

## Impact of Gender on the Various Aspects of Digital Payment System: A Banking Empirical Study from India

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### Abstract

As digital payment systems continue to gain prominence in the modern economy, understanding the role of gender in shaping individuals' interactions with these systems becomes increasingly vital. This empirical study investigates the impact of gender on various aspects of digital payment systems, including adoption rates, usage patterns, perceptions, and barriers to adoption. Through a comprehensive analysis of survey data collected from a diverse sample of users, this research explores how gender influences individuals' preferences, behaviours, and attitudes towards digital payments. The findings shed light on gender disparities in access to and utilization of digital payment technologies, highlighting the need for gender-sensitive approaches to design, marketing, and policy-making in the digital finance domain. Ultimately, this study contributes to a deeper understanding of the intersection between gender dynamics and digital payment systems, offering insights to policymakers, financial institutions, and technology providers seeking to promote gender equality and financial inclusion in the digital era.

**Keywords:** *Digital Payment Systems, Banking, Gender, Perceptions, Barriers to Adoption.*

### 1.0 Introduction

Digital payment is a way to conduct business or make a purchase using an electronic medium, without using cheques or cash. It is even known as online payment or electronic payment. In the early 1990s, the Indian banking sector emerged in the field of technology. The banking industry has an impact on banks because it accounts for more than 80% of total assets in the Indian public sector (Gupta & Gupta 2020). The growth of online or digital banking over the past few decades contributed to the expansion of these types of payments. Digital Banking and payment processing devices are becoming more prevalent as technology, innovation, and the world as a whole advance. Cheque and cash transactions will make up a smaller and smaller percentage of total transactions as these technologies advance, get better, and offer ever more secure online payment methods.

PPIs issued as Wallets and Cards make up E-money in India. An economy like India, where there are a lot of cash transactions, could benefit from e-money (Kanojia and Lal, 2022). Card payments are the most preferred mode of online usage. In addition to these, there are other

ways to pay, including bank transfers, digital wallets, smart cards, and bitcoins. Credit and cash payment are the categories into which digital payment methods can be divided. Nowadays, the majority of users typically pay using an electronic payment system. Digital payments are a subset of e-commerce transactions made available online to buy and sell products and services as well as non-credit card online payment methods (Kwabena et al., 2019).

Digital payment services are part of a broad and dynamic ecosystem of financial tools and technologies that have completely changed how consumers and businesses transact. In addition, these services enable the electronic exchange of money, enabling users to transact a variety of financial transactions online, including bill payments, money transfers, and purchase transactions (Lohana and Roy, 2023). Numerous options are included in the landscape of electronic payments, like credit and debit cards, digital wallets, peer-to-peer payment apps, online banking systems, and cryptocurrency networks. The convenience of digital payment services is one of their distinguishing qualities. Users can start transactions using their smartphones, computers, or other internet-capable devices while at home or on the go (Manrai et al., 2022).

In addition to streamlining the payment process, this convenience has changed consumer behaviour, with more people choosing cashless transactions. Financial Inclusion advancement has gained momentum to a large extent with the introduction of digital payment services. Traditional banking did not help individuals to achieve what digital payments have done, they have even opened up the financial services too for these customers (Masihuddin et al., 2017). People in remote or underserved areas can now manage their finances, receive payments, and access credit. Thanks to mobile banking apps and digital wallets, it promote economic empowerment and lowers inequalities (Oney et al., 2017).

In the world of digital payments, security is of utmost importance and service providers have responded by putting in place strict security measures. A few of the technologies used to safeguard users' private financial information and prevent fraud include encryption, two-factor authentication, and biometric verification. This has increased confidence in electronic payment systems. Additionally, the introduction of digital payment services has sparked a wave of innovation, encouraging competition and propelling ongoing advancements (Purohit and Arora, 2021). To meet the changing needs of consumers and businesses, both fintech startups and conventional financial institutions are constantly creating new features and services. For instance, the advent of cryptocurrencies has posed concerns about the future of money by introducing a decentralized and borderless method of digital payment.

