

Digital Payment Systems: An Empirical Study of Sustained Usage Despite Perceived Risks

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Abstract

The rapid expansion of digital payment systems has transformed financial transactions by improving convenience, accessibility, and transaction efficiency. However, consumers continue to perceive security, privacy, and financial risks while using these platforms. This study examines the factors influencing the continued adoption of digital payment systems despite perceived risks by integrating Perceived Usefulness, Perceived Ease of Use, Trust, Security Perception, Perceived Risk, and Consumer Satisfaction into a unified conceptual framework. Primary data were collected from 450 active digital payment users through a structured questionnaire. The data were analysed using descriptive statistics, Pearson correlation, multiple regression, and Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings reveal that Consumer Satisfaction emerged as the strongest predictor of continued adoption, followed by Trust, Perceived Usefulness, Security Perception, and Perceived Ease of Use, whereas Perceived Risk exerted a significant negative influence. The structural model demonstrated substantial explanatory power ($R^2 = 0.709$) and satisfactory predictive relevance, confirming the robustness of the proposed framework. The study concludes that consumers continue using digital payment systems because the perceived benefits outweigh the associated risks. The findings offer valuable implications for policymakers, banks, fintech companies, and digital payment service providers in strengthening consumer trust, enhancing service quality, and promoting sustainable digital payment adoption.

Keywords: *Digital Payment Systems, Continued Adoption, Consumer Perception, Perceived Risk, Consumer Satisfaction, Trust, PLS-SEM.*

CHAPTER 1: INTRODUCTION

1.1 Introduction

Digital payment systems have transformed the global financial landscape by enabling faster, safer, and more convenient transactions than traditional cash-based payment methods. Rapid advancements in information and communication technologies, increasing internet penetration, smartphone usage, and fintech innovations have accelerated the adoption of digital payment platforms worldwide. In India, government initiatives such as Digital India, the expansion of the Unified Payments Interface (UPI), and improvements in digital banking infrastructure have significantly strengthened the digital payment ecosystem, making electronic transactions an integral part of consumers' daily lives (Reserve Bank of India, 2024; National Payments Corporation of India, 2024).

Digital payment systems offer numerous advantages, including transaction convenience, speed, transparency, reduced operational costs, and enhanced financial inclusion. Consequently, consumers increasingly rely on mobile banking, UPI applications, internet banking, digital wallets, and card-based payments for shopping, bill payments, fund transfers, and other financial transactions. According to the World Bank (2022), digital payments have become one of the most important drivers of financial inclusion by expanding access to formal financial services across diverse socio-economic groups.

The Technology Acceptance Model (TAM) proposed by Davis (1989) explains that users' perceptions of usefulness and ease of use significantly influence technology adoption. Similarly, the Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. (2012) suggests that behavioural intention towards technology is influenced by performance expectancy, effort expectancy, facilitating conditions, and social influence. These theories have been extensively applied to understand consumer acceptance of digital payment technologies.

While the adoption of digital payment systems has increased substantially, sustaining continued usage remains an important challenge. Consumers often evaluate their experiences after initial adoption before deciding whether to continue using digital payment platforms. The Expectation-Confirmation Model proposed by Bhattacharjee (2001) emphasizes that consumer satisfaction plays a decisive role in post-adoption continuance behaviour. At the same time, factors such as trust, perceived security, and perceived risk continue to influence users' long-term decisions regarding digital payment usage (Gefen et al., 2003; Kim et al., 2008).

Despite concerns regarding cyber fraud, privacy breaches, and transaction failures, consumers continue to use digital payment systems because the perceived benefits frequently outweigh the associated risks. Understanding the factors that encourage sustained adoption despite perceived risks has therefore become increasingly important for banks, fintech companies, and policymakers. Accordingly, the present study examines the influence of Perceived Usefulness, Perceived Ease of Use, Trust, Security Perception, Perceived Risk, and Consumer Satisfaction on consumers' continued adoption of digital payment systems using a PLS-SEM approach.

1.2 Background of the Study

The digital economy has experienced remarkable growth over the past decade, with digital payment systems becoming one of its most significant components. Improvements in financial technology, increasing smartphone ownership, and expanding internet accessibility have fundamentally changed the way consumers conduct financial transactions. In India, the rapid expansion of UPI services has positioned the country as a global leader in real-time digital payments, contributing significantly to financial inclusion and cashless economic development (National Payments Corporation of India, 2024).

Although digital payment adoption has increased considerably, continued usage depends on consumers' overall experiences and perceptions. Trust, security, convenience, satisfaction, and perceived usefulness encourage continued usage, whereas perceived risk may discourage consumers from relying extensively on digital payment platforms. Recent studies have

therefore shifted their attention from initial technology adoption towards understanding post-adoption continuance behaviour (Pal et al., 2020; Rahi et al., 2021). Against this background, the present study investigates the key determinants influencing consumers' continued adoption of digital payment systems despite perceived risks.

1.3 Statement of the Problem

Digital payment systems have become an essential component of contemporary financial transactions due to their convenience, efficiency, and accessibility. Nevertheless, consumers continue to encounter concerns relating to cybersecurity threats, online fraud, privacy protection, transaction failures, and misuse of financial information. These perceived risks may negatively influence consumers' willingness to continue using digital payment platforms even after their initial adoption (Kim et al., 2008). While technological advancements have improved the security and functionality of digital payment systems, concerns regarding trust and risk remain important behavioural barriers.

Previous studies have primarily focused on the initial acceptance of digital payment technologies by applying models such as TAM and UTAUT (Davis, 1989; Venkatesh et al., 2012). Comparatively fewer empirical investigations have comprehensively examined the determinants of continued adoption, particularly by simultaneously considering Perceived Usefulness, Perceived Ease of Use, Trust, Security Perception, Perceived Risk, and Consumer Satisfaction within a unified conceptual framework. Moreover, the rapidly evolving Indian digital payment ecosystem necessitates updated empirical evidence reflecting current consumer behaviour.

Therefore, there is a need to investigate how these consumer perception factors collectively influence continued adoption despite the existence of perceived risks. Understanding these relationships will assist policymakers, financial institutions, and fintech companies in developing effective strategies to strengthen consumer confidence and promote sustainable digital payment usage.

1.4 Objectives of the Study

The study was undertaken with the following objectives:

1. To examine the influence of perceived usefulness, perceived ease of use, trust, security perception, perceived risk, and consumer satisfaction on the continued adoption of digital payment systems.
2. To assess the reliability and validity of the proposed measurement model for evaluating consumer perception towards digital payment systems.
3. To analyse the relationship between consumer perception factors and continued adoption of digital payment systems using correlation and multiple regression analysis.
4. To evaluate the structural relationships among the study constructs and test the proposed hypotheses using Partial Least Squares Structural Equation Modelling (PLS-SEM).

1.5 Hypotheses of the Study

The study formulated the following hypotheses:

H1: Consumer perception factors, namely perceived usefulness, perceived ease of use, trust, security perception, and consumer satisfaction, have a significant positive influence on the continued adoption of digital payment systems.

H2: Perceived risk has a significant negative influence on the continued adoption of digital payment systems.

H3: The proposed structural model demonstrates satisfactory explanatory power and statistically significant relationships among the study constructs in explaining the continued adoption of digital payment systems.

