A Study on Digital Payment Adoption and its Influence on Consumer Buying Behavior

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Abstract

The rapid expansion of digital payment systems has transformed consumer buying behavior by enabling faster, safer, and more convenient transactions. With increasing adoption of mobile wallets, UPI, and card-based payment systems, purchasing decisions have become digitally driven. This study examines digital payment adoption and its influence on consumer buying behavior by analyzing the impact of perceived ease of use, perceived usefulness, security perception, and transaction convenience on digital payment adoption, and subsequently its effect on consumer buying behavior. A quantitative research approach was adopted and data were collected from 127 consumers using a structured questionnaire. The findings reveal that digital payment adoption significantly influences purchase frequency, spending behavior, and decision-making patterns. The study contributes to digital finance and consumer behavior literature and provides insights for marketers and policymakers promoting cashless transactions.

Keywords: *Digital payments, Consumer buying behavior, Digital Commerce, Perceived ease of use, Perceived usefulness*

Introduction

Digital payment systems have emerged as a cornerstone of modern financial ecosystems, reshaping how consumers conduct transactions. Increased smartphone penetration, improved internet accessibility, and supportive government initiatives have accelerated the adoption of digital payment modes. These systems offer enhanced convenience, reduced transaction time, and improved transparency, which influence consumer buying

behavior. Understanding the determinants of digital payment adoption and its impact on consumer purchasing decisions is critical for businesses and policymakers.

Research Questions

RQ1: How do perceived ease of use, perceived usefulness, security perception, and transaction convenience influence digital payment adoption?

RQ2: How does digital payment adoption influence consumer buying behavior?

Literature Review

Davis (1989) introduced the Technology Acceptance Model and identified perceived usefulness and perceived ease of use as the primary determinants of technology adoption. It was found that users are more likely to adopt technological systems when they perceive them as enhancing performance and requiring minimal effort. These constructs have been widely applied to digital payment systems to explain consumer adoption behavior. Venkatesh et al. (2003) extended technology acceptance research through the Unified Theory of Acceptance and Use of Technology and concluded that performance expectancy and effort expectancy significantly influence behavioral intention toward technology usage. Dahlberg et al. (2008) examined the evolution of mobile payment systems and found that convenience and perceived value play a crucial role in encouraging adoption. Kim, Mirusmonov, and Lee (2010) investigated factors influencing mobile payment intention and found that security perception and trust significantly affect consumer willingness to adopt digital payment services.

Thakur and Srivastava (2014) explored consumer readiness for mobile payment services and found that transaction convenience and speed positively influence satisfaction and continued usage intention. It was concluded that easy and quick payment processes contribute to favorable consumer experiences and encourage repeat usage. Slade et al. (2015) analyzed mobile payment adoption from a consumer perspective and found that perceived usefulness and facilitating conditions positively influence adoption intention. It was observed that adequate technological infrastructure and system reliability play an important role in driving usage behavior. Oliveira et al. (2016) examined the determinants of mobile payment adoption and found that technological compatibility, trust, and perceived security significantly influence consumer intention to adopt digital payment systems. Yang et al. (2012) analyzed mobile payment usage over time and found that digital payment adoption increases purchase frequency

and convenience-oriented buying behavior. It was observed that digital payments reduce transaction friction and encourage faster purchasing decisions. Zhou (2014) investigated mobile payment adoption and found that perceived risk negatively influences adoption, while ease of use and trust positively affect usage intention. It was concluded that minimizing perceived risk is essential for increasing adoption levels. Singh and Srivastava (2020) examined digital wallet adoption and found that security perception and perceived usefulness are key drivers of consumer acceptance. Kumar et al. (2022) studied the adoption of Unified Payments Interface (UPI) and found that digital payment usage significantly influences consumer buying behavior, including spending patterns and payment preferences. It was concluded that UPI adoption promotes cashless transactions and enhances purchase convenience. Sharma et al. (2023) analyzed digital payment usage and found that digital payment adoption positively influences purchase intention and consumer loyalty. It was observed that seamless digital payment experiences strengthen consumer-brand relationships.

Research Model

The conceptual framework proposes perceived ease of use, perceived usefulness, security perception, and transaction convenience as independent variables influencing digital payment adoption. Digital payment adoption acts as the independent variable influencing consumer buying behavior.

