Mobile Wallets Adoption by Younger Generation: With Reference to North Gujarat

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Bhumika Patel[*]
Ankita Mistri[**]
Swati Dave[***]

Abstract

Mobile Wallets are the modern technology produced by mobile technology in India. With the UTAUT Model (Unified Theory of Acceptance and Use of Technology) into account, this study aims to determine the factors that influence people's real intentions to use mobile wallets. For the study, primary data was collected through a scheduled questionnaire from Mobile Wallet users aged between 18 to 30 years from North Gujarat. Primary data were processed and analysed through Multiple Regression Analysis. The findings of the research provide keen insides to the service provider, system developer, and government for policy formulation and better implications.

Keywords: Mobile Wallets, North Gujarat, UTAUT Model, Multiple Regression Analysis, Younger Generation

1. Introduction

The online payment system is changing everybody's lifestyle drastically. Especially mobile wallets make online payments so fast and easy for all. Across the world, mobile wallets are gaining attention and swift adaptation among people. The availability of technology and resources (i.e., mobile phones, Internet connections, etc.) to use mobile

[*] Bhumika Patel is Ph.D. Scholar, Gujarat University, Gujarat, India;
** Ankita Mistri is an Assistant Professor, Ganpat University-V.M. Patel College of Management Studies (GUNI VMPCMS), Gujarat, India;
*** Swati Dave is an Assistant Professor, Shree Narayana College of Commerce, Gujarat University, Gujarat, India.

wallets is also gradually increasing the use of mobile wallets. As a result, global mobile wallet service providers are also increasing gradually.

A Mobile Wallet is one type of virtual Wallet that consists of one's account details, such as debit card, credit card, bank information, etc. It is an application that integrates consumers' different bank account details with their smartphones. It is an app for mobile devices that lets users pay for things online with their phones (Shin, 2009). Using a mobile wallet, anyone do financial transactions anytime and anywhere. Several mobile Wallets exist in India, like Paytm, Google Pay (G pay), Amazon Pay, PhonePe, Yono SBI, Airtel Money, etc.

In the Indian context, literature on mobile wallets is limited but emerging. There is a need for research concerning mobile wallets. This study fills the gaps by recognizing the variables in the context of the actual intent to use mobile wallets in the young age group.

2. Objectives

• The main object is to cognize the variables in the context of actual intent to use mobile wallets by younger consumers (age group: 18 to 30 years), taking into account the UTAUT model (Unified Theory of Acceptance and Use Technology) as a base model.

• This study intends to develop a theoretical model that looks into the potential impact of many factors, including the prevalence of coronavirus illnesses and concerns regarding privacy and security issues, on the adaption of mobile wallets.

• To know the effect of coronavirus diseases on mobile wallet usage in North Gujarat.

The first section of this research paper consists of a theoretical framework, literature, and hypothesis. The following section includes the research method, analysis, final results, limitations, and future scope of the research.

3. Theoretical framework & Review of Literature

3.1 UTAUT model (Unified Theory of Acceptance and Use Technology)

There are several additional variables and theoretical models published in the past that pertain to information systems. There were also available different models regarding new technology adaptation in

literature, including the Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM), and Innovation Diffusion Theory (IDT).

Aside from the UTAUT Model, there are other theoretical models and variable available in the context of information systems literature; other models that have been proposed for the adaptation of new technologies include the Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM), and Innovation Diffusion Theory (IDT).

A proposed model for the study is formulated by researchers using the UTAUT model as a base model and includes new variables such as Privacy and Security Risk and Coronavirus disease from the review of previous literature. Various researchers have verified different research models and made various changes concerning adaptation.

3.2 Easy to Use

Easy to use is directly associated with how easily users can use technology and make comfortable use of it. Easy to use is seen as very similar to "Effort expectancy" and "Perceived Ease of Use" described simultaneously in the UTAUT model and TAM-Technology Acceptance Model (Davis, 1989, page 320, lines 70-72). Venkatesh et al. (2003) described Effort Expectancy as "the degree of ease associated with the use of the system" (Venkatesh et al., 2003). Effort expectancy is seen as a very influential determining factor for intending to adopt any technology (Venkatesh & Davis, 2000; Karim et al., 2020). Because of this, we arrived at the following hypothesis:

H1: Easy to use positively influencing Intend to use Mobile Wallet.

