Acceptance of M-Wallet Services between Male and Female Users

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Abstract: *M-Wallet is an innovative payment instrument that arises under financial technology. M-Wallet helps to simplify the user's daily life, in which users can perform their routine transactions without adopting physical currencies. The study explores the factor that leads to acceptance of M-Wallet services among male and female users based on benefits and uses, intention to use, and security and trust.261 male and 161 female users of the various occupations, education, and income level were surveyed. The study is descriptive, and a conceptual model is constructed to identify the association between Construct 1: Benefits and uses, Construct 2: Intention to use, Construct 3: security and trust, and adoption of M-Wallet services. Literature Review is, in addition, to know about studies conducted on the adoption of M-Wallet services. A structured questionnaire is formed on a Google Form to collect responses from respondents through email, WhatsApp, Facebook, and Telegram. Random and convenience sampling technique was used. Kruskal Wallis and Chi-Square Test were applied to examine the hypothesis. The study recommends the government lay down policies focusing on the growth of the mobile wallet industry. The study will stimulate the adoption of M-Wallet services among users, and the study will be valuable for service providers, mobile app writers, and institutions that facilitate and regulate m-services.*

Keywords: M-Wallet, Services, Adoption, Benefit, Use, Intention, Security, Trust

1. Introduction

In today's world Smartphone has become an integral part of our daily life. Every person carries a mobile phone in this materialistic world. Mobile phones are used to store data, pictures, videos, important documents of work, etc., for personal and professional work. Mobikwik was launched in 2019, and it marked the onset of digital transactions in India. In the year 2018, only 8% of the Indian Population uses a digital wallet for payments. PayTm, Google Pay, Amazon Pay, Airtel money later captured the Indian digital money wallet market. The traditional move from brick to click is fading, due to the rise in e-commerce, banking technology and transformation in banking leads to the emergence of the digital economy.

In recent years M-Wallet has received much attention in various financial markets. In the year 2016, when demonetization was announced, electronic and mobile payment started gathering popularity, it started as an online facilitator for mobile recharges, bill payments, and also due to the emergence of many digital payment companies in India digital wallets become a preferable mode of payment across many sector and categories. Demonetization was one of the most influencing factors to transform India from a paper currency-based economy to a digital-based economy.

Multi usage of Smartphones, improved internet access, ease of commerce, and payments with security features led to the acceptance of mobile wallets, growth of many avenues, and also it is used as a wide range of payments. Smartphones have become one of the most popular means of communication, entertainment, and information and due to all sales of the digital wallet have increased exponentially. Consumer behaviour is changing from traditional payment systems to the digital payment system. Consumer likes dislike, and preferences are changing with time. assumed usefulness and ease of use are useful factors in consumer attitude towards their switching. User cares about security, ease of use, and the wide acceptance of payment methods.

Other Innovation and initiatives have pushed towards digital payment such as United payments interface (UPI), Bharat Interface for money (BHIM), RuPay cards, FASTags, digital wallets, cash recyclers, radio frequency identification (RFID), all-in-one quick response (QR) code for merchants, QR-based cash withdrawals on ATMs are promising a digital future for India. COVID-19 has also an advantageous impact on the digital payment ecosystem in India. Several campaigns are designed by Govt. to increase acceptance and awareness of digital wallets and other digital payment methods through mobile phones. Aadhar enabled payment system led to an increase in payment methods. Also, lack of awareness, infrastructure availability, technicality, and costs involved played key reasons for the non-adoption of digital payments

2. Review of Literature

The review of literature helps us to know research trends of previous studies on the adoption of M-Wallet services and also to understand the research gap, to simplify the review, the literature has been classified into 3 main heads such as:
1) Benefits and uses
2) Intention to use
3) Security and trust

