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Comparative Study of Digital Payment System and Their Effect on Consumer Behaviour

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Abstract:

Growth in internet penetration, smartphone adoption, and government-led initiatives such as Digital India has significantly accelerated digital payment usage in India. Digital payments refer to electronic consumer transactions conducted through mobile banking, internet banking, UPI, and card-based systems. This study examines the relationship between ease of use, security, promotional incentives, consumer satisfaction, and consumer behaviour associated with digital payment systems. Results indicate strong associations among these variables, with security and trust emerging as the strongest predictors of consumer behaviour. Ease of use and promotional features show positive perceptions but do not significantly predict behavioural outcomes. The findings highlight that trust and satisfaction are central to long-term adoption of digital payments.

Keywords — **Digital Payments, Consumer Behaviour, Security, Adoption, Digital India.**

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1. INTRODUCTION

The digitization of payment systems marks a significant milestone in India's transition toward a paperless and cashless economy. Driven by the Digital India initiative, supportive regulatory frameworks, and the introduction of new payment services, the digital payments ecosystem has expanded rapidly. Digital India has played a central role in enabling this transformation by strengthening governance through technology and focusing on three core pillars: (a) digital infrastructure as a basic utility for citizens, (b) governance and services on demand, and (c) digital empowerment of individuals. These efforts have contributed substantially to digital financial inclusion by integrating a larger segment of the population into the formal economy.

Government interventions such as the 2016 demonetization policy, the launch of the Unified Payments Interface (UPI), and the Pradhan Mantri Jan Dhan Yojana (PMJDY) further accelerated the adoption of digital transactions. PMJDY, in particular, expanded banking access nationwide and enabled direct benefit transfers to beneficiaries, thereby strengthening the foundation for digital payments. Following demonetization, the use of digital payment methods increased sharply, with UPI emerging as the most widely adopted platform due to its convenience, interoperability, and low transaction costs. Industry analysts attribute this surge to the widespread availability of affordable smartphones and inexpensive mobile internet, which have helped India evolve into a rapidly growing digital and internet-driven economy.

2. LITERATURE REVIEW

The integration of digital technologies into global financial systems over the past decade has fundamentally transformed consumer transaction behaviour. Fintech innovations, mobile connectivity, and widespread internet access have made digital payments faster, more accessible, and more inclusive (Meyer & Teppa, 2024). Numerous studies confirm that digital payment systems reduce transaction time, increase convenience, and support broader financial participation. In the Indian context, the government-led Digital India initiative has been a major catalyst, significantly accelerating the shift toward cashless transactions by improving digital infrastructure, enhancing digital literacy, and broadening access to mobile-based financial services. Shree et al. (2021) highlight that rising smartphone penetration and advances in online banking contributed to a substantial increase in digital payments during 2021.

Behavioural factors also play a critical role in digital payment adoption. Research consistently identifies trust, perceived security, usability, and enjoyment as key determinants shaping user acceptance of digital payment platforms. While India's transformation has been policy-driven, global markets show a more consumer-centric evolution, emphasizing convenience, innovation, and user experience. This contrast highlights that adoption patterns differ across regions based on institutional support and consumer expectations.

Security concerns continue to influence digital payment behaviour. Although consumers often worry about data privacy and online fraud, advancements in technologies such as big data analytics, biometrics, and the Internet of Things are helping strengthen security frameworks and promote a cashless ecosystem. Singh and Rana (2017) offer a contrasting perspective, arguing that demographic factors do not significantly influence the adoption of digital payment systems. Similarly, Kameswaran and Muralidhar (2019) provide unique insights into the experiences of visually impaired users in metropolitan India, demonstrating diverse user needs and accessibility challenges.

Government influence remains central to digital adoption in India. Policies enacted during and after the COVID-19 pandemic further encouraged the migration to cashless transactions. Additionally, third-party payment platforms have played a significant role in value creation for financial institutions, with studies such as Yao Meifang et al. (2018) demonstrating the strong positive impact of such systems on customer engagement and financial service efficiency.

Overall, prior research indicates that digital payment adoption is shaped by a combination of technological innovations, behavioural determinants, accessibility considerations, and policy interventions.