3.3 Usefulness

The utility of any technology is defined by the benefits that users obtain from utilizing it. Users are more likely to make use of technology regularly if they perceive that doing so will enhance their performance. Usefulness is seen as very similar to "Performance expectancy" and "Perceived usefulness" described simultaneously in the UTAUT model and TAM-Technology Acceptance Model (Davis, 1989, page 320). Venkatesh et al. (2003) described Performance expectancy as "the degree to which an individual believes that using the system will help him or her to attain gains in job performance". Performance expectancy is a dominant

determining factor for intending to adopt any technology (Venkatesh & Davis, 2000; Karim et al., 2020). Because of this, we arrived at the following hypothesis:

H2: Usefulness positively influencing Intend to use Mobile Wallet.

3.4 Favorable Conditions

Favorable conditions mean that any person has an essential resource (internet connection, smartphone availability, information of use, etc.) to utilize technology. Favorable conditions very similar to "Facilitating conditions" described in the *UTAUT* model (Venkatesh et al., 2003). Venkatesh et al. (2003) elucidated facilitating conditions as "the degree to which an individual believes that a technical infrastructure exists to support the use of the technology." Favorable conditions are a dominant determining factor for intending to adopt any technology (Kapoor et al., 2022). Whenever any person has enough resources to utilize a mobile wallet, it will lead more towards using a mobile wallet. Because of this, we arrived at the following hypothesis:

H3: Favorable conditions positively influencing Intend to use Mobile Wallet.

3.5 Privacy and Security Risk:

The desire to utilize a mobile wallet is closely linked to the security and privacy concerns that come with it. If any person does not feel secure while using the mobile wallet and worries about personal information, it will inversely affect their usage. Perceived security is "the extent to which a consumer believes that making payments online is secure," as defined by Vijayasarathy (2004). Perceived privacy is "the consumers' perception regarding their ability to monitor and control the information about themselves," as Yousafzai et al. (2003) described. Privacy and security risks are seen as very dominant determining factors for intending to use any technology (Karim et al., 2020; Mombeuil, 2020; Kapoor et al., 2022). Because of this, we arrived at the following hypothesis:

H4: Privacy and negatively influencing Intend to use Mobile Wallet.

3.6 Coronavirus Disease

Due to the COVID-19 pandemic, people have shifted to online payment methods. According to Aji et al. (2020), people will use mobile wallets more frequently when the risk of transmitting the coronavirus is

high. In this study, this means that when the risk of contracting the disease is high, using a mobile wallet will be strongly encouraged. Coronavirus disease is the foremost determining factor for intent to use any technology (Kapoor et al., 2022). Because of this, we arrived at the following hypothesis:

H5: Coronavirus disease positively influencing Intend to use Mobile Wallet.

3.7 Intend to Use Mobile Wallet

Many terms are used to describe the intent to utilize, such as "intention to use" in the TAM model and "behavioural intention" in the UTAUT model. Behavioural intention is "the degree to which a person has formulated conscious plans to perform or not to perform some specified future behaviour" as defined by Davis, F. (1989).

Karim et al. (2020) concluded research on "Factors Influencing the Use of E-Wallet as a Payment Method among Malaysian Young Adults." The researchers utilized the TAM Model as a basis and hypothesized that the intent to use e-wallets was significantly influenced by privacy and security, usefulness, and ease of use. The primary data was gathered using a questionnaire method that was answered by 330 Malaysian E-Wallet users. The results and conclusions point out that intent to use an e-wallet was significantly influenced by perceived ease of use, usefulness, privacy, and security (Karim et al., 2020).