2.1 Benefits and Uses

Gokhan & Burnaz (2016) examined the "factors are causative to consumer attitude development and intention to use mobile payment systems between users and Nonusers", and Gao, & Waechter (2017) have proposed and tested an initial trust theoretical model for user adoption of m-payment systems, the proposed model not only theorized the role of initial trust in m-payment adoption but also identified the facilitators and inhibits user initial trust formation in m-payment systems. A study (Yasodha & Nivethitha, 2018) explored the factors for the usage of PayTm, the result illustrates that the growth of PayTm was taken place after the process of demonetization of currency notes by the Indian Government, and nowadays a maximum number of people using PayTm for their daily transactions such as recharge, bill payments, online transactions and booking tickets such as movie tickets, bus tickets, and train tickets. A study (Mahwadha, 2019) examined the factors such as perceived usefulness, perceived trust, and capable of influencing attitude toward using and rising behavioral intention to use an e-wallet, the study uses two variables, namely moderation attitude toward using moderate usefulness against the perceived behavioral intention, as well as the perceived usefulness of variables to moderate the perceived trust against the attitude toward using. Raghavendra et al. (2019) pointed out that "an e-wallet is a utility that offers users to save their money and make payments anywhere and all-time"; likewise, Tang et al. (2019) explore the interplay of the two roles of these digital wallets, i. e., a payment system and a social platform, which strengthen social ties., these factors were also identified behind the rapid growth of digital wallets' in the US (Venmo) and China (WeChat Pay). A study (Usha & Kumar, 2019) aimed to analyze the factors influencing the customers to use PayTm in Karur District; in the same approach Altounjy et al. (2020) found that perceived usefulness has a significant positive impact on mobile payment acceptance, while the perceived ease of use has no significant impact on the merchants' decision to offer this payment method, which is not compatible with the technology acceptance model (TAM); Angamuthu's (2020) study on customers' explored that more than half of the respondents of the study have adopted M-Wallet services, the study revealed that there is a positive association among various demographic factors in adoption of M-Wallet services. A study (Ming et al., 2020) resulted that the users would adopt E-wallet only when they perceive that the E-wallet is useful and easy to be used, the findings of the study also explained that rewards tend to attract users to use E-wallet, and besides this, the study also found about higher perceived risk may act as a barrier to stop users from using E-wallet. Based on an extensive review of the literature, a research paper (George & Sunny, 2021) "attempts to draw a comprehensive conceptualization of mobile wallet adoption and actual use by exploring the influence of various key factors also examines factors influencing behavioral intention and actual usage of mobile wallets through various technology adoption models and behavioral studies". The main difference between a mobile wallet and online transactions via bank account, unlike banks mobile wallet does not charge any amount of money on every transaction and saves the customer from the hassle of entering card details and PIN for every transaction (Krupa & Rajvaidya,

2021). Lavuri et al. (2021) have focused on understanding the Indian Shoppers' knowledge outlook on the adoption of M-Wallets; they have added that customers use these M-wallets for food orders, travel tickets, and film tickets; exposure information from different sources produces a positive view of M-Wallet usage; likewise, shopper's experiences of M-Wallet services positively affect their self-satisfaction.

2.2 Intention to Use

The stability of structural relationships across different customer groups was tested through adoption readiness, perceived risk, and usage purposes of mobile payments in India (Thakur & Srivastava, 2014); and found that there is a concrete relationship between AR and PR and usage of intention. Gokhan & Burnaz (2016) have tried to help to understand the factors contributing to Turkey's consumer attitude and intention to use mobile payment systems using partial least squares structural equation modeling. A study (Dixit et al., 2017) explored "the factors leading to user's adoption of Mobile-wallet specifically and assesses the level of acceptance among people", additionally, the results show that there is a significant difference in age groups, education levels, and there also difference in e-wallet usage viewpoints of pre and post demonetization users. . A different study (Sunny & George, 2018) examined the "consumer's behavioral intention to use mobile wallet services based on the Technology Acceptance Model (TAM) and Unified Theory on Acceptance and Use of Technology (UTAUT) model". It was found out about whether customer demographics influence adoption intention for e-wallets in India and to identify the parameters that are most important in predicting consumers' adoption intention and whether the market can be segmented into different customer groups (Group & MITRA, 2018), moreover, study findings will help digital wallet companies to have a better and clear understanding of factors that influence the adoption decision of Indian consumers concentrating particularly on the parameters that influence end-users to adopt their services. Mei & Aun (2019) have stated that there is "the influence of convenience, confidentiality and social influence on consumers' investigated and perceived usefulness on M-Wallet in Klang Valley to encourage the development of M-wallet". Singh et al. (2020) have examined and tested several factors regarding moderating cause of innovativeness, stress to use, and social influence on the user's satisfaction and also made some recommendations to use mobile wallet services; in the same approach Chawla & Joshi (2020) have examined "the factors that influence the attitude and behavioral intention towards mobile wallet adoption and to examine the moderating effect of gender and age between antecedents of mobile wallet adoption and user attitude and intention", also the study understands and predicts the importance of sustaining the mobile ecosystem environment.