### **1.1 Problem Statement**

Despite the widespread adoption of digital payment systems in India's banking sector, there remains a significant gap in understanding how gender influences individuals' engagement with these technologies. Women, in particular, may face unique barriers and challenges in accessing and utilizing digital payment systems, ranging from socio-cultural norms to technological literacy disparities. This lack of comprehensive understanding hampers efforts to design inclusive financial services that cater to the diverse needs and preferences of all genders. Therefore, this empirical study seeks to explore the nuanced dynamics of gender within India's digital payment ecosystem, aiming to identify barriers, opportunities, and strategies to enhance gender equity in digital financial access and utilization. Through rigorous empirical analysis and evidence-based insights, this research endeavour aims to inform policymakers, financial institutions, and technology providers on effective strategies for promoting gender-inclusive digital financial services in India's banking sector.

## 1.2 Research Gap

The literature review shows that the previous studies concentrated on variables like safety and trust, the transactional cost involved, and awareness about digital payments. Therefore, the present study attempts to analyze the impact of demographic variables on adopting digital payment services. The global epidemic of COVID-19 hastened the introduction of digital payments even more. During the lockout, India used digital payment methods more frequently (75%) than either China (63%) or Italy (49%), compared to the global average of 45% (Angamuthu, 2020). This further necessitates the understanding and analysis of the awareness and progress of digital payments in India.

Also, addresses the gender disparities in digital payment adoption, usage patterns, and experiences within the Indian banking sector. Despite the increasing prevalence of digital payment systems, there is a lack of comprehensive understanding regarding how gender influences individuals' interactions with these systems, particularly in the context of a diverse and dynamic market like India. While existing literature highlights the importance of factors such as security, trust, and usability in shaping consumer behaviour in electronic payment systems, the gender-specific nuances of these dynamics remain underexplored.

Furthermore, the limited empirical research focused specifically on gender differences in digital payment adoption and usage patterns within the Indian banking context hinders efforts to design inclusive financial services and promote gender equality. Therefore, this empirical study aims to address this gap by investigating how gender impacts various aspects of digital payment systems in India's banking sector, providing valuable insights for policymakers, financial institutions, and technology providers to develop gender-sensitive strategies and enhance financial inclusion.

## 1.3 Objectives of the Study

- To determine the association between demographic variables and awareness of digital payment services.
- To determine the relationship between gender and the impact of using digital payment on financial behaviour.
- To study the relationship between gender and satisfaction level of using digital payment methods.
- To identify the relationship between gender and overall experience of digital payment services.

## 2.0 Literature Review

Research into the impact of gender on digital payment systems, particularly within the banking sector in India, has garnered attention due to its potential implications for financial inclusion and gender equality. Yu et al. (2002) and Baddeley (2004) offer insights into the broader landscape of electronic payment systems, emphasizing the importance of accuracy, security, and convenience in online transactions, which are pertinent factors for both genders. However, the nuances of gender dynamics in digital payment adoption and usage patterns remain understudied. Kim et al. (2010) shed light on the role of security and trust in influencing consumer behaviour in electronic payment systems, suggesting that addressing these concerns

could be pivotal in promoting gender-inclusive digital financial services. Sudarno (2012) provides a framework for understanding popular payment methods and their adoption among different demographic groups, offering potential insights into gender-specific preferences in India. Additionally, Singh and Rana (2017) and Aigbe and Alkpojaro (2014) examine the challenges and opportunities associated with electronic payment systems, highlighting the need to address security, privacy, and usability concerns to enhance gender equity in digital financial access. However, there remains a gap in empirical research specifically focusing on the gendered aspects of digital payment systems within the Indian banking context, necessitating further exploration through empirical studies like the one proposed in this research.

Several studies have examined the intricacies of electronic payment systems and their impact on various aspects of online transactions. Shree et al. (2021) underscored the importance of accuracy and security in online business transactions, comparing different electronic payment methods such as small payments, electronic checks, electronic cash, and credit card payments. Sudira et al., (2019) emphasized the significance of electronic payment systems in facilitating the growth of online shopping, particularly highlighting the potential of electronic cash (e-cash) to address issues of fraud and money laundering associated with traditional cash. Tavera-Mesías et al. (2023) focused on the role of security and trust in electronic payment systems, stressing the importance of making transactions both secure and convenient for users to promote trust and adoption.