Mombeuil (2020) has done investigational research on "An exploratory investigation of factors affecting and best predicting the renewed adoption of mobile wallets.". The primary information was gathered from China (252 respondents). The study results confirm that relative convenience, privacy, relative advantage, and security were essential factors in the renewed adaptation of mobile wallets (Mombeuil, 2020).

Kapoor et al. (2022) ended experimental research on "Mobile wallet adoption intention amid COVID-19 pandemic outbreak: A novel conceptual framework". The vital primary information was assembled using a questionnaire method that was answered by 400 respondents from India. The result dictates the notable impact of relative advantage, Favorable infrastructural conditions, and security on Intent to adapt M-Wallets. There was also a marked moderating and mediating impact of relative advantage, Favorable infrastructural conditions, security, and age (Kapoor et al., 2022).

Shah and Bhatt (2023) concluded research on "Digital payment in rural Gujarat: Empirical Evidence for Atmanirbhar Bharat." The essential primary information was gathered through the use of a questionnaire method that was filled out by 392 respondents from rural Gujarat (India). The data analysis was carried out using *MLR* (multiple linear regression) software.—User's evaluations are significantly affected by security, benefits, convenience of use, and reliability, according to the study's conclusions (Shah and Bhatt, 2023).

The following is the suggested framework for this investigation, derived from the literature review:

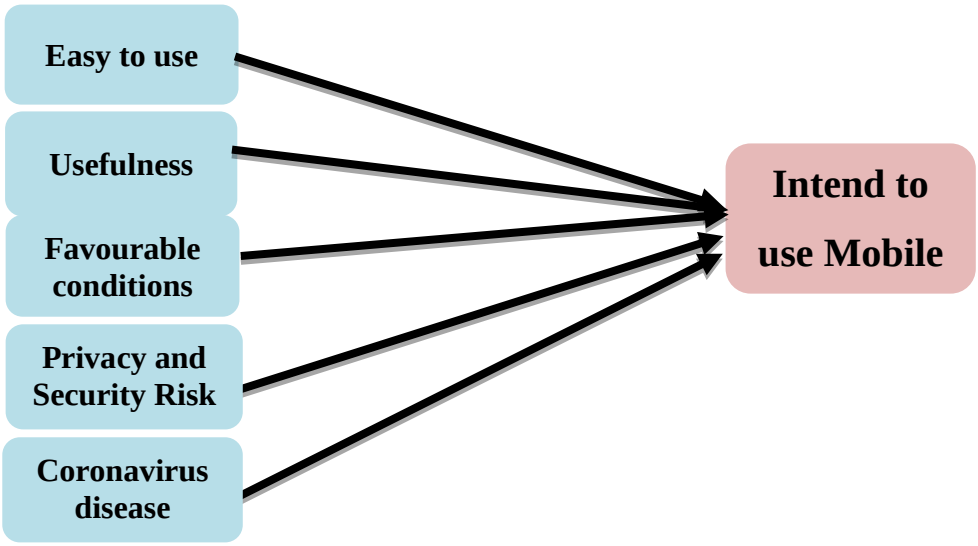

Figure 1: Proposed model of the study

4. Research Methodology

4.1 Survey Instrument

A well-structured questionnaire was utilized to gather primary data for the study. Several scale items have been adapted from earlier works of literature. A 5-point Likert Scale was applied to measure each constructed item. Suggestions from the pilot study were incorporated into the final questionnaire. A pilot study was carried out to gather valid responses.

Table 1: Questionnaire Items

Statements regarding use of Mobile wallet (MW)	**Sources**
Easy to Use:	(Balaji, 2020; Priyadarshini, 2018; Davis, 1989)
Installation, registration & login process is easy and hassle-free	
Learning the use of MW is easy	
Payment procedure is clear and understandable	
I can manage multiple bank accounts in a single MW	
Usefulness:	(Tamizhvani, 2020; Gayathiry, 2019)
MW is faster than offline mode of payment	
MW makes daily lifestyle easier	
MW is useful for a very small amount of transaction.	
MW helps to maintain transaction history	
Favorable Conditions:	(Venkatesh, 2012; Tamizhvani, 2020; Balaji, 2020; Patel, 2016)
I have the necessary knowledge and resources for the use of MW	
I get a solution of problems from customer care services	
Nowadays, so many vendors accept MW services.	
Privacy and Security:	(Tamizhvani, 2020; Gayathiry, 2019; Shin, 2009; Sinha and Singh, 2019; Kadalarasane, 2015)
I'm afraid of losing money due to transaction failure	
Fear of disconnection during mobile payments	
I worried about service providers may track my transactions	
I don't feel secure to share personal and financial information in MW	