2.3 Security & Trust

Singh & Gupta (2016) have examined the influence of the variables, viz. Convenience, Trust, Security, and Adaptability to Mobile applications on the satisfaction derived from a mobile wallet, in addition, the study on –

"Respondents' Demographic Profile, Factors affecting usage of Mobile Wallet and resorts to Pearson's Correlation Analysis". Hem Shweta (2016) has concluded about the various risks and challenges faced by users of a digital wallet, and also studied the factors affecting consumer's decision to adopt a digital wallet as a mode of online payment. A survey (Kapur, 2017) was conducted to understand India's perspective on the cyber security concern around digital payments. It was concluded that using digital payment is based on only one factor i. e. an ease of doing payment. Nizam et. al. (2019) have indicated that convenience, security, and cost-saving were proved to make significant influences on consumers' purchase decisions using the e-wallet.

3. Hypotheses

To understand the trends of the presented data following hypotheses have been formulated:-

H1: Gender has a significant association with how long M-Wallet services are used

H2: Benefit and Uses of M-Wallet services is associated with how long M-Wallet services are being used

H3: Intention to Use M-Wallet services is associated with how long M-Wallet services are being used

H4: Security and trust while using M-Wallet services is associated with how long M-Wallet services are being used

3.1 Objectives of the study

- To develop and test a model to understand the independent variables that are most important to predict users adoption intention to adopt m-wallets in India

- To find out different users group segmented based on age, gender, occupation, education, and income influence adoption of m-wallets.
- To examine Benefit and Uses, Intention to Use, security, and trust of M-Wallet services is associated with how long M-Wallet services are being used
- To understand the trend of usage of M-Wallet among male and female users.
- To understand the issues of security and trust towards M-Wallet.

3.2 Variables for the Study under various constructs:

Benefits and Uses, Intention to use, Security and Trust are the Independent Variable and Adoption is considered as a dependent variable in this study, to explain the various categories of variables under various constructs, a conceptual framework is given as under –

3.2.1 Conceptual Framework of Variables

From previous studies, it is revealed that there exists a direct as well as an indirect relationship with the independent variables and adoption of mobile and electronic payments such as the Technology Acceptance Model (TAM) Model, Innovation Diffusion Theory (IDT), and Unified Theory of Acceptance & Use of Technology (UTAUT). Based on the literature studies a model is developed to understand the relationship of the independent variables with the adoption of M-Wallet with the help of constructs benefit and uses, intention to use, and security and trust to understand the adoption of mobile wallets.
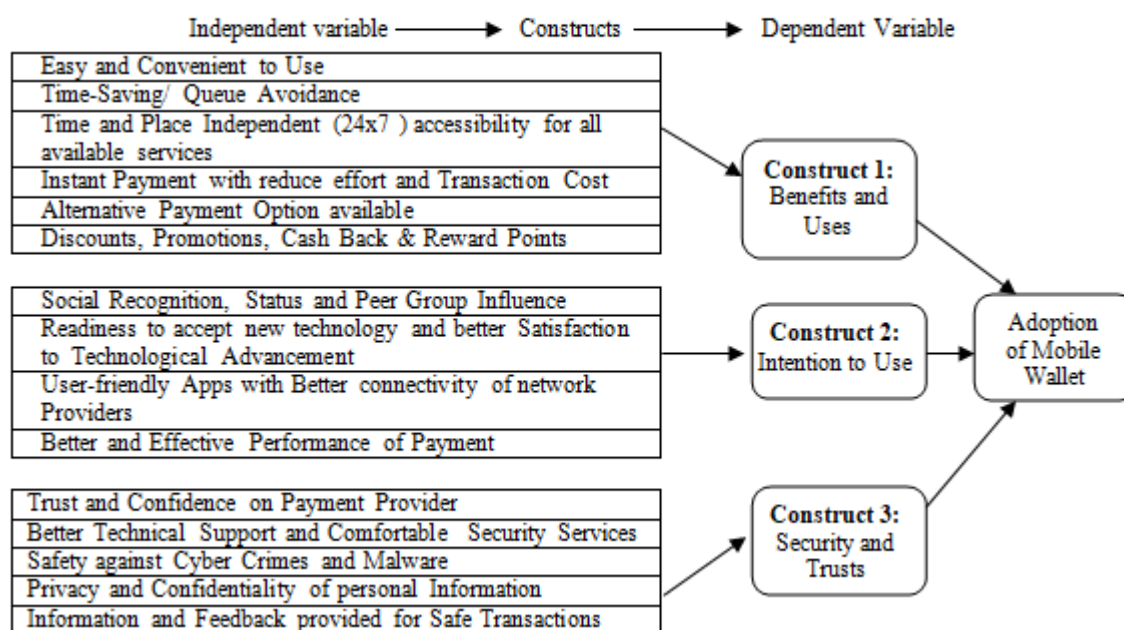