3. PROBLEM STATEMENT

The proliferation of digital payment systems such as UPI, mobile wallets, and internet banking has significantly influenced consumer behaviour in recent years. However, the extent of this influence varies depending on factors such as convenience, perceived security, ease of use, and promotional incentives. Despite rapid adoption, consumers do not value all digital payment methods equally, and their preferences are shaped by multiple behavioural and technological determinants. Therefore, this study seeks to identify which factors most strongly influence consumer preference, satisfaction, and usage patterns, and to compare how different digital payment systems affect overall consumer behaviour.

4. RESEARCH METHODOLOGY

This study employs a descriptive research design to analyze the factors influencing consumer behaviour toward digital payment systems in India. Primary data were collected through a structured

questionnaire using a convenience sampling method, yielding 100 valid responses from both urban and rural users. The instrument included Likert-scale items measuring ease of use, security and trust, promotional influence, consumer satisfaction, and behavioural tendencies, and demonstrated high reliability (Cronbach's α = .911). The collected data were analyzed using descriptive statistics, Pearson correlation, and multiple regression to identify significant relationships and predictors of digital payment adoption. This methodological approach provides a clear understanding of how key behavioural and technological factors shape consumer preferences and usage patterns in the digital payments ecosystem.

5. CONCEPTUAL METHODOLOGY

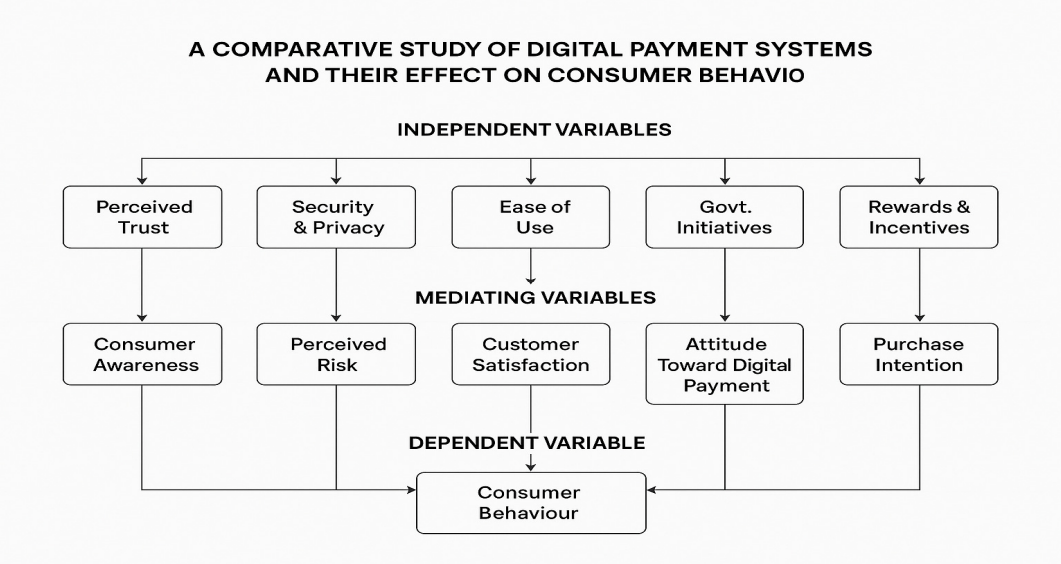
The conceptual methodology for this study is grounded in a structured framework that links key independent variables Perceived Trust, Security and Privacy, Ease of Use, Government Initiatives, and Rewards and Incentives to consumer behaviour through mediating behavioural factors. The model assumes that these independent variables shape consumer responses indirectly by influencing Consumer Awareness, Perceived Risk, Customer Satisfaction, Attitude Toward Digital Payments, and Purchase Intention, which together determine overall consumer behaviour toward digital payment systems. This approach integrates behavioural, technological, and policy-driven constructs to provide a holistic understanding of how consumers evaluate, adopt, and continue using digital payments. By examining both direct and mediated pathways, the conceptual methodology supports a comprehensive assessment of the determinants of digital payment adoption in the Indian context.

