

# DETERMINANTS OF SATISFACTION AND LOYALTY FOR USERS OF DIGITAL WALLETS: AN EMPIRICAL STUDY OF INDIAN CONSUMERS

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## Abstract

In the Indian context, user satisfaction hinges on factors such as convenience, ease of use, security, and reliability. Understanding these determinants is crucial for providers aiming to enhance services and maintain a competitive edge in an evolving market. This empirical study suggests that satisfaction and loyalty positively influence digital payment system usage among Indian consumers, with trust, security, and exclusive incentives playing important roles. Challenges in market saturation, competition, and diverse preferences necessitate a nuanced approach, emphasizing customization and localization. As the Indian government shifts towards a cashless economy, digital wallet providers must align with evolving regulatory dynamics for sustained success. While digital wallets value financial inclusion, addressing awareness gaps and enhancing digital literacy, especially in rural areas, remains a critical challenge. A sample of 277 respondents was collected from users using digital wallets. The factors that determine the role of satisfaction and loyalty for users of digital wallets are: for loyalty – repeat usage and trust; and for user satisfaction – convenience and security.

**Keywords:** Digital Wallet, User Satisfaction, User Loyalty, Indian Consumers.

## 1. INTRODUCTION

Digital wallets, also known as e-wallets, revolutionize the way we manage our finances in the digital age. These virtual platforms securely store payment information, allowing users to make purchases, send money, and even store loyalty cards with ease, all from their smartphones or computers. With features like encryption and bio-metric authentication, digital wallets ensure transactions are safe and convenient. They streamline the checkout process both online and in physical stores, eliminating the need to carry physical cash or multiple cards. Digital wallets are not only convenient but also empower users with insights into their spending habits through transaction history and budgeting tools, making them an indispensable tool in today's cashless society.

Digital wallets have become an integral part of the modern financial landscape, transforming the way individuals manage their transactions. This empirical study explores the connection between user satisfaction and loyalty within the context of digital wallets, focusing specifically on the behaviours and preferences of Indian consumers.

User satisfaction is a critical factor in the success of digital wallets. In the Indian context, convenience and ease of use emerge as primary determinants of user satisfaction. The seamless integration of digital wallets into daily transactions, coupled with user-friendly interfaces, plays an important role in shaping users' satisfaction levels. Moreover, the security and reliability of these platforms contribute significantly to users' overall contentment. Understanding the factors that drive satisfaction is crucial for digital wallet providers to enhance their services and maintain a competitive edge in the dynamic market. User satisfaction significantly contributes to system success in software development projects, with user satisfaction evolving throughout the development process (Bano et al., 2016).

According to Pradiatiningtyas et al. (2020) satisfaction and loyalty positively influence the use of digital payment systems as it is easy, cashless, and beneficial, with easy tracking of small expenses. Building user loyalty is paramount for the sustained success of digital wallet platforms. Loyalty goes beyond mere satisfaction; it involves a deep-seated trust and habitual usage among consumers. In the Indian context, trust in digital transactions and the perceived security of personal and financial information play pivotal roles in fostering user loyalty. Furthermore, the availability of exclusive offers, rewards, and cashback incentives contributes to the habitual usage of digital wallets. Providers must employ strategies that not only attract new users but also cultivate a loyal user base for long-term sustainability.

Despite the evident growth, digital wallet providers in India face challenges in terms of market saturation, competition, and diverse consumer preferences. Navigating these dynamics requires a nuanced understanding of the local market. Opportunities lie in customization and localization of services, catering to the unique needs and preferences of Indian consumers. Providers must also address issues related to digital literacy and ensure widespread awareness of the benefits of using digital wallets to overcome barriers hindering further adoption. Digital wallets in India are popular due to attractive cashback, ease of use, and transaction security, but there are gaps in customer satisfaction, posing challenges for their sustainability (Bagla & Sancheti, 2018).

As the digital financial landscape continues to evolve, providers must prioritize user satisfaction by enhancing convenience, security, and reliability. Building user loyalty requires a multi-faceted approach that encompasses trust, incentives, and personalized offerings. Navigating the challenges and seizing opportunities within the Indian market will determine the future trajectory of digital wallets, shaping the way Indians engage in financial transactions in the years to come.

