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Determinants of Continuance Intention to Use Mobile Wallets Technology in the Post Pandemic Era: Moderating Role of Perceived Trust

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ABSTRACT

The Covid-19 pandemic amplified the volume and importance of mobile payments using digital wallets and placed a basis for their continued adoption. The objective of the study is to formulate and test a comprehensive model by integration of the technology acceptance model (TAM) and expectation confirmation model (ECM) with the addition of three constructs, namely perceived trust, perceived risk, and subjective norm, to identify the determinants of continuance intention to use mobile wallets. Questionnaire-based survey method was used to gather the data from 550 users having experience using mobile wallets for more than six months. The data were analyzed using the partial least square-structural equation modeling to investigate relationships between variables and test the hypothesized model. The proposed model showed a 53.9% variance in satisfaction and a 36.2% of variance in continued usage intention. The construct “perceived usefulness” emerged as the strongest predictor, followed by perceived trust and confirmation. This study also examines the moderating role of perceived trust on the relationship between perceived risk and continued intention to use mobile wallets. This study helps service providers and policymakers in improving mobile wallet services related to their execution and deployment.

Keywords: Mobile wallets; Technology acceptance model (TAM); Expectation confirmation model (ECM); Covid-19; Perceived Trust; Continued usage intention

INTRODUCTION

An electronic wallet (e-wallet) is the digital equivalent of a physical wallet that can support cashless and contactless payment, thereby allowing customers to meet the physical contact restrictions imposed to contain the spread of Covid-19 (Oluwaseyi Ojo et al., 2022). The Covid-19 outbreak over the past two years has been influential in shifting traditional banking transactions to mobile-based banking transactions (Malik and Singh; 2022). Mobile e-wallet is one of the emerging Financial Technologies that has become extremely predominant during the last few years (Alwi et al.; 2021). The development in mobile technology has empowered the application of the mobile wallet as an advanced payment method to replace the outdated functions of the physical wallet (Leong et al; 2020). There is a significant role in advanced information technology and mobile communication during the Covid-19 pandemic (Shankar et al., 2021). However, mobile-based business solutions had already started much earlier than the pandemic, Covid-19 has raised this revolution (Soodan and Rana, 2020). Mobile wallets appear as one of the advanced contactless payment solutions. Mobile wallet allows users to make peer-to-peer payments, use loyalty cards, store e-receipts, bill payments, and coupon utilization directly from the application through smartphones (Kapoor et al., 2020; Mew and Millan, 2021). Sensitive information such as online shopping accounts, passports, and insurance policies are stored in mobile wallets in an encrypted format (Shin, 2009; Shankar and Behl, 2021). Predominantly, after demonetization in India, people observed a serious problem in making payments due to the limited accessibility of hard cash and started using digital payments (Chawla and Joshi, 2019). The Covid-19 pandemic has further increased the usage intention of mobile wallets by consumers (Sarmah et al., 2021). “Google Pay” and “PayTM” evolved as extensively used mobile wallet applications (Undale et al., 2021). According to the Business Standard report (2022), India presently has around 350 million online transacting users across electronic commerce, spending, travel, and hospitality, and expected to double by 2030.

Though Indian consumers have initiated digital payment, the usage of mobile wallets in India is not very hopeful (Shankar and Behl, 2021). This study fills this gap by offering a comprehensive framework to examine the continuance intention to use mobile wallets in the post-pandemic period. Earlier studies stressed factors that affect mobile wallet adoption hence, this study highlighted the influence of intervening variables like perceived trust, perceived risk, confirmation, and satisfaction in continuance intention to use mobile wallets in post-pandemic period. Therefore, the current study specifies the following research objectives:

1. To extract the relevant factors and their impact on continuance intention to use a mobile wallet in the post-pandemic period.
2. To understand the role of mediating and moderating the effect of the variables in the proposed model

The study brings several theoretical and managerial implications. Theoretically, this study contributes to the existing mobile wallet literature by examining continuance intention to use mobile wallets using the inclusive framework. This study extended the technology acceptance model by its integration into the expectation confirmation model to examine the influence of various factors on continuance intention to use a mobile wallet. This study aids service providers of mobile wallets to recognize how to develop and implement strategies to improve their continuance usage in an emerging economy.

RESEARCH MODEL

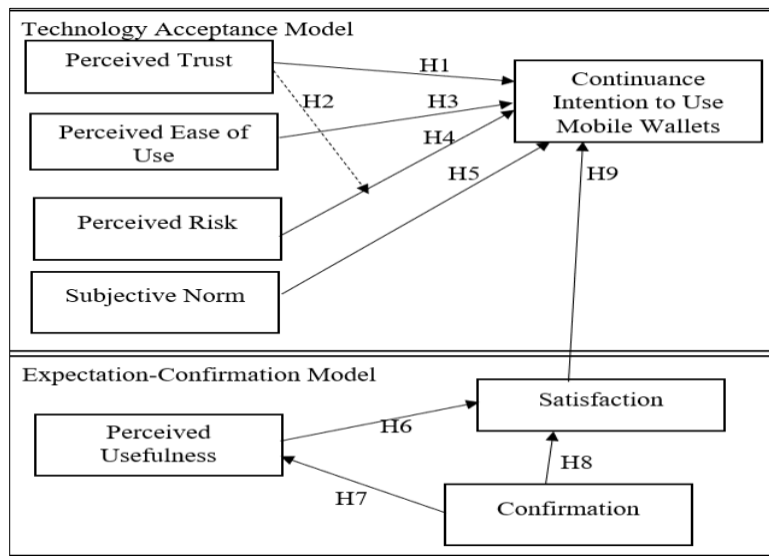


Figure 1. Research Model

LITERATURE REVIEW

As per McKinsey (2020) report, contactless payments are increasing speedily during the Covid-19 outbreak as it is a more sterilized payment method than other old-style payment methods. World Bank (2022) reported that the Covid-19 pandemic has spurred financial inclusion by driving a large increase in digital

payments during the global expansion of formal financial services. George et al. (2021) highlighted that the use of mobile wallets in India was on the rise for the past few years on account of its various advantages such as ease of use, simplicity, convenience, and cost-effectiveness. The usage of mobile wallets increased drastically during the pandemic (George et al.; 2021).

Talwar et al. (2021) examined both enablers and inhibitors of mobile wallets during and after the pandemic. Their findings reveal that perceived ability, perceived information quality, and perceived benefit are enablers whereas perceived risk, perceived cost, and perceived uncertainty are inhibitors. Astari et al. (2022) studied E-wallet usage in financial transactions during the pandemic. The authors presented a research framework by integrating the technology acceptance model (TAM) and theory of planned behavior (TPB) to obtain more comprehensive results and increase technology acceptance intentions by adding the constructs related to virus fear and risk perception to the models that have been tested previously.