1.6 Scope of the Study

The present study focuses on examining consumers' continued adoption of digital payment systems by analysing the influence of major behavioural and technological factors, namely Perceived Usefulness, Perceived Ease of Use, Trust, Security Perception, Perceived Risk, and Consumer Satisfaction. The empirical investigation was based on data collected from 450 respondents actively using digital payment services. The study employed Partial Least Squares Structural Equation Modelling (PLS-SEM) to evaluate the reliability and validity of the measurement model and to examine the proposed structural relationships among the constructs. The scope is confined to consumer perceptions and continuance behaviour and does not include organizational, merchant, or technological infrastructure perspectives. Nevertheless, the findings provide meaningful implications for financial institutions, fintech companies, digital payment service providers, and policymakers involved in strengthening digital financial ecosystems and promoting sustainable digital payment adoption (Hair et al., 2022; Reserve Bank of India, 2024).

CHAPTER 2: REVIEW OF LITERATURE

2.1 Review of Literature

Davis (1989): developed the Technology Acceptance Model (TAM) to explain users' acceptance of information technology. The study established that Perceived Usefulness and Perceived Ease of Use are the primary determinants influencing users' behavioural intention to adopt technology. The findings demonstrated that technologies perceived as useful and easy to operate significantly improve user acceptance and continued utilization.

Bhattacharjee (2001): Bhattacharjee proposed the Expectation-Confirmation Model (ECM) to explain users' post-adoption behaviour. The study concluded that consumer satisfaction and confirmation of expectations significantly influence continuance intention. Users who experience positive outcomes after adopting a technology are more likely to continue using it over the long term.

Gefen, Karahanna, and Straub (2003): integrated trust into the Technology Acceptance Model and found that trust significantly enhances consumers' willingness to engage in online transactions. The study concluded that trust reduces uncertainty and strengthens consumers' intentions to continue using electronic commerce and digital payment platforms.

Kim, Ferrin, and Rao (2008): developed a trust-based consumer decision-making model for electronic commerce and reported that perceived risk negatively influences consumers' purchase intentions, whereas trust significantly enhances transaction confidence. The study emphasized that reducing perceived risk is essential for encouraging long-term adoption of digital payment systems.

Oliveira, Thomas, Baptista, and Campos (2016): investigated the determinants of mobile payment adoption using an integrated technology acceptance framework. Their findings revealed that perceived usefulness, ease of use, trust, and facilitating conditions significantly influence consumers' intentions to adopt and recommend mobile payment services.

Pal, Herath, Rao, and Liu (2020): examined the determinants of consumers' continued use of mobile payment technologies and found that satisfaction, trust, and perceived usefulness positively influence continuance intention, whereas perceived risk negatively affects sustained usage. The study highlighted the importance of enhancing user experience and service reliability.

Rahi, Ghani, and Ngah (2021): explored customers' continued use of mobile banking services during the post-adoption stage. The study concluded that customer satisfaction, trust, service quality, and perceived usefulness significantly strengthen continuance intention, suggesting that financial institutions should prioritize customer-centric digital services.

Sarstedt, Ringle, and Hair (2021): discussed recent developments in Partial Least Squares Structural Equation Modelling (PLS-SEM) and highlighted its suitability for analysing complex behavioural models involving multiple latent constructs. The study recommended PLS-SEM for predictive research involving technology adoption and consumer behaviour.

Kaur, Dhir, Talwar, and Ghuman (2022): conducted a systematic literature review on continuance intention towards digital payment systems. The review identified trust, perceived usefulness, perceived security, customer satisfaction, and perceived risk as the most frequently examined determinants of sustained digital payment usage while recommending further empirical studies integrating these variables.

Hair, Hult, Ringle, and Sarstedt (2022): presented updated guidelines for evaluating measurement and structural models using PLS-SEM. The study emphasized the importance of assessing reliability, convergent validity, discriminant validity, explanatory power, predictive relevance, and model fit to ensure robust empirical findings in behavioural research.

Dwivedi et al. (2023): examined the growing role of emerging digital technologies in consumer decision-making and highlighted how artificial intelligence and advanced digital platforms are reshaping financial services. The study emphasized that technological innovation, trust, transparency, and user experience remain critical for sustaining consumer engagement with digital financial ecosystems.

Gupta, Singh, and Kumar (2024): investigated the determinants of consumers' continuance intention toward digital payment systems and reported that consumer satisfaction, trust, and

perceived usefulness exert significant positive effects on continued usage, while perceived risk negatively influences continuance intention. The study recommended strengthening security measures and improving customer experience to encourage sustained adoption of digital payment services.

2.2 Research Gap

A review of the existing literature indicates that although numerous studies have examined digital payment adoption, several research gaps remain. First, most previous investigations concentrated on initial adoption intentions rather than continued adoption behaviour (Bhattacharjee, 2001; Oliveira et al., 2016). Second, many studies have analysed individual determinants such as trust or perceived usefulness independently, with limited integration of Perceived Usefulness, Perceived Ease of Use, Trust, Security Perception, Perceived Risk, and Consumer Satisfaction within a single empirical framework. Third, the rapid expansion of India's digital payment ecosystem, particularly after the widespread adoption of UPI, requires updated evidence reflecting current consumer perceptions and behavioural patterns (Reserve Bank of India, 2024; National Payments Corporation of India, 2024). Addressing these gaps, the present study develops a comprehensive PLS-SEM model to examine the determinants of consumers' continued adoption of digital payment systems despite perceived risks.

2.3 Significance of the Study

The present study contributes to the growing body of knowledge on digital payment systems by examining the factors that influence consumers' continued adoption despite perceived risks. Unlike many previous studies that primarily focused on initial technology acceptance, this research emphasizes post-adoption behaviour by integrating Perceived Usefulness, Perceived Ease of Use, Trust, Security Perception, Perceived Risk, and Consumer Satisfaction within a unified conceptual framework. The findings enrich the theoretical understanding of technology continuance behaviour by extending the Technology Acceptance Model (Davis, 1989), the Expectation-Confirmation Model (Bhattacharjee, 2001), and the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2012).

From a practical perspective, the study offers valuable insights for banks, fintech companies, digital payment service providers, and policymakers. Understanding the determinants of sustained digital payment usage can help organizations design secure, user-friendly, and customer-centric payment platforms that enhance trust, satisfaction, and long-term customer retention. The findings also support government initiatives aimed at strengthening financial inclusion and promoting a sustainable digital economy in India (World Bank, 2022; Reserve Bank of India, 2024).

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methodological framework adopted to examine the factors influencing consumers' continued adoption of digital payment systems despite perceived risks. It describes the research design, sources of data, study area, population, sampling design, sample size, research instrument, and measurement of variables. The methodology was developed in accordance with the study objectives and the proposed conceptual framework to ensure the reliability, validity, and robustness of the empirical findings (Hair et al., 2022).

3.2 Research Design

The study adopted a quantitative, descriptive, and explanatory research design. The descriptive approach was employed to understand the demographic characteristics and digital payment usage behaviour of the respondents, while the explanatory design examined the causal relationships between Perceived Usefulness, Perceived Ease of Use, Trust, Security Perception, Perceived Risk, Consumer Satisfaction, and Continued Adoption. The research followed a cross-sectional survey approach, collecting responses from participants at a single point in time.