Coronavirus Disease:	(Aji et al., 2020)
During COVID-19 Pandemic, The government motivated payment through MW	
During COVID-19 Pandemic, I preferred to use MW for payments	
I think the COVID-19 pandemic increased my MW usage	
Intent to use Mobile wallet:	(Venkatesh, 2012; Tamizhvani, 2020; Al-jabri, 2012; Lee & Chung, 2009)
I'll intend to continue use MW in daily life	
I will recommend my friends, relatives & colleagues to use MW	
I'm satisfied with the services received from MW	

4.2 Sample

For the study, responses were collected from Mobile Wallet users aged between 18 and 30 years from North Gujarat. The present research uses a non-probability sampling design and convenience sampling technique to collect information. The appropriate sample size was determined based on the number of scale items measured. To justify the sample size, the ratio ranges from 1:4 to 1:10, which means that to measure one item, four responses are necessary (Hinkin, 1995; Hair et al., 2006). In this research, 21 scale items are measured (21*4 = 84). Therefore, at least 84 responses are necessary for this research study. A total of 200 responses were gathered, and 178 valid responses were utilized for further analysis. Samples for the study were assembled from different regions of North Gujarat via Google Forms.

We calculated the requirement for a sample using Cochran's equation. Where Z shows the value for the selected alpha level (1.96), p shows the proportion of the population (0.4), q=(1-p) i.e. 0.6, and e shows the acceptable margin of error is 0.07.

$$n = \frac{Z^2 p(1-p)}{e^2}$$ n=189 approx.

4.3 Demographic Profile of Respondents

Table 2: Descriptives

	Respondents	**Frequency**	**Valid Percentage**
Gender	Female	78	43.8
	Male	100	56.2
Age	Below 20	99	55.6
	21-30	79	44.4
Education	Uneducated	9	5.1
	School	30	16.9
	Graduate	96	53.9
	Postgraduate	33	18.5
	PhD	9	5.1
	Others	1	0.6
Occupation	Student	121	68
	Housewife	16	9
	Unemployed	1	0.6
	Private Employee	33	18.5
	Government Employee	1	0.6
	Business	6.0	3.4
Monthly Income (in Rs.)	Below 10,000	103	57.9
	10,001-20,000	25	14
	20,001-30,000	19	10.7
	30,001-40,000	7	3.9
	40,001-50,000	2	1.1
	Above 50,000	22	12.4
	Google Pay (G Pay)	99	55.6

Mostly used mobile Wallet	Paytm	38	21.3
	Phone Pe	28	15.7
	Vi (Vodafone)	8	4.5
	YONO SBI	2	1.1
	Others (please specify)	3	1.7
Time period of using mobile wallet	Less than 6 months	65	36.5
	6 months to 1 year	33	18.5
	1 to 2 year	32	18
	2 to 4 years	30	16.9
	More than 4 years	18	10.1
Monthly usage of mobile wallet	Less than 3 times	55	30.9
	3-5 times	37	20.8
	5-10 times	28	15.7
	More than 10 times	58	32.6
Average amount spends using a Mobile Wallet per month (in Rs.)	Less than 1,000	71	39.9
	1,001-3000	33	18.5
	3,001-5000	33	18.5
	5,001-10,000	13	7.3
	More than 10,000	28	15.7
Usage of Mobile Wallet for	Booking tickets	79	12.4
	Donation & charity	18	2.8
	Games/music/gifts	30	4.7
	IPO/Investment	30	4.7
	Money transfer	125	19.6
	Online shopping	133	20.8
	Pay bills/Recharge	143	22.4
	Retail stores	80	12.5
	Others	1	0.2

4.4 Data Analysis

4.4.1 Reliability Statistics

The instrument (value of Cronbach's alpha (α)) was utilized in the computation of the coefficient alpha (Cronbach 1951). The Cronbach's alpha (α) coefficient was found to be more than 0.7 in every instance (Hair et al., 2012), which shows that the scale presents good internal reliability.