Kapoor et al. (2022) examined the influence of ease of effort, relative advantage, security considerations, favorable infrastructure conditions, and contactless transactions on m-wallet adoption. Their findings showed that relative advantage, favorable infrastructure conditions, security considerations, and contactless transactions had a positive significant effect on m-wallet adoption intention. Al-Qudah et al. (2022) analyzed the factors that influence the intention to use the Apple Wallet app in United Arab Emirates (UAE). The authors found the ability to use, perceived usefulness, the convenience of the system, and perceived risk as the primary variable that impact the intention to use apple wallet app. Kulu et al. (2022) examined the effect of mobile money transactions on banking sector performance in Ghana using monthly data between the years 2015 to 2020. The authors highlighted that people use the electronic wallet as a substitute for the traditional bank account. Their findings revealed that mobile money transaction has a detrimental effect on banking sector performance. Ngoc Ly et al. (2022) studied the factors affecting the intention to use mobile payment services in Vietnam. The results of their study highlighted that the behavioral intention of mobile wallet adopters relies on performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, habit, trust, and price-saving orientation. Zhao et al. (2022) empirically examined the impact of mobile payments on household consumption in rural China. Instrumental variable (IV) and difference-in-differences (DID), plausibly exogenous methods were used to identify the causal effect of mobile payments.

The findings showed a significant positive effect of mobile payments on rural household consumption. The results showed that mobile payments can reduce transaction costs, ease liquidity constraints, and lower mental accounting loss for rural households. Malik and Singh (2022) studied the factors influencing the usage and continuance usage of mobile payment apps in an emerging country and mostly how gamified features increase the usage of apps. The authors used the Unified theory of acceptance and use of technology (UTAUT2) and information system success (ISS) theory and reported that behavioral intention to adopt, and usage of mobile payments is significantly mediated by gamified features and gamified features are partially mediating continuance usage of mobile payments. Trust was found the key enabling factor influencing continuance usage amongst mobile payment users.

Amin et al. (2022) analyzed the factors of e-satisfaction, continuance intention, and e-loyalty regarding the usage of mobile payment applications (MPAs). It established and checked the electronic technology continuance model assimilating a psychological factor like perceived threats, e-satisfaction, circumstantial factor like perceived anxiety, and quality dimensions. The influences of information quality, service quality, system quality, perceived usefulness, and confirmation on both e-satisfaction and continuance intention are found positive. However, perceived threats and perceived anxiety do not influence e-satisfaction but influence continuance intention. The findings of this research can guide MPA services providers, online businesses, industry analysts, suburban consumers, and respective government authorities when MPA usage is concerned during exceptional crisis of the Covid-19 pandemic.

THEORETICAL BACKGROUND

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was established by Davis (1989) as an information systems theory that signifies the way users accept and adopts a new technology. The model suggests two main factors, perceived usefulness (PU) and perceived ease of use (PEOU) are the main factors that influence users' decision to adopt the new technology. PU is the extent to which a user perceives that using a specific system would improve their job performance and PEOU is the extent to which a user believes that using a particular system would be free from effort (Davis 1989).

Mobile wallet is a current disruptive technology in India and users have adopted them for online mode of payment due to the Covid-19 pandemic.

Earlier studies have used TAM to forecast the intentions to use mobile wallet technology (Lew et al., 2020; Chawla and Joshi, 2020). Karim et al. (2020) studied e-wallet adoption among the youth using extended TAM. Their findings showed that perceived usefulness, perceived ease of use, and privacy and security had a positive and significant relationship with the behavioral intention to use e-wallets. Pertiwi et al. (2020) investigated the perceived usage of the young generations on e-wallets based on TAM. Their results showed that perceived usefulness and perceived ease of use had a positive significant impact on behavioral intention to use which in turn had a positive significant impact on perceived usage.

Hasan and Gupta (2020) studied the determinants of behavioral intentions to use M- payment with an extended TAM model by tourists. The results showed that trust followed by compatibility had a more significant influence on the behavioral intention to use by tourists. Gautam et al. (2020) studied consumer intentions on using M-wallets by TAM in North India. Their findings showed that PEOU, PU, and Attitude were found to be significantly associated and had a positive linear relationship with the behavioral intentions whereas perceived security was not having a positive linear relationship with the behavioral intentions since security is an integral feature of Mobile wallets.

Sarmah et al. (2021) used the TAM model with trust as an added variable to study the acceptance of mobile wallets. The authors found PEOU had a significant positive relationship with perceived usefulness followed by PEOU also showed a significant positive relationship with behavioral intention, and finally trust established a significant positive relationship with actual use. Singh and Ghatak (2021) also employed an extended TAM with the variables like risk, cost, compatibility, usefulness, ease of use, behavioral intention to use, actual usage, etc. for analyzing the use of mobile wallets among Indian consumers.

Senali et al. (2022) employed extended TAM in to test the influences of product-related factors viz. perceived risk, perceived compatibility, and perceived emotions on e-wallet adoption. The authors also investigated the moderating effects of personal innovativeness and propensity to trust. The result revealed that personal innovativeness negatively moderates the influence of perceived compatibility on the intention to adopt e-wallets and positively moderates the influence of perceived emotion on the intention to adopt e-wallets. Propensity to trust positively moderates the influences of perceived usefulness and perceived ease of use and negatively moderates the influence of compatibility on the intention to use e-wallets.

Thirupathi M et al. (2022) used the integration of TAM and the Unified Theory of Acceptance and Use of Technology (UTAUT) models to determine the factors influencing the acceptance of mobile wallets and financial inclusion in India. Technology, safety, and social related factors of TAM and UTAUT models were taken in this study with two additional factors that are economic and Government insisting factors to analyze the adaptation of mobile wallets in Tamil Nadu. The authors found that Government has mainly insisted on the public accepting the mobile wallet in India. This study also examined the risk and security issues of mobile wallets. Candy et al. (2022) analyzed the level of adoption of the mobile payment app (ShopeePay) by utilizing the TAM component with the added variable of perceived Covid19 risk. The findings showed a significant influence between perceived usefulness and ease of use on behavioral intention to use M-payment. Whereas perceived Covid-19 risk was not found significant impact on behavioral intention.

Expectation-confirmation model (ECM)

The Expectation-Confirmation Model (ECM) is used to examine the continuous usage of the technology and not focused on the initial acceptance (Bhattacharjee, 2001). The ECM contains four major variables, viz. confirmation, perceived usefulness, satisfaction, and continuance intention. Perceived usefulness and satisfaction denote the vital concepts of the individual and have been extensively used in the area of information systems. Satisfaction reveals the aggregate feelings established with the service provider's interaction. Perceived usefulness signifies post-consumption beliefs. Confirmation denotes the degree to which users recognize that their initial expectations of the technology are fulfilled during its actual usage (Bhattacharjee, 2001). Confirmation is the users' initial expectations of the suitability of the technology with its actual performance (Hossain and Quaddus; 2012). Confirmation centers on technology's pre-acceptance as expectations can change over time (Bhattacharjee; 2001). Perceived usefulness examines user adoption of novel technologies for the first time and continuance usage intention. Perceived usefulness and confirmation from earlier usage significantly impact users' satisfaction in adopting and using technologies. Confirmation also influences perceived usefulness. Perceived usefulness and user satisfaction consequently result in continuance usage intention (Bhattacharjee; 2001).

Singh (2020) used a unified model with the UTAUT framework and ECM along with two further constructs: perceived security and trust. The findings showed that satisfaction, trust, performance expectancy, and effort expectancy had a significant impact on the continued intention of mobile payment systems.

