

USER PERCEPTIONS AND SATISFACTION IN FINTECH PAYMENT SYSTEMS: AN EXPLORATORY STUDY

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Abstract

The rapid growth of FinTech payment systems has significantly reshaped digital transactions. However, there remains a lack of comprehensive evidence on how perception-related and satisfaction-related factors collectively influence user outcomes, particularly in emerging economies. Addressing this gap is increasingly important as the adoption of digital payments accelerates and user retention becomes a key competitive concern. This study investigates the role of perceived security, trust, ease of use, convenience, benefits, and awareness in shaping user perception. It further examines how customer support, feature availability, and perceived value contribute to transaction efficiency and overall user satisfaction. The findings indicate that all identified perception-related factors have a significant impact on user perception. In addition, feature availability, customer support, and perceived value were found to positively influence transaction efficiency, with feature availability emerging as the most influential factor. These results suggest that enhancing system functionality and strengthening support services are critical to improving user satisfaction. Overall, the study offers practical insights for FinTech service providers, policymakers, and researchers by providing an evidence-based framework to enhance adoption, operational efficiency, and user experience in digital payment systems.

Keywords:- FinTech Payment Systems, User Perception, Customer Satisfaction, Transaction Efficiency, Feature Availability.

The rapid advancement of financial technologies (FinTech) has transformed the global payment landscape by enabling efficient, accessible, and innovative digital solutions.

Tools such as mobile wallets, Unified Payment Interfaces (UPI), and peer-to-peer applications have accelerated the shift

toward a cashless economy, particularly in emerging economies like India, where digital payments promote financial inclusion and economic growth (Raghavan et al., 2021). From a behavioural perspective, the adoption and continued use of FinTech systems are largely shaped by user perceptions, including ease of use, security, trust, and

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system functionality (Davis, 1989; Venkatesh et al., 2003). Evidence indicates that intuitive interfaces, strong security measures, and responsive support enhance transaction efficiency and user experience, thereby improving satisfaction. However, challenges such as cybersecurity risks, limited awareness, and infrastructural constraints continue to restrict broader adoption, especially among rural and underbanked populations (Gupta & Arora, 2020; Isabirye et al., 2015).

Recent studies identify transaction efficiency defined by speed, reliability, and seamless execution - as a key driver of user satisfaction, alongside factors such as customer support, feature availability, and perceived value. Although these elements have been examined individually, prior research often lacks an integrated approach linking perception-based attributes with satisfaction outcomes and transaction efficiency. This limits understanding of how these dimensions jointly influence overall user satisfaction in FinTech systems. To address this gap, the present study examines the relationship between user perception and satisfaction by analysing how perceived attributes such as security, trust, and convenience shape user attitudes, and how satisfaction-related factors including customer support, feature availability, and perceived value influence transaction efficiency and overall satisfaction. The study contributes by proposing and empirically validating an integrated framework using reliability analysis, factor analysis, and regression modelling. The paper is structured as follows: Section 2 reviews the literature, Section 3 explains the study's significance, Section 4 outlines its scope, Section 5 & 6

presents the objectives and hypotheses, Section 7 describes the database and methodology, Section 8 discusses the results, and the final sections present the findings and conclusions.

2. Review of Literature

The expansion of FinTech payment systems has facilitated faster, more secure, and convenient transactions, with adoption influenced by factors such as perceived security, trust, ease of use, convenience, perceived benefits, and user awareness. Security remains a fundamental concern, reinforced through encryption and authentication protocols (Furnell et al., 2006; Gupta & Arora, 2020), while perceived ease of use and usefulness continue to shape user acceptance (Davis, 1989). Additionally, features such as intuitive interfaces, transaction speed, and accessibility enhance user engagement, while incentives like rewards and increased awareness further encourage adoption (Dasgupta, 2021). Customer satisfaction is determined by service quality, transaction efficiency, and the availability of system features. Effective and responsive customer support strengthens user trust (Raghavan et al., 2021), and functionalities such as transaction history and peer-to-peer payment options improve the overall user experience. Transaction efficiency, characterised by speed and reliability, plays a crucial role in enhancing satisfaction and fostering user loyalty, while perceived value and related dimensions contribute significantly to service quality (Parasuraman et al., 2005). Although prior research emphasises system reliability and dependability (Sarkam et al., 2022), it often lacks a comprehensive, integrated

perspective. Therefore, the present study adopts a combined framework that incorporates both perception and satisfaction variables to provide a more holistic understanding (Gupta & Arora, 2020).