## 2. LITERATURE REVIEW

The adoption of digital wallets in India reflects broader trends in consumer behavior, showcasing a shift towards digital modes of financial transactions. Mobile wallet usage has become particularly prominent among the younger demographic, who value the speed and convenience offered by these platforms. The integration of digital wallets into various aspects of daily life, including bill payments, online shopping, and peer-to-peer transactions, highlights their versatility. Understanding these rising trends is essential for providers to align their offerings with the evolving preferences of Indian consumers. Digital wallets' rapid growth in the US and China is driven by the network effect and their role as both a payment system and social platform, strengthening existing social ties (Tang et al., 2019).

With respect to customer satisfaction, Sánchez-Rebull (2018) conducted a systematic literature review on 495 articles published in 41 journals from 1988 to 2016 (29 years). The analysis of the 100 most cited articles shows that one of the important antecedents of customer loyalty is service quality, which ultimately leads to customer satisfaction. This shows the importance of customer satisfaction with regards to customer loyalty. Moreover, Ganguly and Roy (2011) in the context of technology-based service quality dimensions in banking, found that service quality such as customer service, convenience, reliability, and use of technology have a positive and significant effect on customer satisfaction and customer loyalty.

While the convenience of digital wallets remains a critical factor in user satisfaction, additional dimensions contribute to a more comprehensive understanding. Factors such as customer support responsiveness, transaction speed, and the intuitiveness of the app interface play crucial

roles. Certain emotional dimensions, such as consumer orientation, and consumer delight, also play a key role in deterring sustained usage of digital wallets (Kumar, 2019). Indian consumers, often seek a seamless and hassle-free experience, demanding not only functional efficiency but also a positive interaction throughout their digital wallet journey. Recognizing and addressing these nuanced aspects of user satisfaction can distinguish providers in a crowded market. Digital wallet service providers need to improve reliability, responsiveness, assurance, empathy, and tangibles to increase customer satisfaction and reduce the negative gap between service received and expected (Utami & Prasetyo, 2021).

In the competitive realm of digital wallets, loyalty programs stand out as potent tools for user retention. Indian consumers, driven by value-conscious behavior, are particularly responsive to cashback incentives, discounts, and exclusive offers. Digital wallet providers can strategically design loyalty programs to create a sense of exclusivity and encourage repeat usage. Understanding the intricacies of the Indian consumer mindset is paramount for crafting effective loyalty programs that not only attract but also retain a user base in this dynamic market. Blindly signed pseudo digital certificates can enable loyalty programs for customers using anonymous payment systems, preserving their privacy while still benefiting them (Wibowo et al., 2000).

As technology advances, so do the expectations of Indian consumers regarding the security features of digital wallets. Innovations such as biometric authentication and advanced encryption are becoming indispensable in establishing trust. Providers need to stay ahead of the curve, implementing cutting-edge security measures to reassure users of the safety of their financial information. The intersection of technological advancements and security imperatives will shape the future landscape of digital wallets, influencing user perceptions and adoption rates (Razi-ur-Rahim and Uddin, 2021). Digital currency wallets in Android-based apps face serious security risks, highlighting the need for secure cryptocurrency wallets (He et al., 2020).

The Indian government's initiatives, such as the push for a cashless economy and the Digital India campaign, have acted as catalysts for the evolution of digital wallets. The regulatory landscape continues to adapt to the changing dynamics, providing both opportunities and challenges for providers.

Understanding and aligning with these governmental initiatives is crucial for digital wallet providers to navigate the regulatory landscape effectively and contribute to the broader vision of a digitally empowered India. As the government continues to shape the ecosystem, digital wallets will play a crucial role in the financial inclusion and empowerment of Indian citizens. India's digital payment landscape has rapidly evolved due to government legislation, regulator intent, social behavior, increased smartphone usage, lower internet costs, and other factors (Mahesh and Bhat, 2022).

Digital wallets in India have not only revolutionized the way people transact but have also played an imperative role in fostering financial inclusion. The ease of opening digital wallet accounts, coupled with the minimal documentation requirements, has enabled a broader segment of the population to access formal financial services. As digital wallet usage grows, it contributes to a more inclusive economic landscape by providing individuals, including those in rural areas, with a gateway to participate in the formal financial system. Digital payments in rural India are crucial for enhancing transparency, reducing parallel economy, and enhancing business ease, with recent developments like Paytm, Mobiwik, and Free Charge paving the way for this transformation (Rahmani et al., 2020).