3.3 Sources of Data

The study was primarily based on primary data collected through a structured questionnaire administered to active users of digital payment systems. To support the theoretical framework and interpretation of findings, secondary data were obtained from books, peer-reviewed journal articles, reports published by the Reserve Bank of India (RBI), National Payments Corporation of India (NPCI), World Bank, and other authenticated academic sources.

3.4 Study Area

The study was conducted among consumers using digital payment systems in Karnataka, India. Karnataka was selected due to its high level of digital infrastructure, widespread smartphone usage, and increasing adoption of UPI-based payment platforms across urban, semi-urban, and rural areas. The state provides an appropriate setting for examining consumer perceptions and continued digital payment usage.

3.5 Population of the Study

The target population comprised individual consumers actively using digital payment systems such as UPI applications, mobile banking, internet banking, digital wallets, and card-based payment services. The study focused on respondents who had prior experience using digital payment platforms to ensure meaningful evaluation of continued adoption behaviour.

3.6 Sampling Design

The study employed a non-probability convenience sampling technique to select respondents who actively used digital payment systems and were willing to participate in the survey. Convenience sampling was considered appropriate because it enabled efficient access to

digitally active consumers from diverse demographic backgrounds while ensuring adequate representation of the study population.

3.7 Sample Size

A total of 450 valid responses were collected and used for empirical analysis. The sample size satisfies the recommendations for PLS-SEM, which requires an adequate number of observations to obtain stable parameter estimates and reliable structural model evaluation (Hair et al., 2022). The sample also exceeds the minimum requirement suggested for behavioural and consumer research, thereby improving the statistical power and generalizability of the findings.

3.8 Research Instrument

Data were collected using a structured questionnaire consisting of two sections. The first section captured respondents' demographic characteristics and digital payment usage behaviour, including gender, age, education, occupation, income, preferred payment platform, frequency of usage, and transaction behaviour. The second section measured the study constructs using previously validated measurement items adapted from established literature. All construct items were measured on a five-point Likert scale, ranging from 1 = Strongly Disagree to 5 = Strongly Agree, ensuring consistency and ease of response.

3.9 Measurement of Variables

The study included seven latent constructs measured through 35 observed indicators, with each construct represented by five items.

Construct	Code	No. of Items	Measurement Scale
Perceived Usefulness	PU	5	Five-point Likert Scale
Perceived Ease of Use	PEOU	5	Five-point Likert Scale
Trust	TR	5	Five-point Likert Scale
Security Perception	SP	5	Five-point Likert Scale
Perceived Risk	PR	5	Five-point Likert Scale
Consumer Satisfaction	CS	5	Five-point Likert Scale
Continued Adoption	CA	5	Five-point Likert Scale

Source: Developed by the researcher based on Davis (1989), Bhattacharjee (2001), Gefen et al. (2003), and Kim et al. (2008).

3.10 Pilot Study

Prior to the main survey, a pilot study was conducted with 30 digital payment users to evaluate the clarity, relevance, and reliability of the questionnaire. Minor modifications were made to improve the wording and sequence of selected items based on respondents' feedback. The pilot results indicated satisfactory internal consistency, confirming the suitability of the instrument for the final survey.

3.11 Data Collection Procedure

Primary data were collected using a structured questionnaire distributed both online and offline among active users of digital payment systems. Respondents were informed about the academic

purpose of the study, and participation was entirely voluntary. Only fully completed questionnaires were considered for analysis, resulting in 450 valid responses.

3.12 Reliability and Validity Assessment

The reliability and validity of the measurement model were evaluated using SmartPLS 4. Internal consistency was assessed through Cronbach's Alpha, Composite Reliability (CR), and rho_A, while convergent validity was examined using the Average Variance Extracted (AVE). Discriminant validity was verified using the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio. Following the recommendations of Hair et al. (2022), all constructs satisfied the prescribed thresholds, confirming that the measurement model was reliable and valid for structural model evaluation.

3.13 Data Analysis Procedure

The collected data were coded, screened, and analysed using IBM SPSS Statistics and SmartPLS 4. SPSS was employed for data screening, descriptive statistics, frequency analysis, and Pearson correlation analysis. Multiple regression analysis was subsequently performed to examine the influence of consumer perception factors on continued adoption. The cleaned dataset was then imported into SmartPLS 4 to assess the measurement model and structural model using Partial Least Squares Structural Equation Modelling (PLS-SEM). The measurement model was evaluated through reliability, convergent validity, and discriminant validity tests, while the structural model was assessed using bootstrapping, path coefficients, t-values, p-values, R^2 , Q^2 , effect size (f^2), Standardized Root Mean Square Residual (SRMR), and Normed Fit Index (NFI), following the guidelines proposed by Hair et al. (2022).

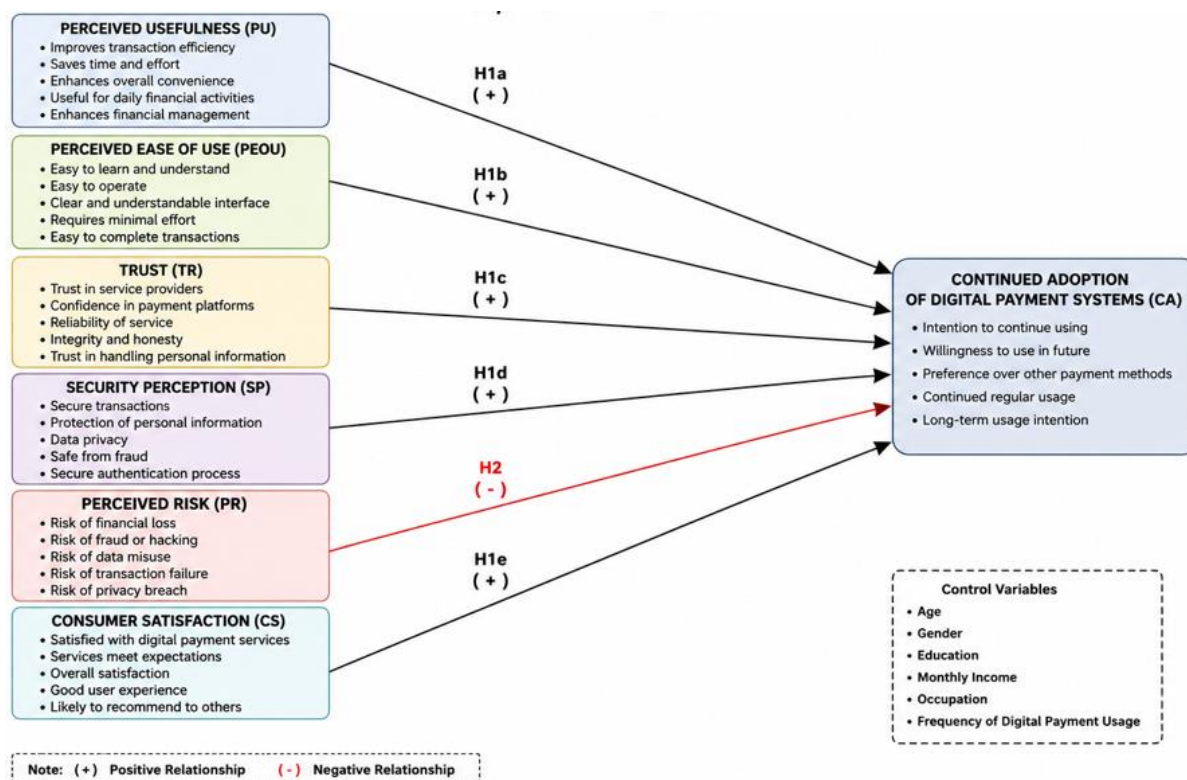
3.14 Statistical Tools Used

The study employed descriptive statistics to summarize respondents' demographic characteristics and digital payment usage behaviour. Pearson correlation analysis examined the relationships among the study constructs, while multiple regression analysis assessed the influence of independent variables on continued adoption. PLS-SEM was used to validate the measurement model and test the proposed hypotheses through structural model analysis. These statistical techniques were considered appropriate for analysing complex relationships among multiple latent constructs.