Sreelakshmi and Sangeetha (2020) proposed an integrated framework of mobile payments adoption by incorporating the health belief model (HBM) and ECM of information system continuance. The study found that perceived severity, perceived susceptibility, and self-efficacy significantly influenced mobile-based payment adoption. The findings also showed that continuance intention was significantly impacted by perceived usefulness and perceived satisfaction. Moreover, perceived health threat including perceived severity and perceived susceptibility influences continuance intention indirectly through confirmation, perceived usefulness, and satisfaction.

Jumaan et al. (2020) used ECM to examine how users' cognitive absorption (CA) affects their continued use of mobile Internet services. The findings showed that mobile Internet users' continuance intentions were significantly impacted by perceived usefulness, satisfaction, and CA. CA strongly influenced satisfaction. Franque et al. (2021) investigated the continuance intention to use m-payment with two theoretical models which are the success model of DeLone and McLean (1992) and ECM in an African context. Their results indicated that the significant factors of continuance intention to use m-payment are individual performance, use, and satisfaction. Satisfaction is the most significant factor for using m-payment. System quality was not found significant for any of the proposed relationships (use, satisfaction, and confirmation). Their findings indicated in the post-adoption stage the quality of the system is not imperative. Noviasari et al. (2021) studied the ECM model with its constructs with the addition of the trust construct.

The findings showed that confirmation affects perceived usefulness, satisfaction, and trust whereas perceived usefulness was found no influence on continuance intention to use e-wallets.

Daragmeh et al. (2021) investigated consumers' continued usage of an e-wallet service through an integrated framework based on two established models the Health Belief Model (HBM) and the Technology Continuous Theory (TCT). The findings revealed that the Covid-19 pandemic intensely affected the e-wallets usage and consumer self-efficacy was an vital factor influencing their continued usage. Puriwat and Tripopsakul (2021) proposed an integrated Expectation-Confirmation and Health Belief Model for explaining the adoption and continuance intention to use contactless technologies. The results showed that the model had a strong explanatory power in predicting continued usage intention of contactless technologies during the pandemic, perceived susceptibility and perceived seriousness had significantly positively influenced continued usage intention, and perceived susceptibility. These results implied that users know the benefit of contactless technologies and that they can lessen their chances of coming into contact with alleged surfaces.

Dhia and Kholid (2021) identified the factors by adjusting the ECM by adding the Perceived Risk and Trust variables. The findings indicated that Perceived Usefulness, Satisfaction, and Trust had a significant positive effect on users' intentions to continue using E-Wallet. Whereas, confirmation had a positive and significant impact on perceived usefulness and trust, though no effect on Satisfaction and Perceived Risk. Karim et al. (2022) investigated consumers' continued usage of a mobile wallet through the integration of two established models of Technology Readiness and ECM. The results showed that technology readiness, confirmation expectation, users' satisfaction, and perceived security are the main factors that influence the consumers' continued usage of a mobile wallet.

Savitha et al. (2022) extended the ECM framework by integrating it with the theory of acceptance that comprises cognitive acceptance (trust in service providers), behavioral acceptance (willingly participating in co-creating services), and normative acceptance (social influence) in explaining continuance intention to use P2P FinTech payment apps. The findings showed that confirmation of prior expectations and post-adoption perceived usefulness determine continuance intention to use FinTech payment services. Trust and social influence influenced behavioral acceptance and continuance intentions. Confirmation of initial expectations also had a impact on satisfaction and post-purchase perceived usefulness.

Daragmeh et al. (2022) focused on the study of consumers' continuous intentions to use e-wallet service using extended Expectation Confirmation Model (ECM). The findings revealed that satisfaction, trust, and perceived usefulness had a significant influence on consumers' continuous intention to use e-wallets. This study also found that perceived security had an insignificant influence on consumer satisfaction. This study highlighted that e-wallet providers should developed their services in terms of privacy, and security, performance to guarantee customer loyalty.

Gunawan et al. (2022) matched the effect of strategic entrepreneurship through different innovation methods between two prominent digital multi-sided platforms (MSP) e-commerce startups that are Bukalapak and Shopee. Bukalapak used an incremental innovation approach and Shopee used a radical innovation approach to tackle the challenge during the Covid-19 pandemic. The research used an extended ECM from a customer point of view to examine the effect of the innovation efforts. The results also showed that perceived enjoyment and satisfaction engagement positively influenced continuance intention. However, customer engagement is insignificant on continuance intention in the Bukalapak case, while it is significant in the Shopee case.

Sleiman et al. (2022) merged UTAUT2 and ECM models to elucidate the key factors influencing the initial acceptance of m-payment in Sudan.

The findings showed that expectancy confirmation, performance expectancy, satisfaction, effort expectancy, social influence, facilitating condition, and habit were found statistically significant factors in influencing continuance intention to use mobile payment in Sudan. Confirmation expectations positively influenced user satisfaction and performance expectations. Furthermore, performance expectancy, directly and indirectly, influenced continuance intention to use mobile payment. This result indicated that more complex technology had less intention to continue using it in the future. Furthermore, effort expectancy, directly and indirectly, influenced the continued intention to use mobile payments in Sudan.

This showed that the easier it is to use mobile payments, the more probable that people will keep using them.

Widiantoro et al. (2023) examined the acceptance of mobile payment services by using an amended ECM model with Trust. The model stated the effect of the trust of customers on their satisfaction in using mobile payment services and their continuance intention to use. The results of the analysis revealed that customers' trust is a significant variable to enhance customers' satisfaction and continuance intention in using mobile payment services. Trust and Confirmation had a direct effect on Perceived Usefulness. Additionally, both Perceived Usefulness and Trust will create consumers feeling gratified and inclined to continue their intention to use mobile payment services.

HYPOTHESES DEVELOPMENT

Perceived trust is defined as an emotive state that inspires one to trust another, which depends on the satisfactory behavior of the other (Singh and Sinha; 2020). Perceived trust is a key factor in technology adoption and supports firms to form strong customer relationships (Reichheld and Schefter, 2000). Numerous kinds of research conducted in the field of technology adoption highlighted the importance of trust as an instrument to enhance customer relationships, and increase the credibility and perceived security of the system (Liébana-Cabanillas et al., 2018). Merchants must understand various technological innovations, which might consider favorable or unfavorable, but enhance or diminish trust in the system and ultimately influence intention to use technology (Morgan and Hunt, 1994; Ehrenhard et al., 2017). Norman Shaw (2014) highlighted that when dealing with payments, consumers expect that money will be exchanged for a product or service in a dependable manner. They must trust that the transaction will be completed according to expectations and that any data shared will not be shared with inappropriate parties.

Hayashi and Bradford (2014) confirmed in their study that the majority of merchants believed trust to be an important attribute of mobile payments; results confirm that merchants are concerned about security and privacy issues of a system and believe that such issues affect the trust of the merchant and consumers on mobile wallet service. Hence, it is hypothesized:

H1: Perceived Trust positively influenced Continuance Intention to use mobile wallets.