Table 3 Reliability Statistics

Sr. No	Variable	No. of Items	Cronbach's Alpha
1	Easy to use	4	.842
2	Usefulness	4	.845
3	Favourable conditions	3	.769
4	Privacy and Security Risk	4	.880
5	Coronavirus disease	3	.859
6	Intent to use Mobile Wallet	3	.895

4.4.2 Multiple Regression Analysis

A multiple regression analysis was applied to check the impact of multiple predictors on the criterion. The multiple regression analysis also revealed which independent factor impacts the dependant factor most. The common objective of using multiple regression is to know about the relationship between various independent factors (predictors) and the dependent factors (criterion).

In the research study, intention to use (IU) is taken as the dependent variable, and ease to use, usefulness, Favourable conditions, privacy and security risk, and coronavirus disease are considered the independent variables.

It is observed that the proposed model is significant statistically as the R2 value is 0.701, which takes into consideration the goodness of fit. This shows that the independent

factors are very good determinants of intention to use. The R square value is 70.1% for the variation in intent to use mobile wallets (i.e., dependent variable), which can be determined from the independent factors of ease of use, Usefulness, Favourable conditions, Privacy and Security Risk, and Coronavirus disease).

A significance level is p =.000 (sig. *p <.05), which dictates that all the independent variables are found to be good determinants of the intent to utilize a mobile wallet. The model was shown to be statistically significant for the research after multiple regression analysis (R2 = 0.701, F (5, 170) = 92.837).

Table 4: Coefficients

Model	Unstandardized Coefficients	Standardized Coefficients	Significance	Collinearity Statistics
	B	**Beta**(β)		**VIF**
Easy to use	-.019	-.017	.793	2.540
Usefulness	.194	.181	.004	2.234
Favourable conditions	.204	.189	.003	2.353
Privacy and Security Risk	-.055	-.065	.142	1.119
Coronavirus disease	.578	.563	.000	1.981

The above table shows the regression coefficients for the standardized (β) and unstandardized (B). The collinearity statistics value (VIF) of the regression model is between 2.540 and 1.119, which is <10, which shows no "collinearity" in the regression model (Hair et al., 1998).

From the above table, the equation can be built as follow:

Intend to Use Mobile Wallet (IU) = [Easy to use (0.793) + Usefulness (0.004) + Favourable conditions (0.003) + Privacy and Security Risk (0.142) + Coronavirus disease (0.000)]

The above table noted Usefulness explains the 18.1% variance, Favourable conditions 18.9% variance, and Coronavirus disease 56.3% variance in intending to use a mobile Wallet. The Usefulness, Favourable conditions, and Coronavirus disease have a significance level < 0.05 (sig. *p < 0.05), which shows a major influence on the Intend to use a mobile wallet.

Table 5: Multiple Regression Analysis Results

Hypothesis	**Relationship**	**Standardized Coefficient**(β)	**p value**	**Decision**
H1	E→IU	-.017(ns)	.793	Not significant
H2	U→IU	.181**	**<0.05**	**Significant**
H3	FA→IU	.189**	**<0.05**	**Significant**
H4	SP→IU	-.065(ns)	.142	Not significant
H5	CO→IU	.563***	**< 0.001**	**Significant**

Note: *** (p < 0.001), **(p<0.05), and (ns) hypothesis was not significant.

According to the study's findings, H1 and H4 are not significant; however, H2, H3, and H5 are supported, which means they are significant.