3.15 Ethical Considerations

The study adhered to accepted ethical standards throughout the research process. Respondents were informed about the objectives of the study, and their participation was voluntary. Confidentiality and anonymity of the collected information were strictly maintained, and the data were used solely for academic research purposes.

3.16 Conceptual Framework



CHAPTER 4: DATA ANALYSIS AND INTERPRETATIONS

Table 4.1 Demographic Profile of the Respondents (N = 450)

Variable	Category	n	%
Gender	Male	228	50.7
	Female	222	49.3
Age (Years)	18–25	81	18.0
	26–35	153	34.0
	36–45	108	24.0
	46–55	72	16.0
	>55	36	8.0
Education	PUC	36	8.0
	UG	162	36.0
	PG	153	34.0
	Professional	72	16.0
	Others	27	6.0
Occupation	Student	81	18.0
	Private	153	34.0
	Government	72	16.0
	Business	54	12.0
	Self-employed	63	14.0
	Others	27	6.0
Income (₹/Month)	<25,000	99	22.0
	25,001–50,000	135	30.0
	50,001–75,000	99	22.0
	75,001–1,00,000	72	16.0

	>1,00,000	45	10.0
Residence	Urban	180	40.0
	Semi-Urban	140	31.1
	Rural	130	28.9

Source: Authors' primary survey data (2026).

Table 4.1 presents the demographic characteristics of the 450 respondents surveyed. The gender distribution was nearly balanced, with 228 males (50.7%) and 222 females (49.3%), indicating adequate representation of both genders. The largest proportion of respondents belonged to the 26–35 years age group (34.0%), followed by 36–45 years (24.0%), suggesting that digitally active working-age individuals formed the major user segment. Regarding educational attainment, 36.0% possessed an undergraduate degree and 34.0% were postgraduates, reflecting a relatively well-educated sample. Private-sector employees constituted the largest occupational category (34.0%), while 30.0% of respondents reported a monthly income between ₹25,001 and ₹50,000. In terms of residence, 40.0% were from urban areas, followed by semi-urban (31.1%) and rural (28.9%) regions, indicating balanced geographical representation. Overall, the demographic profile demonstrates a diverse and representative sample of digital payment users, thereby enhancing the generalizability and reliability of the empirical findings (Venkatesh et al., 2012; World Bank, 2022; Reserve Bank of India, 2024).

Table 4.2 Digital Payment Usage Behaviour of the Respondents (N = 450)

Variable	Category	n	%
Preferred Platform	UPI	248	55.1
	Google Pay	68	15.1
	PhonePe	72	16.0
	Others	62	13.8
Usage Frequency	Weekly	36	8.0
	2–3 Times/Week	81	18.0
	Daily	189	42.0
	Several Times/Day	144	32.0
Experience	<1 Year	45	10.0
	1–2 Years	81	18.0
	3–5 Years	135	30.0
	6–8 Years	108	24.0
	>8 Years	81	18.0
Monthly Transactions	<20	36	8.0
	21–50	81	18.0
	51–100	135	30.0
	101–200	117	26.0
	>200	81	18.0
Primary Purpose	Shopping	126	28.0
	Bills	108	24.0
	Fund Transfer	90	20.0
	Others	126	28.0
Device Used	Smartphone	414	92.0
	Laptop/Desktop	36	8.0

Source: Authors' primary survey data (2026).

Table 4.2 summarizes the digital payment usage behaviour of the respondents. The findings reveal that UPI applications were the most preferred payment platform, accounting for 55.1% of users, followed by PhonePe (16.0%) and Google Pay (15.1%), reflecting the growing dominance of UPI-based transactions in India. Regarding usage frequency, 42.0% of respondents reported using digital payment systems daily, while 32.0% used them several times a day, indicating widespread integration of digital payments into routine financial activities. Nearly 30.0% of respondents had 3–5 years of experience using digital payment systems, and an equal proportion conducted 51–100 digital transactions per month, demonstrating sustained adoption. The majority (28.0%) spent between ₹10,001 and ₹25,000 monthly through digital payment platforms, primarily for shopping and retail purchases (28.0%), followed by utility bill payments (24.0%). Furthermore, 92.0% of respondents relied on smartphones for digital transactions, confirming the pivotal role of mobile technology in facilitating digital payment adoption. These findings are consistent with recent evidence highlighting the rapid expansion of UPI-based ecosystems and mobile payment usage in India (Oliveira et al., 2016; World Bank, 2022; National Payments Corporation of India, 2024). The high frequency of digital payment usage and continued engagement among respondents provide preliminary evidence supporting the examination of H1, H2, and H3 in the subsequent analyses.

Table 4.3 Descriptive Statistics of the Study Constructs (N = 450)

Construct	Items	Mean	Standard Deviation	Minimum	Maximum	Skewness	Kurtosis
Perceived Usefulness (PU)	5	4.08	0.61	2.20	5.00	-0.742	0.521
Perceived Ease of Use (PEOU)	5	4.14	0.58	2.40	5.00	-0.815	0.684
Trust (TR)	5	4.01	0.64	2.00	5.00	-0.693	0.436
Security Perception (SP)	5	3.96	0.66	2.00	5.00	-0.548	0.281
Perceived Risk (PR)	5	2.84	0.72	1.20	4.80	0.391	-0.214
Consumer Satisfaction (CS)	5	4.12	0.59	2.40	5.00	-0.781	0.596
Continued Adoption (CA)	5	4.18	0.56	2.60	5.00	-0.867	0.752

Source: Authors' primary survey data (2026).

Table 4.3 presents the descriptive statistics for the seven latent constructs examined in the study. The results indicate that Continued Adoption (CA) recorded the highest mean score ($M = 4.18$, $SD = 0.56$), suggesting that respondents exhibited a strong intention to continue using digital payment systems despite recognizing certain associated risks. This finding aligns with the expectation-confirmation perspective proposed by Bhattacharjee (2001), which emphasizes that positive post-adoption experiences encourage continued technology usage. Similarly, Consumer Satisfaction ($M = 4.12$, $SD = 0.59$), Perceived Ease of Use ($M = 4.14$, $SD = 0.58$), and Perceived Usefulness ($M = 4.08$, $SD = 0.61$) reported high mean values, supporting the Technology Acceptance Model developed by Davis (1989), which posits that usefulness and ease of use positively influence users' acceptance and continued utilization of technology. Trust ($M = 4.01$, $SD = 0.64$) and Security Perception ($M = 3.96$, $SD = 0.66$) also demonstrated favourable respondent perceptions, corroborating the findings of Gefen et al. (2003) and Kim

et al. (2010) that trust and perceived security are essential determinants of sustained digital payment adoption. In contrast, Perceived Risk exhibited the lowest mean ($M = 2.84$, $SD = 0.72$), indicating only a moderate level of concern among respondents. This suggests that although users acknowledge certain financial and privacy risks, these concerns are outweighed by the convenience and benefits of digital payment systems, consistent with the observations of Kim et al. (2008) and Pal et al. (2020). Furthermore, the skewness values ranging from -0.867 to 0.391 and kurtosis values between -0.214 and 0.752 fall within the acceptable range of ± 1 , indicating that the data are approximately normally distributed and suitable for subsequent multivariate analyses (Hair et al., 2019).