3. Significance of the Study

This study is significant as it offers a comprehensive examination of the factors shaping user perception and satisfaction in FinTech payment systems within the context of an emerging economy. As digital payments continue to expand, understanding user behaviour becomes essential for improving adoption, retention, and overall service quality. Prior research identifies perceived security, trust, and ease of use as central drivers of technology acceptance (Davis, 1989; Venkatesh et al., 2003), while service-related dimensions such as customer support, feature availability, and perceived value influence user satisfaction and continued engagement (Parasuraman et al., 2005; Yang & Forney, 2013). By integrating perception-based and satisfaction-oriented constructs into a unified analytical framework, the study addresses a critical gap in existing FinTech literature. It further provides practical implications for industry stakeholders and policymakers by illustrating how system functionality, security, and service quality contribute to transaction efficiency and overall user satisfaction, particularly in advancing digital financial inclusion in economies such as India (Gupta & Arora, 2020). Moreover, the study makes an academic contribution by empirically validating a multidimensional model that links user perception, transaction efficiency, and

satisfaction, thereby extending established theories in technology acceptance and service quality.

4. Scope of the Study

This study investigates the factors influencing user perception and satisfaction in FinTech payment systems among individuals in Thiruvananthapuram district. It addresses the limited understanding of how perception-related variables such as security, trust, ease of use, convenience, perceived benefits, and awareness and satisfaction-related factors, including customer support, feature availability, perceived value, and transaction efficiency, interact to shape the overall user experience. The analysis focuses on individual users actively engaged with FinTech services, excluding corporate entities, and examines how perception variables influence user attitudes, as well as how satisfaction-related factors affect transaction efficiency and overall satisfaction. Employing quantitative techniques such as reliability analysis, factor analysis, and regression modelling, the study generates empirical evidence within a geographically specific setting marked by diverse socio-economic and digital conditions. The findings are intended to assist FinTech service providers in enhancing system functionality, improving user experience, and encouraging wider adoption of digital payment systems.

5. Objectives of the Study

The study is done with the following specific objectives:

1. To evaluate the impact of perceived factors, including security, trust, ease

of use, convenience, benefits, and awareness on customers' overall perception of FinTech Payment Systems.

2. To assess the relationship between customer support, feature availability, perceived value, and transaction efficiency on overall satisfaction with FinTech Payment Systems.

6. Hypotheses

- **H01:** Perceived factors such as security, trust, ease of use, convenience, benefits, and awareness significantly influence customers' perception of FinTech Payment Systems.
- **H02:** Customer support, feature availability, and perceived value have a significant positive effect on transaction efficiency, which in turn influences overall satisfaction with FinTech Payment Systems.

7. Database and Methodology

The validity of any research work is grounded upon the systematic method of data collection and proper analysis of the data collected. The methodology adopted for the proposed study is given below:

7.1 Sources of data: The study was conducted using both primary and secondary data sources. A systematic questionnaire was used to gather primary data. On the other hand, secondary data were gathered from books, periodicals, journals, magazines, newspapers, websites, and other sources of information.

7.2 Sampling design: Purposive sampling, which is a classification of Non-probability sampling, is used to select the FinTech Payment users' from the available population. Total number of respondents participated in the study was 100.

7.3 Tools for analysis: The analysis, conducted using IBM SPSS Statistics, applied reliability, factor, and regression methods. Reliability indicated strong internal consistency ($\alpha > 0.7$), while KMO (> 0.9) and a significant Bartlett's test ($p < 0.001$) confirmed suitability for factor analysis. PCA with Varimax rotation produced distinct factor structures. Regression results showed Customer Support, Feature Availability, and Perceived Value significantly affect Transaction Efficiency, with Feature Availability as the strongest predictor. ANOVA supported model fit, and VIF (< 10) indicated no multicollinearity.