Jain et al. (2022) emphasized trust as a moderator of the negative influence driven by the perceived risk of using mobile payment services. Trust is often defined as a subjective belief that a party will fulfill their obligations (Lu et al., 2011), and that service providers perform a particular action that is important to their customers (Fang et al., 2011). Wang and Lin (2017) suggested that trust originates from the implicit relationship between customers and service providers. They argued that customers will develop trust if service providers perform actions for customers' benefit and found their personal information protected. Perceived trust positively moderates the impact of risk propensity on the intention to disclose personal information in mobile payment apps. (Le et al.; 2022). Perceived trust will strengthen the impact of risk propensity on consumers' intention to disclose personal information and negatively influence the impact of risk perception on consumers' intention to disclose personal information in mobile payment apps. In that case, mobile payment service providers will need to boost consumers' perceived trust to persuade them to disclose their personal information and continue to use mobile payment apps in the post-pandemic period (George and Sunny, 2022).

Individuals who have high levels of risk perception are more uncertain about the negative consequences of their behaviors (Herrero & San Martin, 2012). Individuals with low levels of perceived trust are less likely to have an intention for their consumer behaviors. The logic embedded in this argument is that under the interaction between high levels of risk perception and low levels of perceived trust, consumers will be more unlikely to intend to do what they are considering in uncertain or risky contexts and vice versa (Le M.T. et al., 2022).

Hence, it is hypothesized:

H2: Perceived Trust moderates the relationship between Perceived Risk and Continuance Intention to use mobile wallets.

Dahlberg et al. (2015) pointed out that perceived ease of use is the most important and widely used factor in evaluating the adoption rate of mobile payment.

Perceived ease of use is considered to be the most important construct that influences users' decisions to adopt new technology (Luna et al., 2019).

Kim et al. (2010) pointed out that in order to avoid the poor usage rate of mobile payment, the system should be easy to learn and easy to use.

Chen and Lai (2023) pointed out that the user interface of mobile payment systems and apps should be simple and easy to use. The operation process needs to be smooth and does not require too many skills. Hence it is hypothesized that perceived ease of use affects the user's decision whether to adopt or continue to use mobile wallets.

H3: Perceived Ease of Use positively influenced Continuance Intention to use mobile wallets.

Perceived risk denotes to the degree of estimated uncertainty related to the consequence of using a particular technology (Tan & Lau, 2016). Featherman and Pavlou (2003) highlighted that perceived risk is a strong constraint of e-services adoption intention. The findings of Amoroso and Magnier-Watanabe (2012) showed that behavioral intention to adopt mobile banking and mobile wallets is impacted by perceived risk and perceived security. Yang and Forney (2013) highlighted that the usage of mobile wallets as a medium of financial transaction contributes to perceived risk similar to the case of online transactions.

Zhou (2013) highlighted that consumers observe mobile wallets to be unsafe when compared to offline transactions regarding the concern related security of financial transactions medium and the information stored in the wallets. Yang (2015) highlighted that customers believe the service providers to safeguard their privacy by not sharing their private information with other parties in the case of mobile payment services. Customers are frequently concerned that their personal evidence would be collected by mobile payment systems and shared with other individuals (Keith et al., 2015). If the customer observes a security breach, then he would recognize a greater risk in using mobile wallet services (Gao and Waechter, 2017). Penney et al. (2021) highlighted that perceived risk diminishes adoption intentions of mobile money services by individuals. Xaviera and Zakkariya (2021) also suggested that perceived risk had a significant negative impact on continuance intention to use mobile wallets, and thereby the following hypothesis is postulated:

H4: Perceived Risk negatively influenced Continuance Intention to use mobile wallets.

According to Venkatesh et al. (2003), subjective Norm (SN) is the opinion of reference groups to use a specific innovation. SN replicates the influence of environmental factors such as the opinions of a user's family, friends, and

subordinates on his or her behavior (Baptista & Oliveira, 2015) As per the research done by Sleiman et al. (2021), subjective norm is one of the significant factors that affect individual behavior. Ajzen (1991) also suggested that user behavior can be impacted by external factors and motivation to make decisions as per the desires of the references (Ajzen, 1991).

Subjective norm is a significant variable to influence the intention to continuously use and the higher propensity of being motivated by reference groups on mobile wallet services (Alalwan et al., 2017, Ariffin et al., 2021). Subjective norm was found to have a positive and significant influence on continuance intention to use mobile wallets (Ariffin et al., 2021). Hence, the following hypothesis can be proposed.

H5: Subjective Norm positively influenced Continuance Intention to use mobile wallets.

Earlier researchers (Bhattacharjee 2001; Davis et al. 1989) highlighted that perceived usefulness (PU) is the perception of the user about the expected benefits of using a particular technology. Lim et al. (2019) and Sreelakshmi and Prathap (2020) found the positive influences of PU on user satisfaction and continuance intention to use mobile payment applications. Earlier researchers (Shin et al., 2017; Joo et al., 2018; Franque et al. 2021) also found that perceived usefulness influences user satisfaction and increases continuance intention to use the technology. Daragmeh et al. (2022) highlighted that users feel satisfied with the benefits experienced by them the e-wallet. Users continue using e-wallets with more experienced satisfaction with their usage. Therefore, the following hypothesis is developed:

H6: Perceived usefulness positively associated with their satisfaction with the mobile wallets.

Bhattacharjee (2001) highlighted that confirmation is the perception of the customers related to the similarity between the belief about the technology use and its actual performance. Confirmation occurs when perceived performance resulting from a given service meets the initial expectations of the customers that might have an influence on perceived usefulness, e-satisfaction, and continuance intention (Bhattacharjee 2001; Franque et al. 2021). Al Amin et al. (2022) and Franque et al. (2021) found positive influences of confirmation on perceived usefulness and satisfaction in the context of mobile payment. Franque et al. (2021) highlighted that confirmation of belief in the usage of mobile payment will increase the user's satisfaction and perceived usefulness of the technology. Hence, the following hypotheses can be developed.

H7: Users' extent of confirmation is positively associated with perceived usefulness of the technology.

H8: Users' extent of confirmation is positively associated with their satisfaction with the mobile wallet technology.

Satisfaction denotes relaxed feelings by an individual using m-payment services because of their user experiences and performance results. It is the best determinant to improve the continuance intention of the service (Franque et al. 2021). Satisfied customers will continue using their existing online payment system and suggest other people use it. Earlier researchers (Phuong et al.; 2020; Daragmeh, 2021; Sleiman, 2022) found that satisfaction is the belief of the customers that how effectively, mobile wallets services handle financial transactions and develop their ability to do similar kinds of future transactions. When the customers are satisfied with e-wallet services, they certainly continue using the services for future payments ((Franque et al., 2021; Ariffin, 2021; M Al Amin, 2023). Hence, the following hypothesis is proposed:

H9: Users' satisfaction with the mobile wallet is positively associated with their continuance intention.

RESEARCH METHODOLOGY

Measurement

The present study followed a quantitative survey approach. The data were collected from the students studying postgraduate courses in leading private universities situated in the south region of India. Gift was also presented to the respondents during data collection for participation. The measurement items were selected up from previous studies. Five items of perceived usefulness (PU) were from the scale of Davis (1989), six items of perceived ease of use (PEOU) were also adapted from Davis (1989), three items of continuance intentions (CUIs) were picked from Mathieson (1991); Bhattacharjee, (2001), three items of Subjective norm (SN) were adapted from the scales of Taylor and Todd (1995); Belanche et al. (2011). Each of the three items of confirmation (CON) and satisfaction (SAT) were adapted from Bhattacharjee, (2001). Scales of perceived trust (PT) were adapted from Jarvenpaa et al. (2000) and McKnight et al. (2002). Seven items of perceived risks (PR) were adapted from Lu et al. (2005). During the measurement of reliability and validity, a few items of the constructs were deleted before the final analysis due to poor

factor loadings such as one item of perceived ease of use (PEOU3) and two items of perceived risk (PR6 and PR7). All these items were measured on a five-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree).

