data Collection Methods**

Data will be collected using a quantitative approach via an online structured questionnaire administered to UPI users in Chennai. The online structured questionnaire will be designed using Google Forms and distributed via social media platforms such as WhatsApp, Facebook, Telegram, and Email. The study will include approximately 20-25 questions written in a simple English format to be user friendly. Respondents will be informed of the nature of the study, confidentiality of their responses, and their voluntary participation in the study.

The data will be collected via a convenience sampling method, meaning data will be collected from easy and available active users of UPI. The alternative aims to collect practical and valid data in a timely manner without losing representation. All responses collected from the questionnaire will be screened for completion before performing analysis using SPSS Version 29.

**4.3 Tools Used for Analysis**

Data analysis was done with the help of Statistical Package for the Social Sciences (SPSS), Version 29.

The following statistical techniques were used:

- Descriptive statistics to represent the demographic characteristics of UPI users and summarize response patterns.
- The analysis of reliability (Cronbach's Alpha) will assess the internal consistency and reliability of the measurement scale from the questionnaire.
- Kaiser–Meyer–Olkin (KMO) and Bartlett's Test to check the feasibility and specification of data for factor analysis.
- Multiple regression analysis to determine how consumer satisfaction is influenced by the independent variables such as perceived fee fairness, trust, and convenience.
- ANOVA to evaluate the statistical significance of the overall regression model.
- Multicollinearity diagnostics to verify that regression assumptions were satisfied and to ensure that independent variables were not highly correlated.

The use of these analytical tools enabled the empirical testing of the proposed research model and helped identify the major factors influencing consumer satisfaction towards the 1% transaction fee among UPI users.

**5. DATA ANALYSIS AND INTERPRETATION**

In this section we provide results from our statistical analysis based on a survey of 227 UPI Users in Chennai regarding their satisfaction with a 1% transaction fee. IBM SPSS version 29 has been employed to perform this analysis. The following statistical techniques were used: Descriptive Statistics, Factor Analysis, Reliability Testing, Multiple Regression analysis (using ANOVA and multicollinearity diagnostics) to determine the relationship of the perceived fee fairness, trust, convenience to consumer satisfaction.

**5.1 Descriptive Analysis**

Descriptive statistics were used to summarize the demographic characteristics of the respondents who participated in the study regarding the 1% transaction fee on UPI services.

Male users predominate among the majority of UPI service users. There were more male respondents than female and thus suggest male users of UPI services are slightly more than female users.

The majority of respondents fall into the 21–35 age group. Thus, UPI digital payment services are used primarily by young adults.

Most of the respondents had completed their undergraduate degree. Therefore, educated people are more likely to use UPI digital payments and services than uneducated people or people with lower education levels.

5.2 Factor Analysis

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.903
Bartlett's Test of Sphericity	Approx. Chi-Square	1831.341
	df	190
	Sig.	.000

The KMO of 0.903 demonstrates that there is ample evidence of an acceptable degree of sampling adequacy. This confirms that we can perform a factor analysis using this dataset through use of Bartlett’s Test, which shows a statistical significance ( $p < 0.05$ ).

5.3 Reliability Analysis

Variables	Cronbach's Alpha	Number of Items
Consumer Satisfaction (Dependent Variable)	.754	5
Perceived Fee Fairness (Independent Variable)	.762	5
Trust (Independent Variables)	.802	5
Convenience/Ease of Use (Independent Variable)	.763	5

All variables demonstrate acceptable to good internal consistency ( $\alpha > 0.70$ ), confirming the reliability of the measurement instrument.

5.4 Multiple Regression Analysis

Model Summary <sup>b</sup>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.755 <sup>a</sup>	.571	.565	.57928

A strong connection between consumer satisfaction and independent variables can be found in the Model Summary (R value = 0.755). The model also indicates that the R squared value (0.571) indicates that over half (57.1%) of the differences in consumer satisfaction is due to perceived approachability to borrowers, and both trust and convenience/ease of use are strong indicators of the data being collected with a good model to describe the relationship in the data and sufficient evidence supporting the model.