6. OBJECTIVES

1. To examine how ease of use, security and trust, promotional factors, and consumer satisfaction influence consumer behaviour toward digital payment systems.
2. To assess which factors ease of use, security, promotions, or satisfaction serve as the strongest predictors of digital payment adoption.
3. To analyze the relationship between satisfaction and consumer behaviour in digital payment usage.
4. To evaluate the interrelationships among ease of use, security, promotions, satisfaction, and consumer behaviour.
5. To identify the relative importance of behavioural factors that shape the overall acceptance of digital payment systems.

1) 7. HYPOTHESES

H_1: Security and trust have a significant positive



effect on consumer behaviour.

H_2: Consumer satisfaction has a significant positive effect on consumer behaviour.

H_3: Ease of use has a positive but non-significant effect on consumer behaviour.

H_4: Promotional offers have a positive but non-significant effect on consumer behaviour.

8. DATA ANALYSIS

Table 1 Consolidated Demographic Profile of Respondents

Variable	Category	Frequency (N)	Percentage (%)
Age	Below 25 years	81	81.0
	26–35 years	10	10.0
	Above 35 years	9	9.0
Gender	Female	43	43.0
	Male	57	57.0
Place of Residence	Urban	47	47.0
	Rural	53	53.0
Occupation	Student	59	59.0
	Professional	23	23.0
	Business	12	12.0
	Others	6	6.0
Frequency of Digital Payment Usage	Daily	63	63.0
	Rarely	4	4.0
	Occasionally	13	13.0
	Never	20	20.0

INTERPRETATION

The demographic profile shows that a large majority of respondents are below 25 years (81%), indicating a predominantly young sample. Male respondents (57%) slightly outnumber females. Most participants come from rural areas (53%) compared to urban areas (47%). In terms of occupation, students constitute the largest segment (59%), followed by professionals (23%), business individuals (12%), and others (6%). Regarding digital payment usage, most respondents use digital payments daily (63%), while a smaller proportion uses them occasionally (13%), rarely (4%), or never (20%).

Table 2 Descriptive Statistics of Key Variable

	N	Minimum	Maximum	Mean	Std. Deviation
Easy-to-use	100	5.00	25.00	20.32	4.156
Security and trust	100	5.00	25.00	18.89	4.323
Promotional	100	5.00	25.00	17.48	5.139
Consumer behaviour	100	5.00	25.00	19.65	4.234
Consumer Satisfaction	100	5.00	25.00	19.95	4.083

INTERPRETATION

The descriptive statistics indicate that all key variables fall within a similar scoring range, with mean values between 17.48 and 20.32. The highest mean is for "Easy-to-use" (20.32), suggesting that respondents generally find digital payments easy. "Consumer Satisfaction" (19.95) and "Consumer behaviour" (19.65) also show positive tendencies. The standard deviations across variables range from about 4.08 to 5.14, meaning responses show moderate variability. Overall, respondents tend to rate ease of use, trust, promotional factors, behaviour, and satisfaction at fairly high levels.

Table 3 Correlation Matrix for Major Research Constructs

	Easy-to-use	Security and trust	Promotional	Consumer behaviour	Consumer Satisfaction
Easy-to-use	1	.612**	.279**	.661**	.750**
		.000	.005	.000	.000
	100	100	100	100	100
Security and trust		1	.565**	.761**	.652**
			.000	.000	.000
		100	100	100	100
Promotional			1	.520**	.444**
				.000	.000

			100	100	100
Consumer behaviour				1	.765**
					.000
				100	100
Consumer Satisfaction					1
					100

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

INTERPRETATION

The correlation analysis reveals strong and statistically significant relationships among all major research constructs at the 0.01 level. "Easy-to-use" shows high positive correlations with satisfaction (.750**) and consumer behaviour (.661**), suggesting ease influences both behaviour and satisfaction. "Security and trust" strongly correlates with consumer behaviour (.761**) and satisfaction (.652**), indicating trust plays a major role. Promotional factors show moderate correlations with other variables, especially consumer behaviour (.520**) and satisfaction (.444**). Overall, all constructs are positively and significantly related, supporting interdependence among variables in digital payment adoption.