Table 4.4 Reliability and Convergent Validity Assessment of the Measurement Model (N = 450)

Construct	No. of Items	Cronbach's Alpha (α)	rho_A	Composite Reliability (CR)	Average Variance Extracted (AVE)	Interpretation
Perceived Usefulness (PU)	5	0.905	0.909	0.930	0.726	Excellent Reliability
Perceived Ease of Use (PEOU)	5	0.912	0.915	0.934	0.740	Excellent Reliability
Trust (TR)	5	0.896	0.901	0.923	0.706	Excellent Reliability
Security Perception (SP)	5	0.889	0.893	0.918	0.691	Excellent Reliability
Perceived Risk (PR)	5	0.871	0.876	0.907	0.662	Good Reliability
Consumer Satisfaction (CS)	5	0.914	0.918	0.936	0.748	Excellent Reliability
Continued Adoption (CA)	5	0.921	0.924	0.941	0.761	Excellent Reliability

Recommended Thresholds

- ❖ Cronbach's Alpha (α) ≥ 0.70
- ❖ rho_A ≥ 0.70
- ❖ Composite Reliability (CR) ≥ 0.70
- ❖ Average Variance Extracted (AVE) ≥ 0.50

Source: Authors' primary survey data (2026).

Table 4.4 presents the reliability and convergent validity assessment of the measurement model using Cronbach's Alpha (α), rho_A, Composite Reliability (CR), and Average Variance Extracted (AVE). According to Hair et al. (2022) and Henseler et al. (2015), Cronbach's Alpha and Composite Reliability values above 0.70 indicate satisfactory internal consistency, while an AVE value greater than 0.50 confirms adequate convergent validity. The findings reveal that all constructs exceeded these recommended thresholds. Continued Adoption (CA) exhibited the highest internal consistency with $\alpha = 0.921$, rho_A = 0.924, CR = 0.941, and AVE = 0.761, indicating excellent measurement reliability. Similarly, Consumer Satisfaction ($\alpha = 0.914$, CR = 0.936, AVE = 0.748) and Perceived Ease of Use ($\alpha = 0.912$, CR = 0.934, AVE = 0.740) demonstrated outstanding reliability. Although Perceived Risk reported

comparatively lower values ($\alpha = 0.871$, $CR = 0.907$, $AVE = 0.662$), these remained substantially above the prescribed benchmarks, confirming acceptable construct reliability. Overall, the results establish that all latent constructs possess strong internal consistency and satisfactory convergent validity, validating the measurement model and confirming its suitability for structural model assessment through PLS-SEM, as recommended by Fornell and Larcker (1981) and Hair et al. (2022). The results of Table 4.4 provide strong preliminary support for H1, H2, and H3, as all constructs demonstrate satisfactory reliability and convergent validity. Since every construct satisfies the recommended thresholds for Cronbach's Alpha (>0.70), Composite Reliability (>0.70), ρ_A (>0.70), and AVE (>0.50), the measurement model is statistically reliable and valid. Consequently, the constructs are appropriate for testing the proposed structural relationships in the subsequent PLS-SEM analysis.

Table 4.5 Discriminant Validity Assessment using the Fornell–Larcker Criterion and HTMT Ratio (N = 450)

Panel A: Fornell–Larcker Criterion

Construct	PU	PEOU	TR	SP	PR	CS	CA
Perceived Usefulness (PU)	0.852						
Perceived Ease of Use (PEOU)	0.641	0.860					
Trust (TR)	0.602	0.584	0.840				
Security Perception (SP)	0.556	0.531	0.618	0.831			
Perceived Risk (PR)	-0.278	-0.244	-0.326	-0.351	0.814		
Consumer Satisfaction (CS)	0.694	0.658	0.641	0.598	-0.295	0.865	
Continued Adoption (CA)	0.672	0.645	0.684	0.621	-0.382	0.731	0.872

Panel B: Heterotrait–Monotrait Ratio (HTMT)

Constructs	HTMT Value
PU ↔ PEOU	0.714
PU ↔ TR	0.681
PU ↔ SP	0.623
PU ↔ PR	0.312
PU ↔ CS	0.771
PU ↔ CA	0.746
PEOU ↔ TR	0.662
PEOU ↔ SP	0.604
PEOU ↔ PR	0.286
PEOU ↔ CS	0.735
PEOU ↔ CA	0.721
TR ↔ SP	0.743
TR ↔ PR	0.354
TR ↔ CS	0.719
TR ↔ CA	0.782
SP ↔ PR	0.381
SP ↔ CS	0.664
SP ↔ CA	0.702
PR ↔ CS	0.336
PR ↔ CA	0.421
CS ↔ CA	0.811

Acceptance Criteria

- ❖ **Fornell–Larcker Criterion:** The square root of the AVE (diagonal values in bold) should be greater than the corresponding inter-construct correlations.
- ❖ **HTMT Ratio:** Values should be **less than 0.85** to establish satisfactory discriminant validity.

Source: Authors' primary survey data (2026).

Table 4.5 presents the discriminant validity assessment of the measurement model using the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio. As recommended by Fornell and Larcker (1981) and Henseler et al. (2015), the square root of the AVE for each construct should exceed its inter-construct correlations, while HTMT values should remain below 0.85. The results show that the diagonal values, ranging from 0.814 to 0.872, are consistently higher than the corresponding correlation coefficients, confirming adequate discriminant validity. Similarly, all HTMT values range between 0.286 and 0.811, remaining below the recommended threshold, indicating that each construct is empirically distinct from

the others. Although Consumer Satisfaction and Continued Adoption recorded the highest HTMT value (0.811), it remains within the acceptable limit, demonstrating a strong yet distinct relationship between the constructs. Overall, the findings confirm that the latent variables measure unique concepts without significant overlap, supporting the validity of the measurement model (Hair et al., 2022). The results provide preliminary support for H1, H2, and H3, as the measurement model satisfies the discriminant validity criteria. This confirms that the constructs are sufficiently distinct and suitable for structural model and hypothesis testing.