While digital wallet adoption is on the rise, a significant challenge lies in bridging the awareness gap and enhancing digital literacy among users. Many potential users, especially in rural and semi-urban areas, may not be fully aware of the benefits and functionalities of digital wallets. Providers must invest in comprehensive consumer education initiatives, utilizing various channels to impart knowledge about the advantages of digital transactions, safety measures, and the seamless nature of these platforms. Strengthening digital literacy is instrumental in unlocking the full potential of digital wallets across diverse demographic segments in India. Highly educated consumers in India have a higher acceptance level of M-wallet services compared to lower and middle level educated consumers (Chauhan et al., 2022).

Digital wallet providers in India must adopt an iterative approach to development, driven by user feedback. Regularly gathering insights from users about their experiences, preferences, and pain points allows providers to make informed enhancements to their platforms. By incorporating user feedback, providers not only demonstrate a commitment to customer satisfaction but also ensure that their digital wallets evolve to meet the dynamic needs of Indian consumers. Continuous improvement is essential in a competitive market, where user expectations are ever-changing. Positive product perception and user satisfaction positively impact feedback intention, which in turn contributes to product improvement in agile product development (Kencanasari et al., 2021).

To further enrich the digital wallet experience, cross-industry collaborations present an exciting avenue for growth. Partnerships with e-commerce platforms, utility service providers, and even traditional financial institutions can offer users a more comprehensive suite of services within the digital wallet ecosystem. Such collaborations not only enhance the value proposition for users but also contribute to the growth of the overall digital economy in India. The ability of digital wallet providers to foster and sustain these strategic partnerships will likely determine their long-term success in the market. Digital wallets must address security concerns to successfully implement and enhance financial services in the face of increasing cyber threats (Hassan & Shukur, 2019).

As digital wallets become deeply ingrained in everyday transactions, it is crucial to consider their environmental impact. The shift towards a paperless, digital economy has the potential to reduce the environmental footprint associated with traditional banking practices. However, the energy consumption and electronic waste generated by digital devices pose environmental challenges. Exploring sustainable practices, such as green technology adoption and responsible e-waste disposal, can position digital wallet providers as conscientious contributors to both economic and environmental well-being. Digital Wallet can support green growth and sustainable development by increasing public participation in recycling activities and offering monetary incentives for socioeconomic and environmental benefits (Anshari et al., 2021).

While the focus of this analysis is on the Indian context, drawing insights from successful international digital wallet implementations could offer valuable lessons for local growth. Examining case studies from countries with mature digital payment ecosystems provides a broader perspective on the challenges, strategies, and innovations that have shaped the industry globally. By learning from international experiences, digital wallet providers in India can glean inspiration and adapt best practices to enhance their offerings, ensuring a robust and resilient digital financial landscape for Indian consumers. Cultural intelligence (CQ) is crucial for digital leadership success, as it enables companies to manage diverse workforce and effectively communicate across borders in a globalized, hyper-competitive world (Rüth & Netzer, 2020).

### 3. OBJECTIVE

This study explores the relationship between consumer satisfaction and consumer loyalty for Indian digital wallet users. Furthermore, the study, tries to identify the determinants of satisfaction and loyalty for users of digital wallets in India.

### 4. DATA AND METHODOLOGY

This study considered a final sample of 277 respondents. Data was collected from users of digital wallets using a structured questionnaire. A random sampling method was used for collection of data. Data was collected through both web-based as well as manual surveys of Indian consumers. In total, 311 questionnaires were received, out of which 277 (approx. 89%) were valid responses.

The questionnaire was divided into three parts. The first part dealt with demographic variables. The second part enquired about the awareness and the usage rate of digital wallets. It helped to determine the preferred digital wallets based on user transactions and usage rates. The last part of the questionnaire recorded user opinions about digital wallet features and determined the level of satisfaction as well as loyalty based on usage of digital wallet services.

All the measurement scales considered in the study are adapted from the literature review, and modified in phrasing and look, for the present study. Exploratory factor analysis is used to find the determinants of satisfaction and loyalty of Indian digital wallet users.

### 5. FINDINGS AND DISCUSSIONS

The following table shows general details of respondents. Table 1 shows that 55.60% are male, and 44.40% are female participants.