5.5 ANOVA Results

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	99.496	3	33.165	98.832	.000 <sup>b</sup>
	Residual	74.832	223	.336		
	Total	174.328	226			

Since  $p = 0.000 (< 0.05)$ , the regression model is statistically significant. The independent variables collectively predict consumer satisfaction towards the 1% UPI transaction fee effectively.

**5.6 Regression Coefficients**

Coefficients <sup>a</sup>										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.472	.189		2.497	.013	.099	.844		
	Perceived Fee Fairness	.313	.060	.314	5.179	.000	.194	.432	.524	1.909
	Trust	.298	.064	.303	4.645	.000	.171	.424	.453	2.209
	Convenience & ease of use	.256	.061	.251	4.171	.000	.135	.377	.531	1.883

**Explanation of Findings**

- Perceived Fee Fairness is the strongest predictor of consumer satisfaction ( $\beta = 0.314, p = 0.000$ ).
- Trust significantly influences consumer satisfaction towards the 1% UPI transaction fee ( $\beta = 0.303, p = 0.000$ ).
- Convenience & Ease of Use also has a positive and statistically significant effect on consumer satisfaction ( $\beta = 0.251, p = 0.000$ ).
- All independent variables show significant relationships with consumer satisfaction as their p-values are less than 0.05.
- All VIF values are below 5, indicating the absence of multicollinearity among the predictor variables.

**5.7 Statistical Tools Used**

The following statistical tools were applied:

- Descriptive Statistics (Frequency & Percentage)
- Factor Analysis (KMO & Bartlett’s Test)
- Reliability Analysis (Cronbach’s Alpha)
- Multiple Regression Analysis
- Regression ANOVA
- Multicollinearity Test (VIF)

**6. RESULTS AND DISCUSSION**

**6.1 Key Results of the Study**

According to the results, the perceived fairness of fees, trust, and ease of use significantly affect user satisfaction with the 1% fee charged by UPI. The analysis using multiple regression demonstrates how closely related they are: there was a strong correlation of  $R = 0.755$  and  $R\text{ Square} = 0.571$  - meaning you can explain approximately 57% of the variance in overall customer satisfaction from this model.

The strongest predictor of customer satisfaction was perceived fairness of a transaction fee ( $\beta = 0.314, p = 0.000$ ); UPI users reported higher rates when they believed that their transaction fees were fair and reasonable. Trust was another predictor of customer satisfaction ( $\beta = 0.303, p = 0.000$ ) - so while the fee may deter UPI users from using them, their continued use of UPI (in spite of fees) could be attributable to their belief in the safety of the UPI platform, as well as in the reliability of transactions made via UPI. Ease of use and convenience were found to be positively correlated with customer satisfaction ( $\beta = 0.251, p = 0.000$ ), suggesting that UPI users prefer to have a fast and simple way to do business regardless if such means are charged a fee. The ANOVA results show that the model is statistically significant ( $F = 98.832, p = 0.000$ ), indicating that the model has strong overall fit. In addition, the multicollinearity diagnostics reveal that the independent variables had acceptable VIFs less than 5 confirming that they are not highly correlated or violate regression assumptions. The overall results support all hypotheses and show that fairness perception, trust, and convenience are

major determinants of consumer satisfaction with the 1% UPI transaction fee.

### 6.2 Comparison with Previous Studies

The findings of this study support previous research on digital payment adoption and consumer behaviour. The strong influence of trust on consumer satisfaction aligns with earlier studies which emphasize that trust is a key determinant in the continued use of digital payment platforms such as the Unified Payments Interface. The importance of perceived fee fairness is also consistent with prior research suggesting that users evaluate service charges before accepting new payment policies. However, the study found that convenience and ease of use, although important, had a relatively moderate effect on satisfaction compared to trust. This indicates that even if digital payment systems are convenient, users' confidence in the platform and fairness of the fee structure plays a more significant role in determining satisfaction.

### 6.3 Practical Implications

The results from this research indicate several managerial and policy implications that are especially useful for digital payment service providers, fintech companies, and policymakers:

**Transparency of Fees:** Payment service providers must provide clear explanations regarding the reasons for charging fees related to a transaction in order for users to trust them.