Figure 1: Variables leading to Adoption of Mobile wallets

The above figure 2.1 depicts a conceptual work to adopt a mobile wallet. The adoption of mobile wallets is considered to be the dependent variable. A total of 15 factors have been considered as independent variables of the study and are given as per the three constructs taken for the study.

Table 1: Variables for the Study under various Constructs

Construct	Variable	Sources
Benefits & Uses	Easy and Convenient to Use	(George & Sunny, 2021), (Altounjy et al., 2020), (Angamuthu, 2020), (Ming et al., 2020), (Usha & Kumar, 2019), (Mahwadha, W. I, 2019), (Yasodha & Nivethitha, 2018), (Gao, & Waechter, 2017)
	Time-Saving/ Queue Avoidance	(Lavuri et al., 2021), (Raghavendra et al., 2019)
	(24x7) accessibility	(Lavuri et al., 2021), (Usha & Kumar, 2019)
	Instant Payment with reduce effort and Transaction Cost	(Krupa & Rajvaidya, 2021), (Altounjy et al., 2020), (Tang et al., 2019)
	Alternative Payment Option	(Lavuri et al., 2021), (Yasodha & Nivethitha, 2018)
	Discounts, Promotions, Cash Back & Reward Points	(Lavuri et al., 2021)
Intention to Use	Social Recognition, Status and Peer Group Influence	(Singh et al., 2020), (Mei & Aun, 2019), (Sunny & George, 2018), (Gokhan & Burnaz, 2016)
	Readiness to accept new technology and better Satisfaction to Technological Advancement	(Chawla & Joshi, 2020), (Sunny & George, 2018), (Group & MITRA, 2018), (Dixit et al., 2017), (Gokhan & Burnaz, 2016)
	User-friendly Apps with Better connectivity of network Providers	(Chawla & Joshi, 2020), (Gokhan & Burnaz, 2016)
	Better and Effective Performance of Payment	(Mei & Aun, 2019), (Gokhan & Burnaz, 2016)
Security & Trust	Trust and Confidence on Payment Provider	(Nizam et. al, 2019), (Hem Shweta, 2016), (Singh & Gupta, 2016)
	Better Technical Support and Comfortable Security Services	(Nizam et. al, 2019), (Kapur, 2017)
	Safety against Cyber Crimes and Malware	(Jaiswal & Joge, 2018); Kapur, (2017), (Singh & Gupta, 2016)
	Privacy and Confidentiality of Personal Information	(Nizam et. al, 2019), (Hem Shweta, 2016), (Singh & Gupta, 2016)
	Information and Feedback provided for Safe Transactions	(Singh & Gupta, 2016)

4. Research Methodology

4.1 Research Design

The present research follows a descriptive research methodology, as data was collected through a questionnaire to analyze the hypothesis to identify the association between Benefit and Use, Intention to Use, and security and trust of M-Wallet services with how M-Wallet services are being used by male and female users.

4.2 Sampling Method

In this study, Random Sampling Technique is used to know the association between Benefit and Uses, Intention to Use, and security and trust of M-Wallet services with a length of time used with M-Wallet services.