**Table 1: Details of Respondents**

Variable	Participants	% Age
<b>Gender</b>		
Male	154	55.60
Female	123	44.40
<b>Total</b>	<b>277</b>	<b>100</b>
<b>Age in years</b>		
22 to 26	91	32.85
26 to 30	77	27.80
Above 30	109	39.35
<b>Total</b>	<b>277</b>	<b>100</b>
<b>Annual Income Level (INR)</b>		
Below 1 lac	83	29.96
1 to 5 lacs	99	35.75
More than 5 lacs	95	34.29
<b>Total</b>	<b>277</b>	<b>100</b>

Regarding the age of the respondents, 32.85% are between 22 to 26 years, 27.80% are 26 to 30 years, and 39.35% are above 30 years of age. About the annual income level (in Indian rupees) of the respondents, 29.96% are below 1 lakh, 35.75% are 1 to 5 lakhs, and 34.29% are More than 5 lakhs. Tables 2.1, 2.2, and 2.3 present the result of exploratory factor analysis. Table 2.1 show the test results of sample adequacy and sphericity. Table 2.2 gives the result of principal component analysis with orthogonal rotation. Lastly, Table 2.3. depicts the factors, their loading and reliability scores.

**Table 2.1: KMO and Bartlett's Test**

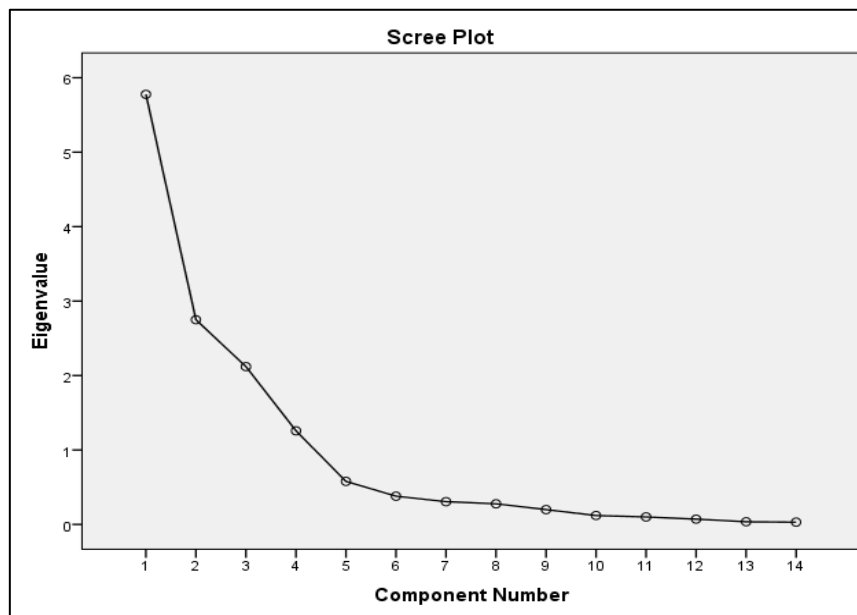
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.804
Bartlett's Test of Sphericity	Approx. Chi-Square	4253.288
	df	91
	Significance	0.000

In the above table, the KMO value found is 0.804 indicating that the sample is adequate for exploratory factor analysis. In addition, the test of sphericity indicates that the correlation matrix is a non-identity matrix, and hence is appropriate for principal component analysis.

**Table 2.2: Total Variance Explained**

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% Of Variance	Cumulative %	Total	% Of Variance	Cumulative %
1	5.777	41.262	41.262	<b>3.754</b>	26.814	26.814
2	2.750	19.640	60.902	<b>3.564</b>	25.457	52.271
3	2.119	15.135	76.037	<b>2.377</b>	16.978	69.250
4	1.257	8.981	85.018	<b>2.208</b>	15.769	<b>85.018</b>
5	.578	4.131	89.149			
6	.379	2.709	91.858			
7	.306	2.185	94.043			
8	.277	1.979	96.023			
9	.199	1.422	97.445			
10	.119	.852	98.297			
11	.100	.717	99.013			
12	.071	.510	99.523			
13	.036	.255	99.779			
14	.031	.221	100.000			

The orthogonally rotated factor loadings indicate four components. All four factors make contribution in explaining the total 85.018% of variance. The variance explained Loyalty – Repeat Usage is 26.814, Loyalty – Trust is 25.457, User Satisfaction – Convenience is 16.978, and User Satisfaction – Security is 15.769.



**Figure 1: Scree Plot**

The scree plot clearly indicates the emergence of 4 components or 4 factors.