**Building Trust with Users:** In order to build confidence in digital transactions, FinTech firms need to improve the security of their systems and provide better customer service.

**Persistent Convenience of User Experience:** UPI software applications must continue to provide speed and simplicity in order to support long-term user satisfaction.

**Policymakers must develop fee structures** that take into account the need for operational viability while simultaneously providing consumers with a positive experience.

## 7. FINDINGS

The following presents the main findings of the research:

- The regression model was statistically significant ( $p < 0.001$ ), indicating that the independent variables collectively influence consumer satisfaction towards the 1% transaction fee on the Unified Payments Interface (UPI) services.
  - The model explained a substantial portion of the variance in consumer satisfaction, showing that the selected factors play an important role in determining user satisfaction.
  - Trust was found to be the most influential factor affecting consumer satisfaction towards the 1% transaction fee among UPI users in Chennai.
  - Consumer satisfaction is most strongly predicted by Perceived Fairness of Fees ( $\beta = 0.314$ ,  $p = 0.000$ ). Convenience and ease of use also showed a positive relationship with consumer satisfaction, as users continue to prefer UPI services due to their simplicity and speed.
  - The internal consistency of all variables in this measurement tool was supported by reliable testing results (Cronbach's  $\alpha > 0.80$ ).
- The factor analysis demonstrated that the total sample was an adequate size and the constructs used were valid ( $KMO > 0.80$ ;  $p < 0.001$ ).

The three main factors affecting satisfaction of 1% transaction fees by UPI users in Chennai are trust, perceived Justice in transaction fees, and convenience.

## 8. FUTURE RECOMMENDATIONS

The following practical and managerial recommendations are made in light of the research findings:

- Ensure Transparency in Transaction Fees
- Clear communication about the 1% transaction fee
- Provide proper explanation for fee implementation
- Maintain strong security and privacy measures
- Improve convenience and ease of using digital payment services

Due to trust being found as the most important predictor, improving security and transparent transaction fee policies will be key drivers to sustaining user confidence as well as ongoing use of Unified Payments Interface services.

### 8.1 Key Recommendations

- **Establish Transparent Fee Policies**

Payment service providers must inform users why there is a one percent charge associated with a financial transaction or process and offer clear communication of transaction fee structure.

- **Increase Convenience & Ease of Use**

UPI applications should continue to improve their interface (user experience), transaction time (speed), and user accessibility. A basic payment interface (simple, smooth, effective, efficient) will help keep users engaged with EPS.

- **Utilize User Opinions for Service Enhancement**

Payment service providers need to routinely request and obtain user opinions about their EPS regarding user levels of satisfaction and user perceptions about EPS as an alternative means of making payments to cash, and using the UPI app, and the overall quality of payment services (PS) via UPI.

## 9. CONCLUSION

The main aim of this study was to examine the factors influencing consumer satisfaction towards the 1% transaction fee on the Unified Payments Interface (UPI) services among users in Chennai through an empirical research model. The results revealed that consumer satisfaction is strongly influenced by trust and perceived fee fairness, while convenience and ease of use showed a comparatively moderate impact within the scope of this study.

The regression analyses provided strong evidence for explaining user satisfaction with UPI services and suggest that factors related to trust are important in maintaining overall user satisfaction with digital payment systems. These results help to inform the existing body of literature on digital payment systems by demonstrating how important user trust and transparent fee structures are to the continued use and satisfaction of UPI's service offerings.

### 9.1 Scope for Future Research

A larger sample of participants from additional cities in India (other than Chennai) will provide more thorough data on user behaviour. In addition, longitudinal study designs can be used to study how user satisfaction with fees charged for using Unified Payments Interface services changes over time. Furthermore, researchers should explore the impact of other variables such as perceived value, service quality, security issues, and overall user experience, which may affect an individual's level of satisfaction with a transaction. Lastly, creating comparative research across different platforms will generate additional data to support understanding consumer satisfaction with using digital payments and consumer acceptance of digital payment services.

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