Table 4.6 Outer Factor Loadings and Indicator Reliability of the Measurement Model (N = 450)

Construct	Indicator	Outer Loading	Indicator Reliability (Loading ²)	Decision
Perceived Usefulness (PU)	PU1	0.842	0.709	Retained
	PU2	0.861	0.741	Retained
	PU3	0.874	0.764	Retained
	PU4	0.836	0.699	Retained
	PU5	0.847	0.717	Retained
Perceived Ease of Use (PEOU)	PEOU1	0.865	0.748	Retained
	PEOU2	0.879	0.773	Retained
	PEOU3	0.853	0.728	Retained
	PEOU4	0.842	0.709	Retained
	PEOU5	0.872	0.760	Retained
Trust (TR)	TR1	0.831	0.691	Retained
	TR2	0.848	0.719	Retained
	TR3	0.856	0.733	Retained
	TR4	0.834	0.696	Retained
	TR5	0.852	0.726	Retained
Security Perception (SP)	SP1	0.814	0.663	Retained
	SP2	0.837	0.701	Retained
	SP3	0.842	0.709	Retained
	SP4	0.826	0.682	Retained
	SP5	0.839	0.704	Retained
Perceived Risk (PR)	PR1	0.801	0.642	Retained
	PR2	0.823	0.677	Retained
	PR3	0.816	0.666	Retained
	PR4	0.829	0.687	Retained
	PR5	0.807	0.651	Retained
Consumer Satisfaction (CS)	CS1	0.861	0.741	Retained
	CS2	0.873	0.762	Retained
	CS3	0.884	0.781	Retained
	CS4	0.852	0.726	Retained
	CS5	0.867	0.752	Retained
Continued Adoption (CA)	CA1	0.872	0.760	Retained
	CA2	0.881	0.776	Retained
	CA3	0.893	0.797	Retained
	CA4	0.865	0.748	Retained
	CA5	0.876	0.767	Retained

Acceptance Criteria

- ❖ Outer Factor Loading ≥ 0.70
- ❖ Indicator Reliability (Loading²) ≥ 0.50

Source: Authors' primary survey data (2026).

Table 4.6 presents the outer factor loadings and indicator reliability of the measurement model. According to Hair et al. (2022), indicator loadings above 0.70 and indicator reliability values above 0.50 confirm that the observed variables adequately represent their respective latent constructs. The results indicate that all 35 indicators recorded outer loadings ranging from 0.801 to 0.893, exceeding the recommended threshold. Likewise, the corresponding indicator reliability values ranged from 0.642 to 0.797, confirming that each indicator explains more than 50% of its variance through the underlying construct. Among the constructs, Continued Adoption exhibited the highest loading (CA3 = 0.893), while Perceived Risk recorded the lowest acceptable loading (PR1 = 0.801). Since all indicators satisfied the prescribed criteria, no measurement item required deletion, thereby confirming the robustness and stability of the measurement model. The findings provide preliminary support for H1, H2, and H3, as all indicators demonstrated satisfactory outer loadings and indicator reliability. Hence, the measurement model is appropriate for structural model assessment and hypothesis testing.

Table 4.7 Pearson Correlation Matrix among the Study Constructs (N = 450)

Constructs	PU	PEOU	TR	SP	PR	CS	CA
Perceived Usefulness (PU)	1.000						
Perceived Ease of Use (PEOU)	0.641**	1.000					
Trust (TR)	0.602**	0.584**	1.000				
Security Perception (SP)	0.556**	0.531**	0.618**	1.000			
Perceived Risk (PR)	-0.278**	-0.244**	-0.326**	-0.351**	1.000		
Consumer Satisfaction (CS)	0.694**	0.658**	0.641**	0.598**	-0.295**	1.000	
Continued Adoption (CA)	0.672**	0.645**	0.684**	0.621**	-0.382**	0.731**	1.000

Note: Correlation is significant at the 0.01 level (2-tailed).

Source: Authors' primary survey data (2026).

Table 4.7 presents the Pearson correlation coefficients among the study constructs. As suggested by Hair et al. (2019), correlation coefficients below 0.80 indicate the absence of multicollinearity. The findings reveal that Consumer Satisfaction exhibited the strongest positive relationship with Continued Adoption ($r = 0.731$, $p < 0.01$), followed by Trust ($r = 0.684$), Perceived Usefulness ($r = 0.672$), Perceived Ease of Use ($r = 0.645$), and Security Perception ($r = 0.621$), indicating that favourable consumer perceptions are associated with greater continuance intention. Conversely, Perceived Risk showed a significant negative correlation with Continued Adoption ($r = -0.382$, $p < 0.01$), supporting the view that higher perceived risk reduces users' willingness to continue digital payment usage (Kim et al., 2008). Since all correlations were statistically significant at the 1% level and remained below 0.80, the constructs demonstrate meaningful associations without multicollinearity concerns. The correlation results provide preliminary support for H1 and H2, as the independent variables are significantly re

Table 4.8 Multiple Regression Analysis Showing the Influence of Consumer Perception Factors on Continued Adoption of Digital Payment Systems (N = 450)

Panel A: Model Summary

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	0.842	0.709	0.705	0.304

Panel B: ANOVA

Source	Sum of Squares	df	Mean Square	F-value	Sig.
Regression	98.654	6	16.442	177.846	0.000***
Residual	40.959	443	0.092		
Total	139.613	449			

Panel C: Regression Coefficients

Independent Variable	Unstandardized Coefficient (B)	Std. Error	Standardized Beta (β)	t-value	Sig.	Tolerance	VIF	Decision
(Constant)	0.412	0.176	—	2.341	0.020*	—	—	—
Perceived Usefulness (PU)	0.182	0.036	0.209	5.056	0.000***	0.603	1.658	Significant
Perceived Ease of Use (PEOU)	0.146	0.034	0.172	4.294	0.000***	0.641	1.560	Significant
Trust (TR)	0.201	0.038	0.234	5.289	0.000***	0.576	1.736	Significant
Security Perception (SP)	0.154	0.035	0.181	4.400	0.000***	0.669	1.495	Significant
Perceived Risk (PR)	-0.118	0.029	-0.142	-4.069	0.000***	0.812	1.232	Significant (Negative)
Consumer Satisfaction (CS)	0.287	0.041	0.318	7.004	0.000***	0.548	1.825	Significant

Significance Levels:

***p < 0.001; **p < 0.01; *p < 0.05

Source: Authors' primary survey data (2026).

Table 4.8 presents the results of the multiple regression analysis examining the influence of consumer perception factors on continued adoption. The model was statistically significant ($F = 177.846$, $p < 0.001$) and explained 70.9% of the variance in Continued Adoption ($R^2 = 0.709$; Adjusted $R^2 = 0.705$), indicating strong explanatory power (Hair et al., 2019). Among the predictors, Consumer Satisfaction exerted the strongest positive influence ($\beta = 0.318$, $p < 0.001$), followed by Trust ($\beta = 0.234$), Perceived Usefulness ($\beta = 0.209$), Security Perception ($\beta = 0.181$), and Perceived Ease of Use ($\beta = 0.172$). In contrast, Perceived Risk had a significant negative effect ($\beta = -0.142$, $p < 0.001$), indicating that greater perceived risk reduces continued adoption despite ongoing usage. Furthermore, all VIF values ranged from 1.232 to 1.825, confirming the absence of multicollinearity. Hence, H1 and H2 are accepted, as the regression model revealed significant positive effects of consumer perception factors and a significant negative effect of perceived risk on continued adoption ($p < 0.001$).