**Table 2.3: Rotated Component Matrix - Factors and Factor Loadings**

S. No.	Statements	Factor Loading	Factor Reliability
	<b>Loyalty – Repeat Usage</b>		<b>.977</b>
1.	Providers can design loyalty programs to create a sense of exclusivity and encourage repeat usage	.957	
2.	Satisfied users are more likely to become loyal customers	.942	
3.	Loyalty is often reflected in repeat usage of the digital wallet for various transactions	.941	
4.	Satisfied and repeat users are more likely to become loyal customers	.932	
	<b>Loyalty - Trust</b>		<b>.955</b>
1.	If users trust the provider to provide reliable services, they are more likely to remain loyal	.972	
2.	Trust in digital transactions and perceived security have pivotal roles in fostering user loyalty	.934	
3.	Building user loyalty requires a multi-faceted approach that encompasses trust	.919	
4.	Loyalty programs, underpinned by trust, emerge as critical tools for user retention	.861	
	<b>User Satisfaction - Convenience</b>		<b>.881</b>
1.	Convenience emerges as primary determinant of user satisfaction	.860	
2.	Service providers must prioritize user satisfaction by enhancing convenience	.838	
3.	If users find the process convenient, they are more likely to be satisfied	.825	
	<b>User Satisfaction - Security</b>		<b>.805</b>
1.	A secure digital wallet that protects sensitive financial information and transactions	.899	
2.	Security rules will shape the future of digital wallets, influencing user perceptions	.820	
3.	Digital wallets must address security concerns to implement and enhance financial services	.762	

### 5.1. Factors and associated variables

The first factor of the study is loyalty – repeat usage. The variables included under this factor are providers can design loyalty programs to create a sense of exclusivity and encourage repeat usage, Satisfied users are more likely to become loyal customers, Loyalty is often reflected in repeat usage of the digital wallet for various transactions, and satisfied and repeat users are more likely to become loyal customers. Loyalty in terms of trust is the second factor. If users trust the provider to provide reliable services, they are more likely to remain loyal. Trust in digital transactions and perceived security have pivotal roles in fostering user loyalty, Building user loyalty requires a multi-faceted approach that encompasses trust, and loyalty programs, underpinned by trust, emerge as critical tools for user retention. The third factor is user satisfaction – convenience. The variables it includes are convenience emerges as the primary determinant of user satisfaction, Service providers must prioritize user satisfaction by enhancing convenience, and if users find the process convenient, they are more likely to be satisfied. The fourth factor is user satisfaction – security. The variables included under this factor are a secure digital wallet that protects sensitive financial information and transactions, Security rules will shape the future of digital wallets, influencing user perceptions, and digital wallets must address security concerns to implement and enhance financial services.

**Table 3: Reliability Statistics**

Cronbach's Alpha	Number of Items
0.883	14

The total reliability of 14 items including variables for the role of satisfaction and loyalty for users of digital wallets is 0.883, implying good reliability of the measurement scale.

## 6. CONCLUSION

Loyalty programs, underpinned by trust and exclusive incentives, emerge as critical tools for user retention in a value-conscious Indian consumer landscape. The regulatory backdrop, driven by government initiatives, shapes the trajectory of digital wallets, emphasizing the need for providers to navigate this landscape effectively. Digital wallets, beyond revolutionizing transactions, contribute to financial inclusion but face challenges in bridging awareness gaps and enhancing digital literacy, particularly in rural areas. An iterative development approach, user feedback incorporation, and strategic cross-industry collaborations are proposed as essential strategies for providers to stay relevant and successful. Finally, considering the environmental impact and drawing insights from international experiences can guide Indian digital wallet providers towards a resilient and sustainable future in the ever-evolving financial landscape. The factors that determine the role of satisfaction and loyalty among users of digital wallets are repeat usage, and trust that show user loyalty; and convenience, and security that ensures user satisfaction.

## 7. STUDY LIMITATIONS AND DIRECTION FOR FUTURE RESEARCH

There are a few limitations that exist with this study. The first limitation is that the study is based on users' perceptions about digital wallet services, hence future researchers must be careful while using the results of this study for other digital technologies. The second limitation is that the study presents a cross-sectional view of the determinants of user satisfaction and loyalty towards digital wallets. Future researchers are encouraged to carry out longitudinal studies to establish the temporal validity of the determinants as well as associated results. With the digital revolution happening in India (adoption of 5G network, etc.), the number of digital wallet users is increasing rapidly. Thus, the findings based on a sample of 277 respondents, majority of which are young, may not appropriately represent the attitudinal and behavioural intentions of Indians towards digital wallets. Future researchers can conduct extensive research with a larger sample to demonstrate generalization of the results with respect to Indian population.

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