4.3 Sample and data collection method

The descriptive study was carried out with a structured questionnaire through Google form to collect responses from users of various cities throughout India. The Google form was sent through the mail, WhatsApp, Facebook, and telegrams as well as personal calls were also done to understand the relevance of the study. The Google link was sent to 690 users out of which 467 filled the form.261 Male and 161 Female users from different ages, occupations, education, and Income as well as Benefits and Uses, Intention to Use, Security and Trust were analyzed with how long M-Wallet services are being used.

4.4 Statistical Tests Used

To find out meaningful relationships, data were analyzed using the following techniques, Kruskal Wallis as well as Chi-Square a non-parametric test is used to compare two or more independent samples of equal or different sample sizes.

4.5 Data Analysis

The M-Wallet services used by respondents (items) were measured using a three-point Likert scale (i. e.1= frequently, 2=occasionally, 3= Never) to express the statement of agreement. Experiences while using M-Wallet transaction items under benefit and Uses, Intention to Use, Security and Trust were measured using a five-point Likert scale (i. e.5= Strongly Agree, 4=Agree, 3= Neutral, 2=Disagree, 1=Strongly disagree). The data were calculated through frequency, Cross tabulation, Kruskal Wallis Test, and Chi-Square Test. Non Parametric test was applied to the dataset by using SPSS.

4.5.1 Profile Analysis
The demographic profile of the respondents is presented in Table 1

Table 1: Demographic Profile of the Respondents

Total Respondents: 422			
Characteristics		Frequency	% of respondents
Gender	Male	261	61.8%
	Female	161	38.2%
Occupation	Not Working	19	4.5%
	Service	218	51.7%
	Self Employed	80	19.0%
	Student	105	24.9%
Education	Under Graduate	57	13.5%
	Graduate	76	18.0%
	Post Graduate	223	52.8%
	Others	66	15.6%
Income	Up to 2.5 lakhs	169	40.0%
	Between 2.5 lakhs to 5.0 lakhs	102	24.2%
	Between 5.0 lakhs to 7.5 lakhs	59	14.0%
	Between 7.5 to 10.0 lakhs	44	10.4%
	10 Lakhs and above	48	11.4%

The above table 1 data illustrates 261 (61.8%) are male and 161 (38.2%) are female. As per the occupational status, 218 (51.7%) of the sample unit constitute service people followed by 105 (24.9%) of respondents constitute students, 80 (19.0%) of respondents were self-employed.19 (4.5%) of the sample unit constitute of not working. After analyzing it was found the highest number of respondents 223 (52.8%) belongs to the postgraduate education category and the lowest number of respondents 57 (13.5%) belongs to undergraduate. The table also shows 169 (40%) of respondents belonging to the income category up to 2.5 lakhs fall in the highest income category to use M-Wallet and 44 (10.4%) of respondents belonging to the income category between 7.5 lakhs to 10.0 lakhs falls in the lowest income category.

4.5.2 Reliability Analysis

Alpha Cronbach's reliability test is used to study the reliability of data.

Table 2: Analysis of Alpha Cronbach's Reliability Test

Variables	No. of item	Alpha Cronbach's Reliability Test	Combined Reliability
Benefits and Uses	6	.946	.910
Intention to Use	4	.858	
Security and Trusts	5	.927	

As per alpha Cronbach's reliability score, any reliability score above 0.6 can be accepted and any value which is equal to or above 0.9 is considered to be a very excellent reliable score of the data collected. The above table shows that the combined reliability of alpha Cronbach's score of 15 factors results in 0.910. The consistency of variables is excellent. This means that the factors identified under the variables can be further taken for statistical analysis for meaningful results.

4.5.3 Statistical Analysis

Chi-Square and Kruskal Wallis are the non-parametric methods used for comparing two or more independent samples of equal or different sample sizes.

Period of M-Wallet usage based on demographic information

Table 3: Cross Tabulation-Gender * How long M-Wallet services are used

			How long M-Wallet services are used					Total
			Less than one year	Between one to two year	Between two to three years	Between three to four years	4 years and more	
Gender	Male	Count	48	69	60	31	53	261
		Expected Count	55.7	74.2	59.4	25.4	46.4	261
	Female	Count	42	51	36	10	22	161
		Expected Count	34.3	45.8	36.6	15.6	28.6	161
Total		Count	90	120	96	41	75	422
		Expected Count	90	120	96	41	75	422

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.507ᵃ	4	0.05
Likelihood Ratio	9.741	4	0.045
Linear-by-Linear Association	8.284	1	0.004
N of Valid Cases	422		

a.0 cells (0.0%) have an expected count less than 5. The minimum expected count is 15.64.