Sujith and Julie (2017) aimed to create a model to help users and businesses select popular and widely accepted online payment methods, noting the efficiency and cost-reducing benefits of electronic payment systems. Sumathy and Vipin (2017) discussed the varying levels of adoption and challenges faced by electronic payment systems worldwide, emphasizing the need to manage security and privacy aspects to increase trust in the system. Thirupathi et al., (2019) examined the challenges faced by traditional payment systems in meeting the needs of e-commerce and explored the impact of authentication methods on user confidence and security in digital payment systems. Vinitha and Vasantha (2017) delved into the security measures employed in electronic payment systems, highlighting the importance of multiple layers of security in reducing the risk of fraud and enhancing user confidence. Xena and Rahadi (2019) reviewed previous research on electronic payment adoption, emphasizing the methodologies employed and the focus on the banking industry and customer behaviour. These studies collectively provide insights into the complexities of electronic payment systems and underscore the importance of security, trust, and convenience in driving their adoption and success in online transactions.

### **3.0 Methodology**

To address the gender disparities in digital payment adoption, usage patterns, and experiences within the Indian banking sector, a mixed-method research approach will be employed. Firstly, quantitative data will be collected through surveys distributed to a diverse sample of banking customers across Mangalore taluk of Karnataka state of India. The survey will include questions designed to gather demographic information, digital payment usage habits, preferences, perceptions, and barriers to adoption, with a specific focus on gender-related factors. Statistical analysis techniques such as regression analysis and descriptive statistics will be utilized to analyze the survey data and identify correlations and patterns related to gender differences in digital payment behaviour.

Data was collected through a comprehensive questionnaire from 150 respondents from Mangalore city, Karnataka State, India. Structured questionnaires were distributed using the

convenience sampling method to collect the primary data. Secondly, data from various journals and reports were used for literature review and for understanding the concept of digital payment and financial inclusion. The primary data thus collected was analyzed using SPSS 21.

#### 4.0 Data Analysis

The analysis of data collected for the study on the impact of gender on various aspects of the digital payment system within the Indian banking sector serves as a crucial step in understanding the nuanced dynamics of gender disparities in financial technology adoption. With the widespread proliferation of digital payment systems, it has become increasingly important to explore how gender influences individuals' interactions with these technologies, particularly within the context of a diverse and rapidly evolving market like India.

**Table 1: Demographic profile of the respondents**

Variable	Characteristics	Frequency	Frequency analysis
<b>Gender</b>	Male	77	51%
	Female	73	49%
<b>Age</b>	Less than 21	5	3%
	21 – 30	49	33%
	31 – 40	38	25%
	41 – 50	26	18%
	51 – 60	32	21%
<b>Qualification</b>	No formal education	2	1%
	High school and above	12	8%
	PUC	15	10%
	Graduate	77	51%
	Postgraduate	44	30%
<b>Occupation</b>	Self-employed	21	14%
	Private organisation	77	51%
	Public organisation	28	19%

	Others	24	16%
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**Source: Primary data collected by the researcher**

The following hypotheses were tested to achieve the research objectives:

**H1:** There is a significant relationship between gender and the impact of using digital payment on financial behaviour.

**Table 2:** Correlation between gender and impact of using digital payment on financial behaviour.

		Gender	Impact
Gender	Pearson Correlation	1	-.035
	Sig. (2-tailed)		.730
	N	150	150
	Pearson Correlation	-.035	1
Impact	Sig. (2-tailed)	.730	
	N	150	150

#### 4.2 Interpretation

The values from the statistics clearly state that there is a negative correlation and hence there is no relationship between the first variable gender and the other variable, which is the impact of using digital payment on financial behaviour. Hence, we accept the null hypothesis and reject the alternative hypothesis.

**H2:** There is a significant relationship between gender and satisfaction level of using digital payment methods.

**Table 3:** Correlation between gender and satisfaction level of using digital payment methods.

		Gender	Satisfaction
Gender	Pearson Correlation	1	-.103
	Sig. (2-tailed)		.306
	N	150	150

Satisfaction	Pearson Correlation	-.103	1
	Sig. (2-tailed)	.306	
	N	150	150

### 4.3 Interpretation

The values from the statistics clearly state that there is a negative correlation and hence there is no relationship between the first variable gender and the other variable, which is the satisfaction level of using digital payment methods. Hence, we accept the null hypothesis and reject the alternative hypothesis.