8. Results and Discussions

8.1 Evaluation of Perception

H01: Perceived factors such as security, trust, ease of use, convenience, benefits, and awareness significantly influence customers' perception of FinTech Payment Systems. A Reliability Test was carried out using Cronbach's Alpha, which measures the internal consistency of research constructs and the results is exhibited in Table 1.

All constructs exceed the 0.70 Cronbach's alpha threshold (Nunnally, 1978), indicating strong internal reliability, with perceived security recording the highest value. The findings validate the measurement model and support further analysis and Hypothesis 1 (H01).

The KMO value (0.915) indicates excellent sampling adequacy (Table 2), while Bartlett’s Test is significant ($\chi^2 = 20,402.44$, $df = 276$, $p < 0.001$), confirming the data’s suitability for factor analysis.

PCA with Varimax rotation reveals a six-factor structure (PS, TR, ES, PC, PB, AW) with strong loadings and minimal cross-loadings, confirming distinct constructs and good interpretability (Table 3). Security and trust emerge as core factors, while usability (ease of use, convenience) and benefits and awareness support engagement and adoption. Overall, the results validate the model and support Hypothesis H1.

8.2 Evaluation of Satisfaction

H02: Customer support, feature availability, and perceived value have a significant positive effect on transaction efficiency, which in turn influences overall satisfaction with FinTech payment systems. A Reliability Test was carried out using Cronbach’s Alpha, which measures the internal consistency of research constructs and the results is exhibited in Table 4.

All satisfaction constructs Transaction Efficiency, Customer Support, Feature Availability, and Perceived Value exceed the 0.70 Cronbach’s alpha threshold (Nunnally, 1978), indicating strong reliability, with Transaction Efficiency highest. The results validate the model and

Table 1
Cronbach’s Co-efficient Alpha

Sl No	Factors (Constructs)	Number of Items	Cronbach’s Alpha
1	Perceived Security (PS)	4	.890
2	Trust in FinTech Payment Systems (TR)	4	.796
3	Ease of Use (ES)	4	.780
4	Perceived Convenience (PC)	4	.806
5	Perceived Benefits (PB)	4	.789
6	Awareness and Knowledge (AW)	4	.841

Source: Authors calculation

Table 2
KMO and Bartlett’s Test

KMO and Bartlett’s Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.915
Bartlett’s Test of Sphericity	Approx. Chi-Square	20402.44
	df	276
	P Value	<0.001**

Source: Authors calculation

Table 3
Rotated Component Matrix

Rotated Component Matrix						
Items	Component					
	1	2	3	4	5	6
PS1	0.784					
PS2	0.682					
PS3	0.834					
PS4	0.763					
TR1		0.824				
TR2		0.682				
TR3		0.788				
TR4		0.746				
ES1			0.686			
ES2			0.785			
ES3			0.763			
ES4			0.826			
PC1				0.724		
PC2				0.868		
PC3				0.807		
PC4				0.848		
PB1					0.769	
PB2					0.814	
PB3					0.834	
PB4					0.765	
AW1						0.845
AW2						0.865
AW3						0.689
AW4						0.781

Source: Authors calculation Extraction Method: Principal Component Analysis Rotation Method: Varimax with Kaiser Normalization.

support further analysis and Hypothesis 2 (H02).

KMO (0.907) indicates excellent sampling adequacy with sufficient shared variance (Table 5). Bartlett’s Test is significant ($\chi^2 = 15,802.168$, $df = 276$, $p < 0.001$), confirming suitability for factor analysis and identification of underlying factors.

Factor analysis reveals a clear four-component structure: Transaction Efficiency, Customer Support, Feature Availability, and Perceived Value with strong loadings. This confirms convergent and discriminant validity, validating the model and supporting Hypothesis H2 that satisfaction is multidimensional.