Symmetric Measures			
		Value	Approx. Sig.
Nominal by Nominal	Phi	0.15	0.05
	Cramer's V	0.15	0.05
N of Valid Cases		422	

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.

Cross Tabulation between Gender and how long M-Wallet services is formulated by SPSS using Chi-Square test was used to test the hypothesis gender has a significant association with how long M-Wallet services are being used. The hypothesis with 95% confidence, the value labeled Asymp Sig. (which is the p-value of Chi-Square Statistic) is equal to 0.050 Pearson Chi-Square value (which is alpha level associated with 95% Confidence level). So the null hypothesis is accepted.

Table 4: Benefit and Uses of M-Wallet services (Kruskal Wallis Test)

Hypothesis	Benefit and Uses of M-Wallet services	Significance	Decision
H2A	The distribution of Easy and Convenient Use is the same across categories of How long M-Wallet services are used	.000	Reject the null hypothesis
H2B	The distribution of Time-saving/Queue Avoidance is the same across categories of How long M-Wallet services are used	.001	Reject the null hypothesis
H2C	The distribution of Time and Place Independent (24x7) accessibility for all available services is the same across categories of How long M-Wallet services are used	.004	Reject the null hypothesis
H2D	The distribution of Instant Payment with reduced effort and Transaction Cost is the same across categories of How long M-Wallet services are used	.002	Reject the null hypothesis
H2E	The distribution of Alternative Payment Option available is the same across categories of How long M-Wallet services are used	.094	Retain the null hypothesis

H2F	The distribution of Discounts, Promotions, Cash Back & Reward Points is the same across categories of How long M-Wallet services are used	.029	Reject the null hypothesis

The hypothesis was undertaken to know benefit and Uses of M-Wallet services is associated with how long M-Wallet services are being used. Kruskal Wallis Test was used to test the hypothesis by SPSS. Asymptotic Signifies is displayed at a 5% level of significance. From the above table it was found that since the p-value is H2A, H2B, H2C, H2D, H2F is less than 0.050 so the null hypothesis is rejected and the p-value of hypothesis H2E is greater than 0.050 so the null hypothesis is accepted.

Table 5: Intention to Use M-Wallet services (Kruskal Wallis Test)

Hypothesis	Intention to Use M-Wallet services	p-value	Decision
H3A	The distribution of Social Recognition, Status, and Peer Group Influence is the same across categories of How long M-Wallet services are used	.234	Retain the null hypothesis
H3B	The distribution of Readiness to accept Technology and better satisfaction to Technological Advancement of How long M-Wallet services are used	.003	Reject the null hypothesis
H3C	The distribution of User-Friendly Apps with Better connectivity of network providers is the same across categories of How long M-Wallet services are used	.030	Reject the null hypothesis
H3D	The distribution of Better and Effective Performance of Payment is the same across categories of How long M-Wallet services are used	.194	Retain the null hypothesis

The hypothesis was undertaken to know intends to use M-Wallet services is associated with how long M-Wallet services are being used. Kruskal Wallis Test was used to test the hypothesis by SPSS. Asymptotic Signifies is displayed at a 5% level of significance. From the above table it was found that since the p-value of H3B, H3C is less than 0.050 so the null hypothesis is rejected and the p-value of hypothesis H3A and H3D is greater than 0.050 so the null hypothesis is accepted.