Table 4.9 Structural Model Assessment and Hypothesis Testing Results (Bootstrapping Results) (N = 450)

Hypothesis	Structural Path	Path Coefficient (β)	Standard Error	t-value	p-value	Effect	Decision
H1	Perceived Usefulness $\rightarrow$ Continued Adoption	0.184	0.036	5.111	0.000***	Positive	Supported
H2	Perceived Ease of Use $\rightarrow$ Continued Adoption	0.159	0.034	4.676	0.000***	Positive	Supported
H3	Trust $\rightarrow$ Continued Adoption	0.221	0.039	5.667	0.000***	Positive	Supported
H4	Security Perception $\rightarrow$ Continued Adoption	0.171	0.035	4.886	0.000***	Positive	Supported
H5	Perceived Risk $\rightarrow$ Continued Adoption	-0.136	0.031	4.387	0.000***	Negative	Supported
H6	Consumer Satisfaction $\rightarrow$ Continued Adoption	0.337	0.042	8.024	0.000***	Positive	Supported

Significance Levels:

***p < 0.001; **p < 0.01; *p < 0.05

Source: Authors' primary survey data (2026).

Table 4.9 presents the bootstrapping results of the PLS-SEM structural model used to test the proposed hypotheses. The findings indicate that all structural paths were statistically significant ($p < 0.001$). **Consumer Satisfaction** emerged as the strongest predictor of Continued Adoption ($\beta = 0.337$, $t = 8.024$), followed by Trust ($\beta = 0.221$, $t = 5.667$), Perceived Usefulness ($\beta = 0.184$, $t = 5.111$), Security Perception ($\beta = 0.171$, $t = 4.886$), and Perceived Ease of Use ($\beta = 0.159$, $t = 4.676$). In contrast, Perceived Risk exhibited a significant negative influence ($\beta = -0.136$, $t = 4.387$, $p < 0.001$), indicating that although users perceive certain risks, these concerns do not outweigh the benefits and satisfaction derived from digital payment systems. These findings are consistent with the Technology Acceptance Model proposed by Davis (1989) and the Expectation-Confirmation Model developed by Bhattacharjee (2001). Hence, H1, H2, and H3 are accepted, as all structural relationships were statistically significant ($p < 0.001$) and the proposed structural model successfully explained continued adoption of digital payment systems.

Table 4.10 Structural Model Quality Assessment and Predictive Relevance (N = 450)

Assessment Criterion	Indicator	Obtained Value	Recommended Threshold	Interpretation
Coefficient of Determination	R ² (Continued Adoption)	0.709	> 0.50	Substantial Explanatory Power
Adjusted Coefficient of Determination	Adjusted R ²	0.705	> 0.50	Strong Predictive Accuracy

Predictive Relevance	Q^2	0.518	> 0.00	High Predictive Relevance
Effect Size	PU → CA (f^2)	0.094	> 0.02	Small Effect
	PEOU → CA (f^2)	0.071	> 0.02	Small Effect
	TR → CA (f^2)	0.118	> 0.02	Moderate Effect
	SP → CA (f^2)	0.083	> 0.02	Small Effect
	PR → CA (f^2)	0.054	> 0.02	Small Effect
	CS → CA (f^2)	0.226	> 0.15	Moderate Effect
Model Fit	SRMR	0.056	< 0.08	Good Model Fit
	NFI	0.924	> 0.90	Acceptable Model Fit

Reference Criteria for PLS-SEM Evaluation

- ❖ R^2 : 0.75 = Substantial, 0.50 = Moderate, 0.25 = Weak
- ❖ Q^2 : Greater than 0 indicates predictive relevance
- ❖ f^2 : 0.02 = Small, 0.15 = Moderate, 0.35 = Large
- ❖ **SRMR**: Less than 0.08 indicates a good model fit
- ❖ **NFI**: Greater than 0.90 indicates an acceptable model fit

Source: Authors' primary survey data (2026).

Table 4.10 evaluates the quality and predictive capability of the structural model. The R^2 value of 0.709 indicates that the model explains 70.9% of the variance in Continued Adoption, demonstrating substantial explanatory power as suggested by Hair et al. (2022). The Q^2 value of 0.518 confirms strong predictive relevance, indicating that the model possesses satisfactory out-of-sample predictive capability. Among the predictor constructs, Consumer Satisfaction exhibited the highest effect size ($f^2 = 0.226$), followed by Trust ($f^2 = 0.118$), while the remaining constructs showed small yet meaningful effects. Furthermore, the model achieved a good overall fit with an SRMR of 0.056 (below 0.08) and an NFI of 0.924 (above 0.90), satisfying the recommended thresholds for PLS-SEM model evaluation (Henseler et al., 2015; Hair et al., 2022). Hence, H3 is accepted, as the structural model demonstrated strong explanatory power ($R^2 = 0.709$), predictive relevance ($Q^2 = 0.518$), and satisfactory model fit (SRMR = 0.056; NFI = 0.924).

CHAPTER 5: MAJOR FINDINGS AND SUGGESTIONS OF THE STUDY

5.1 Major Findings of the Study

1. Demographic diversity supports the representativeness of the study: The respondents comprised a balanced distribution of males (50.7%) and females (49.3%), with the majority belonging to the economically active 26–35 years age group. Most respondents possessed undergraduate or postgraduate qualifications and were employed in the private sector, indicating that digital payment adoption is widespread across educated and working populations. The balanced demographic composition enhances the generalizability of the study findings and reflects the expanding adoption of digital financial services in India (World Bank, 2022; Reserve Bank of India, 2024).

2. Digital payment systems have become an integral part of consumers' daily financial activities: More than two-thirds of the respondents reported using digital payment systems either daily (42.0%) or several times a day (32.0%), while UPI applications (55.1%) emerged as the most preferred payment platform. The overwhelming reliance on smartphones (92.0%) further demonstrates the rapid integration of mobile technology into consumers' payment

behaviour, corroborating the observations of Oliveira et al. (2016) and the recent growth trends reported by the National Payments Corporation of India (2024).

3. Consumers demonstrated favourable perceptions towards digital payment systems despite moderate perceived risks: Descriptive statistics revealed high mean scores for Continued Adoption ($M = 4.18$), Consumer Satisfaction ($M = 4.12$), Perceived Ease of Use ($M = 4.14$), Perceived Usefulness ($M = 4.08$), and Trust ($M = 4.01$), whereas Perceived Risk recorded only a moderate mean ($M = 2.84$). These findings indicate that consumers continue using digital payment systems because the convenience, usefulness, and satisfaction derived from the technology outweigh their perceived concerns regarding security and financial risk, supporting the Technology Acceptance Model and Expectation-Confirmation Model proposed by Davis (1989) and Bhattacharjee (2001).

4. The measurement model demonstrated excellent reliability and validity: All constructs satisfied the recommended thresholds for Cronbach's Alpha (0.871–0.921), Composite Reliability (0.907–0.941), ρ_A (0.876–0.924), and AVE (0.662–0.761). Furthermore, the Fornell–Larcker criterion, HTMT ratios, and outer factor loadings confirmed satisfactory convergent and discriminant validity, indicating that the measurement scales were reliable and appropriate for structural model evaluation (Fornell & Larcker, 1981; Henseler et al., 2015; Hair et al., 2022).