Table 6: Hypothesis Test Results

Hypothesis	**Relationship**	**Significant/ Not Significant**
H1	Easy to use positively, influencing Intend to use Mobile Wallet.	Not significant
H2	Usefulness positively influencing Intend to use Mobile Wallet.	**Significant**
H3	Favorable conditions positively influencing Intend to use Mobile Wallet.	**Significant**
H4	Privacy and Security Risk **negatively** influencing Intend to use Mobile Wallet.	Not significant
H5	Coronavirus disease positively influencing Intend to use Mobile Wallet.	**Significant**

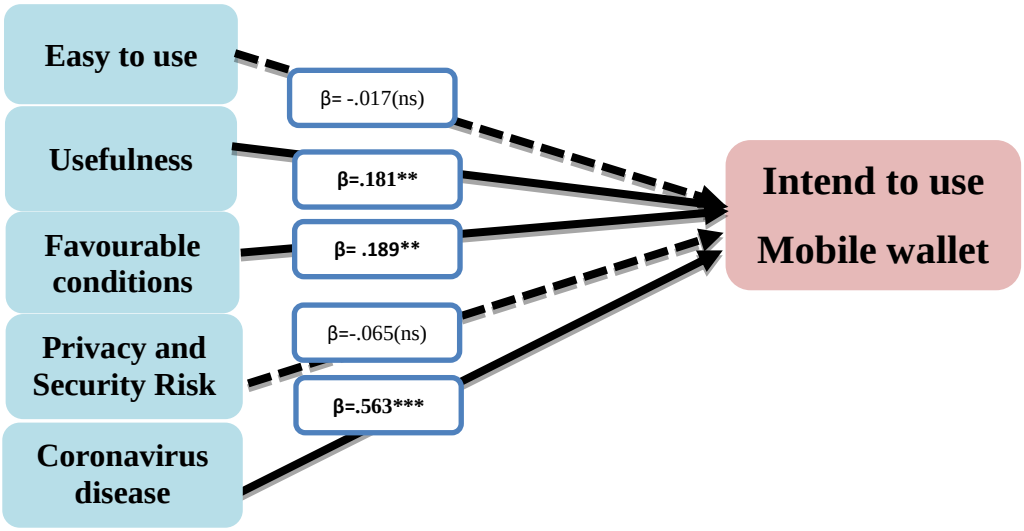

Figure 2: Findings from the proposed model
[***(p<0.001), **(p<0.05) and (ns) the hypothesis was not significant**]**

5. Findings

• Outcomes of the study dictate that there are three factors influencing the intent to use out of five factors. Usefulness(U), Favorable conditions (H3), and Coronavirus disease (H5) are the three factors that affect the intent to adopt a mobile Wallet. Other variables like, Easy to use and Privacy & Security are noted as insignificant for the Intent to use.

• Easy to use is noted as non-significant, this result does not comply with UTAUT theory and is unexpected for the study. In different studies, Easy to use (Slade et al., 2015; Madan & Yadav, 2016), and Privacy & Security (Mallat, 2007) were noted as insignificant for intent to adopt the technology.

• Usefulness is noted as effective, which means people found mobile wallets beneficial. When any user knows the benefits from the use of any technology, it will make his/her performance better, this will increase the use of technology.

• Favorable conditions found effective, which means people have enough resources to use a Mobile Wallet and that will lead more towards the usage of Mobile Wallet.

• Coronavirus disease is not a pleasant experience for anyone but when the Coronavirus disease risk is high, this will make strong intent to make use of Mobile Wallet.

• Most of the youngsters (55.6%) use Google Pay (G Pay) as a Wallet. Most of the People (39.9%) are spending less than 1,000 Rs. per month on average. In the last six months, most of the youngsters (36.5%) have started using mobile wallets.

• Most of the People (32.6%) are using Mobile Wallet more than 10 times in a month. Users are mostly using Mobile Wallet to Pay bills and do Recharge (22.4%), then for online shopping (20.8%) and money transfer (19.6%).