Table 6: Security and Trust (Kruskal Wallis Test)

Hypothesis	Security and Trust while using M-Wallet services	p-value	Decision
H4A	The distribution of Trust and Confidence in Payment Providers is the same across categories of How long M-Wallet services are used	.018	Reject the null hypothesis
H4B	The distribution of better Technical Support and Comfortable Security Services is the same across categories of How long M-Wallet services are used	.128	Retain the null hypothesis
H4C	The distribution of safety	.547	Retain the
	against Cyber Crimes and Malware is the same across categories of How long M-Wallet services are used		null hypothesis
H4D	The distribution of privacy and confidentiality of Personal Information is the same across categories of How long M-Wallet services are used	.286	Retain the null hypothesis
H4E	The distribution of information and Feedback provided for Safe Transactions is the same across categories of How long M-Wallet services are used	.578	Retain the null hypothesis

The hypothesis was undertaken to know security and trust towards M-Wallet services are associated with how long M-Wallet services are being used. Kruskal Wallis Test was used to test the hypothesis by SPSS. Asymptotic Signifies is displayed at a 5% level of significance. From the above table it was found that since the p-value of H4A is less than 0.050 so the null hypothesis is rejected and the p-value of hypotheses H4B, H4C, H4D, and H4E is greater than 0.050 so the null hypothesis is accepted.

5. Major Findings

- The data revealed changing trends, adoption, practices, and habits of 422 respondents' habits towards usage of m-wallet. The data regarding the demographical distribution of the respondents inferred that male respondents are using more M-Wallet than female respondents. It was found service people followed by students are using more m-wallet. It was also found Service, Postgraduate, and Income up to 2.5 lakhs respondents preferably utilize M-Wallet, this can be concluded that a lower-income salaried group opts M-Wallet in comparison to self-employed, graduate, and high-income category.

- Phi is used to measure the strength of the association among two variables. Cramer's V to measure the strength of the association between one nominal variable with either another nominal variable or with an ordinal variable. It is used as a post-test to determine strengths of association after chi-square has determined significance. Since the acceptance of the above null hypothesis, H1 shows there is a good association between gender and how long mobile wallet services are being used. Since the Phi value is 0.150 this means there is a strong association length of M-Wallet services being used for males and females. Also, the value of Cramer's V is 0.150 this means the strength of association between one nominal variable either another nominal variable is also good.

- It is derived that benefits and uses derived from alternative options to make payment and its association for how long M-Wallet services are being used remain the same among male and female users. Other benefits and Uses such as Easy and Convenient Use, Time-saving/Queue Avoidance, Time and Place Independent (24x7) accessibility for all available services, Instant Payment with reduced effort and Transaction Cost,

Discounts, Promotions, Cash Back & reward points, and its association with how long M-Wallet services are being used differ among male and female users.

- It is derived that intention to use M-Wallet services such as Readiness to accept Technology and better satisfaction to Technological Advancement and User-Friendly Apps with Better connectivity of network providers is associated among male and female users with how long M-Wallet services are being used. Other variables towards intention to use such as Social Recognition, Status, Peer group Influence, better and effective performance of payment differ among male and female users with how long M-Wallet services are being used.

- It is derived that security and trust towards M-Wallet services such as better Technical Support and Comfortable Security Services, safety against Cyber Crimes and Malware, privacy and confidentiality of personal information, information, and Feedback provided for Safe Transactions are associated with how long M-Wallet services are being used among male and female users. Other variables such as Trust and Confidence in Payment Providers with how long M-Wallet services are being used differ among male and female users.

- The changing trends, adoption, practices, and habits of respondents towards usage of M-Wallet services show male respondents are using more M-Wallet than female respondents. Service, Postgraduate, and Income up to 2.5 lakhs respondents preferably utilize M-Wallet. Lower-income salaried groups prefer more M-Wallet in comparison to self-employed, graduate, and high-income categories.

- Combined Alpha Cronbach's reliability score for variables benefits and Uses, Intention to Use and Security and Trust was found to be 0.910 which shows consistency of variable is excellent.

- Chi-square test through SPSS was used to test hypothesis H1 and it shows there is a good association between gender and how long mobile wallet services are being used. Also, Phi value and Cramer's V value show there is a good strength of association between one nominal variable with other.

- Kruskal Wallis test was used to examine benefit & uses, Intention to Use, security, and trust of M-Wallet services is associated with how long M-Wallet services are being used through SPSS and it was found:

- **Construct 1: Benefit & Uses**-Independent variables such as alternative options to make payment and its association for how long M-Wallet services are being used remain the same among male and female users while other independent variables differ among male and female users.

- **Construct 2: Intention to Use**-Independent variables such as Readiness to accept Technology and better satisfaction to Technological Advancement and User-Friendly Apps with Better connectivity of network providers is associated among male and female users with how long M-Wallet services are being used while other independent variables differ among male and female users.