Research Design and Methodology

The study adopted a descriptive and explanatory research design using a quantitative approach. Primary data were collected using a structured questionnaire administered to consumers using digital payment systems. Convenience sampling technique was employed. Percentage analysis, Cronbach's Alpha, and Regression analysis were used.

Research Hypotheses

H1: Perceived ease of use positively influences digital payment adoption.

H2: Perceived usefulness positively influences digital payment adoption.

H3: Security perception positively influences digital payment adoption.

H4: Transaction convenience positively influences digital payment adoption.

H5: Digital payment adoption positively influences consumer buying behavior.

Sample Size and Data Collection

Data was collected from 127 respondents using structured questionnaire. The questionnaire was constructed using a five-point Likert-scale ranging from strongly agree to strongly disagree.

Data Analysis and Findings

The demographic profile of the respondents, categorized as per gender and age are tabulated below.

Table 1. Demographic data of the respondents

S. No.	Demographic Variables	Category	Frequency (N=127)	Percentage (%)
1	Gender	Male	54	42.5
		Female	73	57.5
2	Age	18–28 years	59	46.5
		29–39 years	38	29.9
		40–50 years	21	16.5
		Above 50 years	9	7.1

Source: Primary data

Cronbach's Alpha

The reliability analysis indicated acceptable internal consistency.

Table 2. Cronbach's Alpha Value of the Variables

Variables	Number of Items	Cronbach's Alpha
Perceived Ease of Use	4	0.82
Perceived Usefulness	4	0.85
Security Perception	4	0.88
Transaction Convenience	3	0.81
Digital Payment Adoption	4	0.84
Consumer Buying Behavior	4	0.79

Regression Analysis

Table 3. Regression Analysis

Hypothesis	Relationship	Beta (β)	t-value	p-value	Result
H1	PEOU → DPA	0.169	3.012	0.003*	Accepted
H2	PU → DPA	0.241	4.226	0.000*	Accepted
H3	SP → DPA	0.194	3.587	0.001*	Accepted
H4	TC → DPA	0.157	2.741	0.007*	Accepted
H5	DPA → CBB	0.226	4.013	0.000*	Accepted

Note: *p < 0.05 | PEOU – Perceived Ease of Use; PU – Perceived Usefulness; SP – Security Perception; TC – Transaction Convenience; DPA – Digital Payment Adoption; CBB – Consumer Buying Behavior.

The regression analysis provides strong empirical support for the proposed research model. The results indicate that perceived ease of use, perceived usefulness, security perception, and transaction convenience all have a statistically significant positive influence on digital payment adoption, thereby supporting hypotheses H1 to H4. Among these factors, perceived usefulness emerged as the strongest predictor, suggesting that consumers are more likely to adopt digital payment systems when they perceive them as effective in enhancing transaction efficiency and overall purchasing experience. Security perception also demonstrated a substantial influence, highlighting the importance of trust and data protection in encouraging consumers to shift toward digital payment modes. Perceived ease of use and transaction convenience further contributed to adoption by reducing effort and time associated with transactions. Additionally, digital payment adoption was found to have a significant positive impact on consumer buying behavior, supporting hypothesis H5. This indicates that increased adoption of digital payment systems leads to higher purchase frequency, faster decision-making, and greater convenience-driven consumption patterns. Overall, the regression results confirm that digital payment adoption acts as a key mechanism through which technological and perceptual factors shape consumer buying behavior.

Conclusion

The present study concludes that digital payment adoption plays a significant and influential role in shaping consumer buying behavior in the contemporary digital economy. The

findings demonstrate that consumers are more inclined to adopt digital payment systems when they perceive them as useful, secure, easy to use, and convenient. Among these determinants, perceived usefulness and security perception were identified as the most influential factors, emphasizing that functional benefits and trust are critical in driving adoption. The study further establishes that digital payment adoption positively affects consumer buying behavior by facilitating quicker transactions, encouraging frequent purchases, and enhancing overall purchasing convenience. These findings contribute to the growing body of literature on fintech adoption by empirically validating the link between digital payment usage and consumer behavioral outcomes. From a practical perspective, the results suggest that financial service providers and marketers should focus on enhancing system usability, strengthening security features, and clearly communicating the benefits of digital payments to consumers.

Limitations and Future Scope

The study is limited to a single geographic region, which may restrict generalizability. Future research may include cross-regional studies, longitudinal designs, and the inclusion of moderating variables such as environmental concern and green skepticism.

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