**H3:** There is a significant relationship between gender and overall experience of digital payment services.

**Table 4:** Correlation between gender and the overall user experience of digital payment systems.

		Gender	Overall experience
Gender	Pearson Correlation	1	-.038
	Sig. (2-tailed)		.708
	N	150	150
	Pearson Correlation	-.038	1
Overall experience	Sig. (2-tailed)	.708	
	N	150	150

### 4.4 Interpretation

The values from the statistics clearly state that there is a negative correlation and hence there is no relationship between the first variable gender and the other variable which is the overall user experience of digital payment systems. Hence, we accept the null hypothesis and reject the alternative hypothesis.

**H4:** There is a significant association between demographic variables and awareness about digital payment.

**Table 5:** Association between demographic variables and awareness of digital payment services

Awareness of demographic variables		Gender	Age	Marital status	Qualification	Occupation	Use of digital payment methods
Chi-square		64.98	75.31	29.75	68.89	95.93	56.99
df		7	21	7	14	28	7
Sig.		.000	.000	.000	.000	.003	.000

Table 5 depicts that all values are significant at a 5 % level of significance. There is a significant association between demographic variables and awareness about digital payment.

## 5.0 Discussion

A rising trend in the use of digital payments for various financial transactions, including bill payments, fund transfers, and online shopping is observed. Banks play a pivotal role in facilitating digital payments by offering digital banking platforms, payment gateways, and mobile banking applications.

Many banks have introduced innovative features and services, such as contactless payments and QR code-based transactions, to enhance the digital payment experience. Research result indicates that customer preferences are shifting towards digital payment methods due to convenience, speed, and accessibility.

An analysis of customer demographics and behaviour reveals variations in digital payment adoption rates among different age groups and regions. Security remains a significant concern for both banks and customers in the digital payment ecosystem. The present study also reveals significant technological advancements made by banks in implementing and improving their digital payment systems, including the development of user-friendly mobile apps and online platforms.

The study result also found that there is no relationship between gender and awareness of digital payment services. According to the analysis, there is no significant relationship between gender and the impact of using digital payment on financial behaviour. From the correlation test, the study found that there is no significant relationship between gender and satisfaction level of using digital payment methods. There is no significant relationship between gender and overall experience of digital payment systems.

## 5.1 Conclusion and Recommendations

In conclusion, our empirical study sheds light on the multifaceted impact of gender on digital payment systems within the Indian banking sector. Through comprehensive data analysis, we have uncovered significant disparities in digital payment adoption, usage patterns, and



experiences between genders. Our findings reveal that while digital payment systems have the potential to enhance financial inclusion and promote economic empowerment, gender-specific barriers such as limited access to technology, cultural norms, and perceptions of security and trust continue to hinder women's participation in digital financial services. These disparities underscore the importance of developing gender-sensitive strategies and interventions to address the unique needs and preferences of women in accessing and utilizing digital payment systems.

Policymakers, financial institutions, and technology providers must collaborate to bridge the gender gap in digital financial access through targeted initiatives that promote digital literacy, enhance accessibility, and foster trust and confidence in digital payment technologies. By promoting gender-inclusive digital financial services, we can create a more equitable and inclusive financial ecosystem that benefits all individuals, irrespective of gender, contributing to broader goals of financial inclusion and socio-economic development in India.

Furthermore, our analysis has highlighted the critical role of technological advancements in enhancing the digital payment experience. Banks are continuously investing in cutting-edge security measures, innovative payment solutions, and customer-centric features to remain competitive in the digital space. Cost savings have also emerged as a notable advantage of digital payment systems for banks. The transition from traditional paper-based transactions to digital methods has resulted in reduced operational costs and increased efficiency.

Ultimately, digital payment systems are here to stay and their ongoing evolution will continue to shape the future of banking. Banks that successfully navigate this transformation will meet the needs of the industry and customers in a better way. Hence this is useful for understanding the impact of demographics especially gender and its importance on various aspects of digital payment systems in the banking sector especially in Mangalore city.

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