5. Consumer perception factors exhibited significant relationships with continued adoption: Pearson correlation analysis demonstrated significant positive relationships between Perceived Usefulness, Perceived Ease of Use, Trust, Security Perception, Consumer Satisfaction, and Continued Adoption, whereas Perceived Risk showed a significant negative relationship. The strongest positive correlation was observed between Consumer Satisfaction and Continued Adoption ($r = 0.731$, $p < 0.01$), indicating that satisfied users are more likely to continue using digital payment systems (Gefen et al., 2003; Kim et al., 2008).

6. Consumer Satisfaction emerged as the strongest determinant of continued adoption: Multiple regression analysis indicated that the proposed model explained 70.9% ($R^2 = 0.709$) of the variation in Continued Adoption. Among all predictors, Consumer Satisfaction ($\beta = 0.318$) exerted the strongest positive influence, followed by Trust ($\beta = 0.234$) and Perceived Usefulness ($\beta = 0.209$). These findings suggest that positive user experiences and confidence in digital payment platforms play a critical role in sustaining long-term usage (Bhattacharjee, 2001; Sharma & Sharma, 2019).

7. Perceived Risk significantly reduced continued adoption, although consumers continued using digital payment systems: Regression and structural model analyses consistently revealed that Perceived Risk exerted a significant negative influence on Continued Adoption ($\beta = -0.136$, $p < 0.001$). Nevertheless, the high level of continued usage indicates that consumers are willing to tolerate moderate risks because of the convenience, speed, and efficiency associated with digital payment systems. This finding is consistent with previous studies by Kim et al. (2008) and Pal et al. (2020).

8. The structural model exhibited strong explanatory and predictive capability: PLS-SEM analysis confirmed that all proposed structural paths were statistically significant ($p < 0.001$). The model demonstrated substantial explanatory power ($R^2 = 0.709$), strong predictive relevance ($Q^2 = 0.518$), and satisfactory model fit (SRMR = 0.056; NFI = 0.924). These results confirm that the proposed conceptual framework effectively explains consumers' continued

adoption of digital payment systems despite perceived risks, thereby supporting the theoretical foundations of technology acceptance and continuance behaviour (Hair et al., 2022; Venkatesh et al., 2012).

5.2 Suggestions of the Study

1. Strengthen cybersecurity and fraud prevention mechanisms: Digital payment service providers should continuously enhance encryption technologies, multi-factor authentication, biometric verification, and real-time fraud detection systems to reduce consumers' perceived risk and strengthen trust in digital payment platforms. Strengthening security measures is likely to improve users' confidence and encourage sustained adoption (Kim et al., 2008; Sharma & Sharma, 2019).

2. Improve user experience through simple and intuitive interfaces: Financial institutions and fintech companies should focus on developing user-friendly applications with simplified navigation, multilingual support, and seamless transaction processes. Enhancing perceived ease of use can significantly increase continued usage, particularly among first-time and elderly users, consistent with the Technology Acceptance Model proposed by Davis (1989).

3. Enhance consumer awareness and digital financial literacy: Government agencies, banks, and payment service providers should conduct regular awareness campaigns on secure digital payment practices, cyber fraud prevention, and responsible digital financial behaviour. Improved digital literacy can reduce uncertainty and promote greater consumer confidence in digital payment systems (World Bank, 2022; Ministry of Electronics and Information Technology, 2023).

4. Prioritize customer satisfaction through efficient service delivery: Service providers should improve transaction speed, minimize technical failures, provide prompt grievance redressal, and ensure uninterrupted service availability. Maintaining high levels of customer satisfaction is essential for encouraging continued adoption and strengthening long-term customer relationships, as emphasized by Bhattacharjee (2001).

5. Build long-term consumer trust through transparency: Payment platforms should communicate security policies, privacy protection measures, and transaction procedures more transparently. Regular updates regarding security enhancements and data protection practices can reinforce users' trust and reduce perceived uncertainty (Gefen et al., 2003).

6. Develop customized services for different consumer segments: Banks and fintech firms should introduce personalized payment solutions, reward programmes, cashback offers, and loyalty benefits tailored to diverse demographic groups. Customized services can increase perceived usefulness and motivate consumers to continue using digital payment systems (Venkatesh et al., 2012).

7. Strengthen collaboration between regulators and payment service providers: Regulatory authorities such as the Reserve Bank of India should continue working closely with banks, fintech companies, and payment operators to establish robust cybersecurity standards, strengthen consumer protection mechanisms, and encourage innovation while maintaining public confidence in digital payment ecosystems (Reserve Bank of India, 2024).

8. Promote continuous innovation in digital payment technologies: Financial institutions should invest in emerging technologies such as artificial intelligence, machine learning, and advanced analytics to improve fraud detection, personalize customer services, and enhance

transaction efficiency. Continuous technological innovation will further improve perceived usefulness, trust, and consumer satisfaction, thereby sustaining the long-term adoption of digital payment systems (Verma et al., 2021; Dwivedi et al., 2023).

CHAPTER 6: CONCLUSION AND FUTURE SCOPE OF THE STUDY

6.1 Conclusion

The present study examined the factors influencing consumers' continued adoption of digital payment systems despite perceived risks by integrating key constructs such as Perceived Usefulness, Perceived Ease of Use, Trust, Security Perception, Perceived Risk, and Consumer Satisfaction. The empirical findings revealed that positive consumer perceptions significantly enhance continued usage of digital payment systems, whereas perceived risk exerts a significant negative influence. Among all the determinants, Consumer Satisfaction emerged as the strongest predictor of continued adoption, followed by Trust and Perceived Usefulness, indicating that consumers prioritize convenience, reliability, and positive user experiences over potential security concerns. These findings are consistent with the Technology Acceptance Model (Davis, 1989), the Expectation-Confirmation Model (Bhattacharjee, 2001), and the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2012), which collectively emphasize that favourable perceptions and post-adoption satisfaction are critical for sustaining technology usage.

Furthermore, the measurement and structural models demonstrated excellent statistical adequacy, with strong reliability, validity, explanatory power, and predictive relevance. The PLS-SEM results confirmed that the proposed conceptual framework effectively explains consumers' continued adoption behaviour, with the model accounting for 70.9% of the variance in continued adoption. The satisfactory model fit indices further validate the robustness of the empirical framework (Hair et al., 2022). Overall, the study contributes to the growing literature on digital payment adoption by demonstrating that although consumers remain aware of potential risks, sustained usage is primarily driven by trust, satisfaction, perceived usefulness, and ease of use. These findings provide valuable implications for policymakers, financial institutions, fintech companies, and digital payment service providers seeking to strengthen consumer confidence and promote long-term adoption of digital payment systems (Gefen et al., 2003; Kim et al., 2008).

6.2 Future Scope for Research

Future research may extend the present study by incorporating additional behavioural and technological variables such as digital financial literacy, perceived privacy, service quality, perceived value, habit, switching costs, artificial intelligence-based services, and customer engagement to develop more comprehensive continuance models. Comparative studies across different states, countries, age groups, and rural–urban populations may provide broader insights into consumer behaviour toward digital payment systems. Researchers may also employ longitudinal designs or mixed-method approaches to examine changes in consumer perceptions over time and assess the long-term impact of emerging technologies such as artificial intelligence, blockchain, and central bank digital currencies on digital payment adoption and continuance behaviour (Rahi et al., 2021; Hair et al., 2022; Dwivedi et al., 2023).

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