Sample and data collection

The data were collected from undergraduate and postgraduate students using offline and online questionnaire-based survey methods.

Before actual data collection, the survey items were distributed to the professors of reputed universities to verify the quality of the contents and their face validity.

The screening of the questionnaire was done based on the awareness of mobile wallets among the respondents. For the offline survey, the researcher visited students of private universities in south India. Chauhan et al. (2017) highlighted that the number of mobile wallets users are growing and a high percentage of the online financial transaction was done by Indian youth in the past few years. Mobile wallets in India have become increasingly popular among people of all age groups. According to the Reserve Bank of India (RBI) report (2022), the usage of mobile wallets is spread across all age groups, with a majority of users falling in the age group of 20 to 30 years. Therefore, students of universities were targeted for the data collection. A questionnaire-based survey was also created online at www.qualtrics.com. The survey URL was then forwarded to the students.

A genuine response rate of 90.75% resulted from the 576 surveys we got in 60 days being discarded as worthless after 26 of them. The study concentrated on current and potential users of financial apps. Therefore, the 550 complete responses were used in the statistical evaluation.

The characteristics of the sample are given in Table 1.

Data Analysis

This study examines determinants of continuance intention to use mobile wallets using a simultaneous causal model with interaction effects between manifest and latent variables. Partial Least Squares (PLS) is a method of Structural Equation Models (SEM) that permits researchers to examine the relationships all together. It is interesting to compare and contrast this approach in analyzing mediation relationships with the regression analysis (Nur Ainna Ramli et al., 2019).

The reasons for using Smart PLS 4 in this study are that it is a very attractive graphical output. Thus, this tool will support the researcher in understanding the responses of the research participants, in order to draw reliable and cohesive conclusions (Dash and Paul; 2021).

RESULTS AND DISCUSSION

Descriptive statistics

The sample demonstrates the responses collected from the students of higher education institutions pursuing graduation and post-graduation. Table 1 displays the demographic information of the respondents. The table shows that data contain 60.90% of the males while males are only 39%. Furthermore, 79.6% of the students are below 30 years. In terms of educational qualifications, 56.72% of the students are post-graduate, 22.36% of the students are graduates and 20.90% of the students are undergraduates. The annual income of the majority of the participants is below 5 lacs i.e. 48.18%. The majority of the participants are unmarried i.e. 84.54%. Most of the respondents are using Google Pay followed by Phone Pay, Paytm, BHIM Axis Pay, Amazon Pay, and Mobikwik.

Table 1. Demographic Information

Characteristics	Category		Percentage
Gender	Male	335	60.90
	Female	215	39.09
Age	Below 30	438	79.64
	Above 30	112	20.36
Education Qualification	Graduate	123	22.36
	Post-graduate	312	56.72
	Under-graduate and below	115	20.90
Annual Income Level	Below 5 lakhs	265	48.18
	5.1 to 10 lakhs	114	20.72
	10.1 to 20 lakhs/	90	16.36
	Above 20 lakhs/	81	14.72
Marital Status	Un-married	465	84.54
	Married	85	15.45
Family Size	Less than 4	125	22.72
	5 to 6	245	44.54
	More than 6	180	32.72
Type of Mobile Wallet Apps used	Google Pay	120	21.81
	Phone Pe	108	19.63
	Paytm	90	16.36

	BHIM Axis pay	72	13.09
	Amazon pay	60	10.90
	Mobikwik	52	9.45
	HDFC PayZapp	23	4.18
	Samsung Pay/ Apple Pay	15	2.72
	WhatsApppp Pay	10	1.81

The assessment of PLS-Structural equation modeling results involves a two-step approach. These are an evaluation of the measurement models and an assessment of structural models (Hair et al., 2017). PLS-SEM is considered a suitable approach in the case of exploratory-based research (Hair et al., 2019). In PLS-SEM, the quality of the measures (Measurement Model) is tested and next the interrelationship between the variables (Structural Model) is tested. Measurement Model includes an assessment of the Quality of the Constructs including reliability and validity. Construct reliability is the assessment of the internal consistency of the constructs using measures like Cronbach's Alpha and Composite Reliability.

Construct Validity is the assessment of whether a scale measures the concept that it is intended to measure. Construct validity is measured by establishing Convergent and Discriminant Validity. Convergent validity is established when items in a particular measure converge to represent the underlying construct. Statistically convergent validity is established when Average Variance Extracted (AVE) is above 0.50. Discriminant validity used to determine the uniqueness of the constructs in the study. Discriminant validity in SMART-PLS is checked through Fornell and Larcker Criterion, Cross Loadings, and Heterotrait-Monotrait (HTMT) Ratio.

The structural model is used for assessing the inter-relationship between the variables. The inter-relationship may have a direct relationship between the independent variable and dependent variables, mediation analysis with a mediator in the relationship between two variables, or moderation analysis with a third variable having an interaction effect on the existing relationship between two variables.

Measurement Model Assessment

Goodness of fit index

The goodness of fit indices is considered a diagnostic tool to determine how the gathered information fits with the proposed theoretical model (Henseler et al., 2016). Extant studies reported the use of standardized root mean square residual (SRMR) as a suitable measure of model fit in PLS-SEM literature (Henseler et al., 2016; Farooq et al., 2017). The value of SRMR 0.08 is acceptable for PLS path models (Hu and Bentler, 1999). In this study, the overall result of SRMR was 0.057, indicating that the model was acceptable. The model developed for the study contains reflective constructs hence measurement model involves the evaluation of indicator reliability and internal consistency reliability.

The Convergent and discriminant validity of the constructs is also checked.

To measure the reliability of each item, the factor loading should be measured. According to Hair et al. (2019), a threshold value of 0.7 or above for each item's loading is considered reliable. Based on Table 2, all the item's loading is above 0.7. One item of perceived ease of use (PEOU3) is removed from the model whose factor loading is below 0.7.