6. Discussion

The outcomes of the study dictate that there are three factors influencing the intent to use out of five factors. Usefulness (U), Favorable conditions (H3), and Coronavirus disease (H5) are the three factors that affect the intent to adopt Mobile Wallet. Other variables like 'Easy to Use' and Privacy & Security are noted as insignificant for the intent to use. Easy to use is noted as non-significant; this result does not comply with the UTAUT theory and is unexpected for the study. In different studies Easy to use (Slade et al.,2015; Madan & Yadav,2016), and Privacy & Security (Mallat, 2007) were noted as insignificant for intent to adopt the technology.

Usefulness is noted as an important determinant, which is in line with (Davis, 1989; Venkatesh & Davis, 2000; Karim et al., 2020). Favorable condition is seen as an important determinant for intent to adopt any technology in different studies, which is in line with (Kapoor et al., 2022; Venkatesh et al., 2003). Coronavirus disease is seen as the positive determining factor for intending to use mobile wallets, which is in line with (Kapoor et al., 2022).

7. Research Limitations and Implications for the Future

A limitation of this study is that samples were assembled from the north Gujarat region only. Thus, future research could be done in other regions of India as well. In the research study, respondents were only users of mobile wallets, so further study can be done by considering non-users of mobile wallets.

References:

1. Davis, F.D., Bagozzi, R.P., Warshaw, P.R. (1989), "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models," *Management Science*, Vol. 35 (8), 982–1003.
2. Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., Tatham, R.L., 2006. *Multivariate Data Analysis*, 6th ed. Pearson Education Inc.
3. Hinkin, T. R. (1995). A review of scale development practices in the study of organizations. *Journal of Management*, 21(5), 967-988.
4. Kapoor, A., Sindwani, R., Goel, M., & Shankar, A. (2022). Mobile Wallet adoption intention amid COVID-19 pandemic outbreak: A novel conceptual framework. *Computers and Industrial Engineering*, 172.
5. Karim, M.W., Chowdhury, M.A.M., & Haque, A.K., M.A. (2022). A Study of Customer Satisfaction Towards E-Wallet Payment System in Bangladesh. *American Journal of Economics and Business Innovation*, *1*(1), 1–10. https://doi.org/10.54536/ajebi.v1i1.144
6. Karim, M.W., Haque, A., Ulfy, M.A., Hossain, M.A., &Anis, M.Z. (2020). Factors influencing the use of E-Wallet as a payment method among Malaysian young adults. *Journal of International Business and Management*, 3(2), 01-12.
7. Madan, K., & Yadav, R. (2016). Behavioural intention to adopt mobile Wallet: A developing country perspective. *Journal of Indian Business Research*, 8(3), 227-244.
8. Mallat, N. (2007). Exploring consumer adoption of mobile payments - A qualitative study. *The Journal of Strategic Information Systems*, 16(4), 413-432.
9. Mombeuil, C. (2020). An exploratory investigation of factors affecting and best predicting the renewed adoption of mobile Wallets. *Journal of Retailing and Consumer Services*, *55*, 102-127.
10. Shah, D., & Bhatt, C. (2023). Digital Payment in Rural Gujarat: An Empirical Evidence for Atmanirbhar Bharat. *International Journal of Management, Public Policy and Research*, 2(1), 7–16.
11. Shin, D.H. (2009). Towards an understanding of the consumer acceptance of mobile Wallet. *Computers in Human Behavior*, 25(6), 1343-1354.
12. Slade, E., Williams, M., Dwivedi, Y., & Piercy, N. (2015). Exploring consumer adoption of proximity mobile payments. *Journal of Strategic Marketing*, 23(3), 209–223. https://doi.org/10.1080/0965254X.2014.914075
13. Venkatesh V., Michael G. Morris, G.B.D. and F.D.D. (2003). USER ACCEPTANCE OF INFORMATION TECHNOLOGY: TOWARD A UNIFIED VIEW. *Inorganic Chemistry Communications*, 67(3), 95–98. https://doi.org/10.1016/j.inoche.2016.03.015
14. Venkatesh, V., & Davis, F.D., (2000), "A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies," *Management Science*, Vol. 46 (2), 186–204.