- **Construct 3: Security and Trust**-Independent variables such as better Technical Support and Comfortable Security Services, safety against Cyber Crimes and Malware, privacy and confidentiality of personal information, information, and Feedback provided for Safe Transactions is associated with how long M-Wallet services are being used among male and female users while other variables differ among male and female users.

6. Managerial Implications

The findings have managerial implications which can guide companies offering mobile wallets to enhance usage and adoption of M-Wallet services. Jointly the stakeholders (financial institutions, mobile wallet providers, government, security experts, etc.) should propose guidelines to ensure safe and secure transactions. The model presented in this paper also serves as an important step towards subsequent predictive modeling techniques to be used with newer and other critical marketing variables.

7. Suggestions and Recommendation

After analysisn the data and the testing all hypotheses following suggestions for users, government, fintech and M-Wallet service providers are given as under:-

7.1 User

- M-wallet convenient features, facilities and easy to operate bring wide acceptance among users
- M-wallet providers by integrating with service and product provider companies can offer Offers, cashback, rewards and discount scheme on online purchase that will improve intention to use m-wallet.
- User Trust improves with secured and innovative features by which they can perform various online transactions.
- Changing trends to use m-wallet has enhance Frequency to Use m-wallet.

7.2 Government

- The Central and State Government can launch e-wallet that provide direct benefits to citizens by partnering with private companies
- M-wallet usage intention is the initiative to make cashless India.
- Secured digital payment acceptance Infrastructure with several customer touch points has created trust among citizens.
- Awarness program by government can create trust among citizen about the usage and acceptability of m-wallets.

7.3 Fintech

- Fintech companies with API Integration with Paytm, Google Pay etc. can create new customer base to expand banking and financial services.
- Fintech companies by creating trust among users can drive digital wallet adoption. Fintech can collaborate with bank by assessing the needs of all internal

department with explanation of gain from the business models.

7.4 M-wallet Provider

- M-wallet app companies can use the customer insights to design news business models.
- E-wallet providers can collaborate with reputed industry players of different segments P2P Wallet solutions to provide better customer experiences.
- Visibility of QR Code based wallet enable mass adoption of digital wallets among merchant and customer.
- M-wallet providers can develop consumer trust and meet expectation by designing better secured solutions by understanding the issues of customers.
- The mobile provider companies can upload videos such as giving demo sessions to users on social media platforms as it may improve the customer base.
- Multi-factor security authentication with face recognition, fingerprint, or voice recognition ensures the security of mobile wallet transactions.

8. Limitation and Direction of Future Research

There are several limitations of the study. The sample size is small to generalize the results of the study. Also, there may be other individual and market-oriented factors that may influence a customer's cognitive and emotional responses towards the adoption of M-Wallet services

There is a huge future scope for this research.
1) The model can be extended with more constructs which may increase the predictive power of the model and provide new insight on consumers' adoption intention of m-wallets.
2) The satisfaction index can be calculated for M-wallets
3) Pre-adoption and post-adoption behaviors of potential users of M-Wallet
4) Study to compare variables and construct between adopters and non-adopters based on age and profession
5) Comparative study of M-Wallet in Rural India
6) M-Wallet Service Quality dimensions

9. Conclusions

The principal aims of the study were to examine Benefit & use, Intention to Use, security, and trust of M-Wallet services is associated with how long M-Wallet services are being used. This study found that there is a significant association between gender and usage of mobile wallet users, as well as from phi Cramer's V it is found there is a good association between gender and usage of the mobile wallet. In addition, the results also indicated that there is an association between alternative options to make payment and how long M-Wallet services are being used. This study also confirms that there is an association between Social Recognition, Status and Peer Group Influence and Better and Effective Performance of Payment with the length of time M-Wallet services are being used, but there is an association between Technical Support and Comfortable Security Services, safety against Cyber Crimes and Malware, privacy and confidentiality of personal information, information and Feedback provided for Safe Transactions is the same across categories of how long M-Wallet services are being used. This study suggests M-Wallet save, time and cost. It is a convenient mode of payment; the bankers can take initiative to create awareness about the use of m-wallet. Multi-factor security authentication with face recognition, fingerprint, or voice recognition ensures the security of mobile wallet transactions.

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