Table 2. Standardized CFA factor loadings (Outer Loadings in PLS Algorithm)

Constructs	Items (code)	Loadings (λ)	Mean/SD	α	rho_a	AVE
Perceived Usefulness (PU)	Using a mobile wallet would be useful (PU1)	0.871	3.80/1.15	0.953	0.924	0.809
	Using a mobile wallet would be more convenient for me (PU2)	0.921	3.79/1.21			
	Using mobile wallet apps enable me to accomplish financial transactions more quickly. (PU3)	0.922	3.78/1.01			
	Using mobile wallets apps would improve my performance in conducting financial transactions (PU4)	0.907	3.83/1.17			
	Using this mobile wallets apps makes my finance related decision making processes easier for me (PU5)	0.874	3.71/1.10			

Perceived Ease of Use (PEOU)	Learning to use this mobile wallets apps was very easy process (PEOU1)	0.899	2.81/1.36	0.935	0.931	0.795
	It is to accomplish my intended tasks using this mobile wallets apps (PEOU2)	0.856	3.25/1.21			
	My interaction with the mobile wallets apps is clear and understandable (PEOU3)	0.550	2.97/1.22			
	Mobile wallets apps offers me customization features (PEOU4)	0.872	3.13/1.13			
	It is easy to become skillful at using this mobile wallets apps (PEOU5)	0.910	3.02/1.22			
	Mobile wallets apps is easy to use (PEOU6)	0.919	3.03/1.29			
Confirmation (CON)	My experience with using Mobile wallets apps was better than what I expected (CON1)	0.837	2.84/1.15	0.807	0.917	0.721
	The service level provided by mobile wallet apps was better than what I expected (CON2)	0.873	2.90/1.08			
	Overall, most of my expectations from using mobile wallet apps were confirmed (CON3)	0.836	2.89/1.08			
Continuance Intention (CUI)	I intend to continue using this mobile wallets apps in the future. (CI1)	0.890	3.34/1.12	0.874	0.874	0.799
	I will always try to use this mobile wallets apps in my daily life. (CI2)	0.895	3.17/1.14			
	I will strongly recommend this mobile wallets apps others to use it. (CI3)	0.897	3.23/1.15			
Subjective Norms (SN)	People who are important to me think that I should use mobile wallet apps (SN1)	0.936	3.64/1.04	0.890	0.990	0.810
	People whose opinions I value prefer that I use mobile wallet apps when carrying out transactions (SN2)	0.908	3.16/1.23			

	People who influence my behaviour think that I should use mobile wallet apps (SN3)	0.854	3.48/1.04			
User Satisfaction (SAT)	How do you feel about your overall experience of MVAS? use: Very dissatisfied/Very satisfied.	0.902	3.22/1.02	0.916	0.918	0.856
	How do you feel about your overall experience of MVAS? use: Very displeased/Very pleased.	0.925	3.25/1.25			
	How do you feel about your overall experience of MVAS? use: Very frustrated/Very contented.	0.947	3.18/1.03			
Perceived Trust (PT)	Mobile wallet app has adequate features to protect my privacy and security (PT1)	0.856	3.640/1.06	0.896	0.779	0.824
	Mobile wallet app is trustworthy (PT2)	0.787	3.673/1.16			
	Mobile wallet app keeps my personal data safe (PT3)	0.810	3.720/1.13			
Perceived Risk (PR)	Mobile wallet app has led to waste of money (financial risk) (PR1)	0.808	3.654/1.12	0.953	0.914	0.745
	Mobile wallet app might contain any harmful components such as malware / spyware / adware (physical risk) (PR2)	0.726	3.148/1.11			
	Mobile wallet app has not delivered to my expectations (functional risk) (PR3)	0.912	3.012/1.14			
	There are better alternatives at this moment for the Mobile wallet app that I am currently using (opportunity cost risk) (PR4)	0.918	3.287/1.02			
	I am not able to fully explore all the features of this Mobile wallet app (information risk) (PR5)	0.935	3.541/1.14			

To establish internal consistency reliability, Cronbach’s alpha and composite reliability (ρ_a) should be higher than 0.7 (Hair et al., 2019). Dijkstra & Henseler (2015) proposed ρ_A as an approximately exact measure of construct reliability, which usually lies between Cronbach’s alpha and composite reliability. The value

of all three reliability measures are shown in Table 4. All the items are reliable and satisfy the set criteria of constructs reliability measures.

For establishing discriminant validity, the Fornell-Larcker criterion, cross-loadings, and the Heterotrait-Monotrait Ratio should be evaluated. In the case of the Fornell-Larcker criterion, the square root of AVE (diagonal values) should be above the correlation of latent variables, which is met in the current study as shown in Table 3. In the case of cross-loadings, the loadings of each item should be higher than the loading of its corresponding variables' items. This criterion is fulfilled as shown in Table 4.

In the case of the Heterotrait-Monotrait Ratio (HTMT), a value less than 0.85 or 0.90 for HTMT should be confirmed. The threshold value of HTMT as a measure of discriminant validity should be less than 0.90 (Henseler *et al.*, 2015).

Table 5 shows that HTMT criteria are met, thus indicating that discriminant validity is established for all the constructs.

Table 3. Fornell-Larcker Criterion Results

	CON	CUI	PEOU	PR	PT	PU	SAT	SN
CON	0.849							
CUI	0.358	0.894						
PEOU	0.318	0.393	0.891					
PR	-0.196	-0.213	-0.388	0.863				
PT	0.391	0.522	0.451	-0.124	0.908			
PU	0.266	0.409	0.393	0.092	0.425	0.899		
SAT	0.248	0.369	0.183	0.121	0.371	0.732	0.925	
SN	0.107	0.226	-0.001	0.265	0.197	0.603	0.809	0.90

Table 4. Cross-Loadings Results

	CON	CUI	PEOU	PR	PT	PU	SAT	SN
CON1	0.837	0.343	0.267	-0.202	0.341	0.211	0.202	0.08
CON2	0.873	0.289	0.268	-0.173	0.368	0.249	0.247	0.134
CON3	0.836	0.283	0.28	-0.122	0.276	0.213	0.173	0.048
CUI1	0.307	0.89	0.342	-0.2	0.465	0.351	0.337	0.204
CUI2	0.333	0.895	0.344	-0.137	0.468	0.397	0.357	0.242
CUI3	0.319	0.897	0.368	-0.234	0.468	0.348	0.295	0.159
PEOU1	0.292	0.349	0.899	-0.389	0.437	0.353	0.169	-0.009
PEOU2	0.188	0.286	0.856	-0.343	0.324	0.282	0.103	-0.018
PEOU4	0.276	0.354	0.872	-0.304	0.421	0.366	0.205	0.032
PEOU5	0.313	0.363	0.91	-0.344	0.422	0.389	0.171	0.011
PEOU6	0.329	0.387	0.919	-0.352	0.396	0.353	0.157	-0.021
PR1	-0.158	-0.155	-0.231	0.808	-0.076	-0.091	-0.055	0.048
PR2	-0.1	-0.112	-0.262	0.726	-0.11	-0.034	-0.023	0.079
PR3	-0.167	-0.178	-0.365	0.912	-0.081	0.181	0.205	0.331
PR4	-0.182	-0.208	-0.352	0.918	-0.117	0.156	0.178	0.302
PR5	-0.212	-0.232	-0.421	0.935	-0.144	0.107	0.134	0.293
PT1	0.345	0.465	0.399	-0.083	0.895	0.377	0.322	0.159
PT2	0.367	0.503	0.415	-0.153	0.928	0.395	0.347	0.194
PT3	0.35	0.451	0.415	-0.098	0.899	0.385	0.341	0.185
PU1	0.231	0.353	0.356	-0.02	0.358	0.871	0.662	0.438
PU2	0.215	0.367	0.327	0.143	0.388	0.921	0.698	0.54
PU3	0.272	0.336	0.38	0.068	0.38	0.922	0.687	0.523
PU4	0.231	0.394	0.338	0.165	0.392	0.907	0.638	0.626
PU5	0.246	0.395	0.368	0.058	0.396	0.874	0.599	0.592
SAT1	0.214	0.327	0.152	0.051	0.3	0.641	0.902	0.671
SAT2	0.22	0.353	0.169	0.158	0.365	0.701	0.925	0.787
SAT3	0.253	0.343	0.186	0.121	0.362	0.687	0.947	0.782
SN1	0.149	0.254	0.028	0.222	0.222	0.581	0.589	0.936
SN2	0.077	0.197	0.012	0.214	0.182	0.528	0.479	0.908
SN3	0.007	0.1	-0.097	0.345	0.069	0.508	0.619	0.854