Table 4 Analysis of Variance (ANOVA) for the Regression Model

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1266.205	4	316.551	59.134	.000[b]
Residual	508.545	95	5.353		
Total	1774.750	99			

INTERPRETATION

The ANOVA results show the regression model is statistically significant ($F = 59.134$, $p < .001$), indicating that the independent variables collectively explain a significant amount of variation in the dependent variable. The large F-value demonstrates strong model fit, meaning the predictors meaningfully contribute to explaining consumer satisfaction or behaviour in the context of digital payment services.

Table 5 Regression Coefficients for Predictors

Model	Unstandardized Coefficients	Standardized Coefficients
	B	**Std. Error**
(Constant)	.836	1.294
Easy-to-use	.105	.089
Security and trust	.379	.082
Promotional	.081	.057
Consumer Satisfaction	.406	.095

INTERPRETATION

The regression results indicate that "Security and trust" ($\beta = .387$, $p < .001$) and "Consumer Satisfaction" ($\beta = .391$, $p < .001$) are the strongest and statistically significant predictors in the model. "Easy-to-use" and "Promotional" factors show positive but non-significant effects, meaning their influence is not strong enough to predict the outcome variable in this model. Overall, the findings highlight that trust and satisfaction are the most impactful factors influencing the dependent variable.

8. KEY FINDINGS

The study reveals that consumers perceive digital payments positively across all variables, with mean scores ranging from 17.48 to 20.32, and "Ease of Use" showing the highest average (M = 20.32), followed by Consumer Satisfaction (M = 19.95) and Consumer Behaviour (M = 19.65). Correlation analysis confirms strong and significant associations among all constructs at the 0.01 level, with particularly high relationships such as Ease of Use–Satisfaction (r = .750), Ease of Use–Behaviour (r = .661), Security–Behaviour (r = .761), and Satisfaction–Behaviour (r = .765), indicating that these factors move together in shaping user perceptions. However, regression results show that only Security and Trust ($\beta = .387$, $p < .001$) and Consumer Satisfaction ($\beta = .391$, $p < .001$) significantly predict consumer behaviour, while

Ease of Use (β = .103, p = .242) and Promotional Offers (β = .098, p = .155) are positive but statistically non-significant. These findings suggest that although users appreciate ease and promotions, long-term adoption is driven primarily by trust and satisfaction. Accordingly, platforms must prioritise stronger security, transparent communication, intuitive app design, and reliable customer support to reinforce confidence and consistent usage. The study concludes that digital payments have become an essential part of consumer life, especially among younger users (81% below age 25), with security and satisfaction emerging as the most influential determinants of behaviour. The scope for future work includes expanding sample diversity, comparing regions or income groups, and exploring emerging technologies such as biometric payments and AI-driven fraud detection to better understand evolving digital payment behaviour.

9. RECOMMENDATIONS

1. Strengthen security and privacy features while clearly communicating them to users, as security is the most influential driver of consumer behaviour.
2. Enhance ease of use through intuitive app design, simplified navigation, and reduced transaction steps to support adoption across all age groups.
3. Offer transparent, easy-to-access promotional incentives to attract new users, while ensuring they complement rather than replace core value elements such as trust and reliability.
4. Improve customer service mechanisms to provide quick responses to failed transactions or technical issues, thereby increasing satisfaction and confidence.
5. Conduct targeted digital literacy and awareness campaigns in rural and semi-urban regions to improve safe usage and expand digital financial inclusion.

10. CONCLUSION

The study concludes that digital payment systems are widely adopted, particularly among younger users who value their convenience and accessibility. Among the variables examined, security and trust play the most critical role in shaping consumer behaviour, followed by overall satisfaction. Ease of use and promotional incentives contribute positively to perceptions but do not significantly predict behaviour on their own. These findings suggest that long-term adoption depends on sustained trust, reliable performance, and positive user experiences. Overall, digital payments have become an integral part of consumer financial activity, influencing how individuals transact, manage finances, and engage with the digital economy.

11. SCOPE FOR THE STUDY

This study provides meaningful insights into consumer perceptions of digital payment systems across different demographic groups. Future research can expand the scope by using larger and more diverse samples, comparing adoption patterns across regions or income segments, and examining new technologies such as biometric authentication, blockchain-based payments, or AI-driven fraud detection. Longitudinal studies may provide deeper understanding of evolving attitudes toward digital payments, while further research on policy interventions could highlight their long-term impact on digital financial behaviour.

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