Table 4
Cronbach's Co-efficient Alpha

Sl. No.	Factors (Constructs)	Number of Items	Cronbach's Alpha
1	Transaction Efficiency (TE)	4	.883
2	Customer Support (CS)	4	.715
3	Feature Availability (FE)	4	.729
4	Perceived Value (PV)	4	.766

Source: Authors calculation

Table 5
KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.907
Bartlett's Test of Sphericity	Approx. Chi-Square	15802.168
	df	276
	P Value	<0.001**

Source: Authors calculation

Table 6
Rotated Component Matrix

Items	Component			
	1	2	3	4
TE1	0.855			
TE2	0.843			
TE3	0.858			
TE4	0.846			
CS1		0.857		
CS2		0.837		
CS3		0.880		
CS4		0.843		
FE1			0.829	
FE2			0.855	
FE3			0.871	
FE4			0.812	
PV1				0.869
PV2				0.824
PV3				0.812
PV4				0.863

Source: Authors calculation

Regression Analysis

The model shows a moderate relationship ($R = 0.673$) (Table 7), with predictors explaining 45.3% of the variance in Transaction Efficiency ($R^2 = 0.453$; Adjusted $R^2 = 0.451$). The Durbin–Watson value (2.078) indicates no autocorrelation, confirming good model fit.

The ANOVA results (Table 8) indicate the model is highly significant ($F = 327.154$, $p < 0.001$), confirming that Customer Support, Feature Availability, and Perceived Value jointly influence Transaction Efficiency.

Customer Support, Feature Availability, and Perceived Value significantly influence Transaction Efficiency ($p < 0.05$), with Feature Availability strongest ($\beta = 0.375$), followed by Customer Support

($\beta = 0.212$) and Perceived Value ($\beta = 0.157$). VIF values below 10 indicate no multicollinearity (Table 9).

9. Findings and Suggestions

The findings indicate that both perception and satisfaction factors significantly shape user experience in FinTech payment systems. Perception variables ie, security, trust, ease of use, convenience, perceived benefits, and awareness collectively influence user attitudes, confirming their role in technology adoption. On the satisfaction side, customer support, feature availability, and perceived value positively influence transaction efficiency, with feature availability as the most influential factor. The regression model is statistically significant with strong explanatory power, showing that service quality dimensions contribute to efficiency and satisfaction.

Table 7
Model Summary of Multiple Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.673a	0.453	0.451	0.655	2.078

Source: Authors calculation
a Predictors: (Constant), CS, FE, PV
b Dependent Variable: TE

Table 8
ANOVA table showing the Regression Model Fit

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	420.648	3	140.216	327.154	.000*
	Residual	508.311	96	5.295		
	Total	928.959	99			

Source: Authors calculation

Table 9
Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	P Value	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	2.163	0.144		15.001	.000*		
CS	0.2	0.03	0.212	6.555	.000*	0.442	2.262
FE	0.346	0.032	0.375	10.894	.000*	0.39	2.565
PV	0.138	0.03	0.157	4.657	.000*	0.407	2.456

Source: Authors calculation

Accordingly, both hypotheses (H01 and H02) are supported, establishing a clear link between user perception, transaction efficiency, and overall satisfaction. From a practical perspective, FinTech providers should prioritise improving feature availability and system functionality to enhance usability and adoption (Davis, 1989; Venkatesh et al., 2003). Strengthening security measures is essential for building user trust (Gupta & Arora, 2020), while effective customer support and user-friendly interfaces improve the overall experience (Raghavan et al., 2021; Davis, 1989; Teo et al., 2015). Additionally, promoting awareness and digital literacy (Dasgupta, 2021), offering incentives to increase perceived value (Yang & Forney, 2013), and ensuring system reliability are key to improving efficiency and satisfaction (Parasuraman et al., 2005).

10. Conclusion

The study shows that perception factors :security, trust, ease of use, convenience, benefits, and awarenesssignificantly influence adoption, while satisfaction factors customer support, feature availability, and perceived value drive transaction efficiency and overall satisfaction, with feature availability as the strongest predictor. The validated model offers practical insights for improving FinTech system design, usability, and service quality. Despite geographic and variable constraints, the findings remain valuable for stakeholders seeking to enhance adoption and user experience. Future research should incorporate broader variables and longitudinal approaches to better capture evolving user behaviour.

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