Table 5. Heterotrait-Monotrait ratio (HTMT) Results

HTMT	CON	CUI	PEOU	PR	PT	PU	SAT	SN
CON								
CUI	0.427							
PEOU	0.362	0.432						
PR	0.219	0.23	0.41					
PT	0.455	0.59	0.491	0.134				
PU	0.303	0.452	0.417	0.147	0.464			
SAT	0.284	0.412	0.195	0.152	0.409	0.787		
SN	0.102	0.23	0.058	0.295	0.195	0.653	0.841	

Structural Model Assessment

Structural model assessment includes the coefficient of determination R^2 , blindfolding-based cross-validated redundancy measure Q^2 , and the statistical significance of path coefficients. R^2 is called a measure of the model's explanatory power which is in-sample predictive power (Rigdon, 2012). R^2 values of 0.75, 0.50, and 0.25 are considered substantial, moderate, and weak (Hair et al., 2019). As shown in Figure 2, the model has an R^2 value of 36.20% for continuance intention, 0.07% for perceived usefulness, and 53.9% for user satisfaction. This indicates 36.2% of the variance in continuance intention (CUI) is explained by independent variables (perceived trust, perceived ease of use, perceived risk, confirmation, and satisfaction). Common method bias was checked through a full collinearity test suggested by Kock N. (2015). All factor level or inner VIF values are lower than 3.3, hence the model is considered free of common method bias.

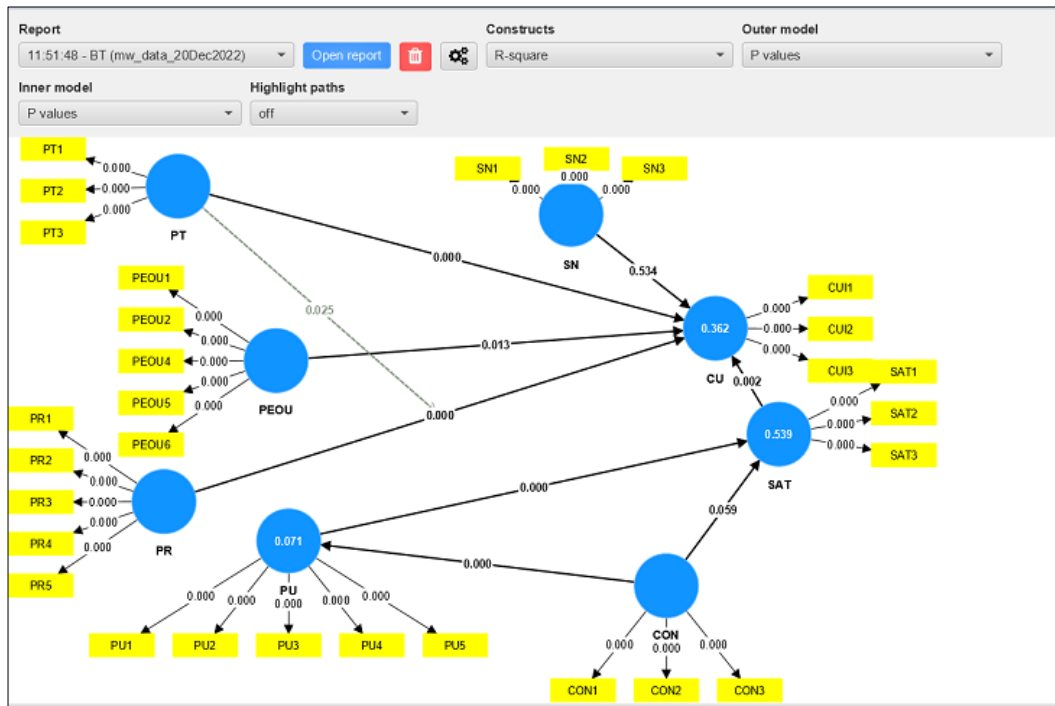


Figure 2. Path Analysis Results

Multi-collinearity issues must be observed before evaluating the structural relationships to make sure it does not bias the regression results. Variance inflation factor (VIF) values of above 3 indicate probable multi-collinearity problems among the predictor variables (Becker et al., 2015, Hair et al., 2019).

Table 6 shows that VIF values of all the items of the constructs are below 3, hence multi-collinearity is absent in the data.

Table 6. Collinearity Statistics (VIF Values)

Items	VIF
CON1	1.718
CON2	1.758
CON3	1.783
CUI1	2.282
CUI2	2.361
CUI3	2.428
PEOU1	3.495
PEOU2	2.742
PEOU4	2.827

PEOU5	2.684
PEOU6	2.939
PR1	2.741
PR2	2.198
PR3	2.361
PR4	2.676
PR5	2.902
PT1	2.454
PT2	2.104
PT3	2.632
PU1	2.973
PU2	2.508
PU3	2.164
PU4	2.277
PU5	2.076
SAT1	2.796
SAT2	2.372
SAT3	2.294
SN1	2.542
SN2	2.644
SN3	2.606

Another way to assess the PLS path model's predictive accuracy is by calculating the Q^2 value (Stone, 1974) as shown in Table 7. This measure is based on a blindfolding procedure that combines aspects of out-of-sample prediction and in-sample explanatory power (Sarstedt et al., 2016). Small differences between predicted and original values give higher Q^2 values, therefore indicating higher predictive accuracy. According to Hair et al. (2019), Q^2 values should be larger than zero for the specific endogenous construct to indicate its predictive accuracy in the structural model. Table 7 shows that the endogenous construct, "continuance intention" has a Q^2 value of 0.324, which is moderate, and other endogenous constructs, "perceived usefulness" and "satisfaction" has Q^2 values of 0.067 and 0.057 respectively. Both values are larger than zero, indicating the predictive accuracy of the structural model. Furthermore, the effect size analysis revealed that perceived trust (PT) is the most important factor in determining continuance intention to use mobile wallets in the post-pandemic period.

Table 7. Q- Square, F-Square and R-Square

Predictor(s)	Outcome(s)	R-Square	F-Square	Q-Square
PEOU	CUI	0.362	0.014	0.324
PR			0.024*	
PT			0.126*	
SAT			0.014	
SN			0.001	
PT × PR			0.011	
CON	PU	0.071	0.076*	0.067
CON	SAT	0.539	1.035*	0.057
PU			0.007	

In terms of path analysis, Figure 2 and Table 8 demonstrate the path coefficients and p-values for each hypothesis. It is observed that except hypotheses 5 and 8 (H5 and H8), other hypotheses (H1, H2, H3, H4, H6, H7, and H9) are supported. H1 ($b= 0.343$, $p<0.05$) indicates the path between perceived trust and continuance intention was found significant. This finding coincides with the result of the study done by Denaputri and Usman (2020) that trust has been a motivating force in buyer-seller transactions, providing long-lasting high expectations to the customers regarding the fulfillment of business relationships. The absence of consumer trust is the greatest long-standing challenge for the growth of mobile financial systems. Sarmah et al. (2021) found trust as a very vital variable to be focused upon by the companies, since, a consumer will only make use of the e-wallet technology when they have trust in the producer of such products.

H3 ($b=0.116$, $p<0.05$) indicates the path between perceived ease of use and continuance intention to use a mobile wallet is found significant. This finding is consistent with Ariffin et al. (2021) that perceived ease of use was found to be a crucial factor in the intention to use mobile cloud storage services. The customer will surely intend to use any technology if the effort required is less. Phuong et al. (2020) advised that mobile wallet providers should improve their platform design and services to retain users during the pandemic. These findings coincide with Chaveesuk et al. (2022), customers continue to use mobile wallets for financial transactions to help decrease the transmission of the Covid-19 virus if it is convenient and believes that the product is simple to use.

H4 ($b=-0.142$, $p<0.05$) indicates the significant and negative relationship between perceived risk and continuance intention to use mobile wallets. This finding concluded that security and privacy concerns increase the perception of customers about risk inherited in mobile wallet service providers in the post-pandemic era as highlighted by Gupta et al. (2023). Moreover, perceived risk discourages customers from using such services as highlighted by Chen and Lai (2022) as well.

H5 ($b=-0.032$, $p>0.05$) indicates the insignificant relationship between subjective norm and continuance intention to use mobile wallets. The data analysis results determine that subjective norm was not significant in determining continuance intention to use mobile wallets in the post-pandemic period. This study is consistent with the previous finding by Yapp et al. (2022) that the respondents have already used e-wallet applications for financial transactions during the Covid-19 pandemic and do not influence by others to continue using mobile wallets.

H6 ($b=-0.717$, $p<0.05$) indicates the positive and significant relationship between perceived usefulness and satisfaction to use mobile wallets. These findings are consistent with Jayantari et al. (2021) that the higher the perceived usefulness perceived by customers towards mobile wallet applications, the higher the level of satisfaction experienced by these customers. The good features of mobile wallet applications can help consumers in carrying out financial transactions and will produce a sense of satisfaction after using mobile wallet technology. User satisfaction after using a mobile wallet application based on perceived usefulness is supported by previous research conducted by Daragmeh et al. (2022).

H7 ($b=-0.266$, $p<0.05$) and H8 ($b=-0.057$, $p<0.05$) indicate the positive and significant relationship between confirmation and perceived usefulness and between confirmation and user satisfaction. These results coincide with the findings of Abdul-Halim et al. (2022) that confirmation toward e-wallet applications is the sense of post-usage satisfaction. The related post-feeling also has a significant impact on the continuance intention to use e-wallet applications. Manufacturers should understand that features and benefits of using an e-wallet application will make users feel happy and comfortable, hence, escalating the level of perceived usefulness, which will, in return, impact the continuance intention to use e-wallets.

Table 8. Hypotheses Test Results

Hypotheses	Paths	Path coefficients	P-Values	Remarks
H1	PT -> CUI	0.343	0.000	Supported
H2	PT x PR -> CUI	-0.096	0.025	Supported
H3	PEOU -> CUI	0.116	0.013	Supported
H4	PR -> CUI	-0.142	0.000	Supported
H5	SN -> CUI	0.032	0.534	Not Supported
H6	PU -> SAT	0.717	0.000	Supported
H7	CON -> PU	0.266	0.000	Supported
H8	CON -> SAT	0.057	0.059	Not Supported
H9	SAT -> CUI	0.180	0.002	Supported

Test of moderation (H2)

The result of hypothesis H2 ($b=-0.096$, $p<0.05$) indicates that perceived trust has a negative moderating effect as shown in Table 8, thus, it weakens the relationship between perceived risk and continuance intention. To further examine the moderating effect of the construct “perceived trust” on the relationships between perceived risk and continuance intention to use mobile wallets, a simple slope analysis was done. The Steepness of the gradient was analyzed for the relationship including moderating effect. Findings showed that perceived trust (PT) at +1SD has a steeper and negative gradient when compared to perceived trust (PT) at -1SD which is less steep and negative. Therefore, simple slope analysis confirmed that the relationship between perceived risk and continuance intention to use a mobile wallet becomes weaker with high perceived trust. A simple slope analysis gradient is depicted in Figure 3.

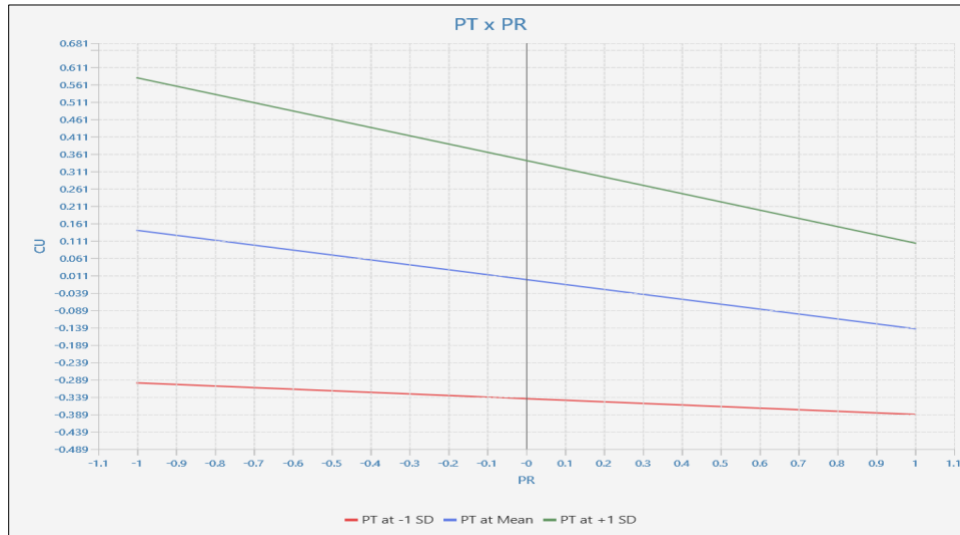


Figure 3. Simple Slope Analysis

Mediation Analysis

In order to fulfill the research hypotheses requirements, the mediation analysis was also performed using SmartPLS 4. This software offers an advantage to PLS-SEM by providing more assessments to perform the complex modeling which involves higher-order model, moderating, and mediation analysis. The mediation results were shown in Table 9. It was observed that two hypotheses were not supported (CON -> SAT and SN -> CU). Hence, perceived usefulness, confirmation, and satisfaction constructs were partial mediators in all relationships displayed in the model.

Table 9. Result of Mediation Analysis (specific indirect effects)

Paths	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
CON -> PU	0.27	0.27	0.04	6.61	0.00
CON -> SAT	0.06	0.06	0.03	1.89	0.06
PEOU -> CU	0.12	0.12	0.05	2.49	0.01
PR -> CU	-0.14	-0.15	0.04	3.75	0.00
PT -> CU	0.34	0.35	0.05	7.44	0.00
PU -> SAT	0.72	0.72	0.03	21.69	0.00
SAT -> CU	0.18	0.18	0.06	3.12	0.00
SN -> CU	0.03	0.04	0.05	0.62	0.53
PT x PR -> CU	-0.10	-0.10	0.04	2.24	0.03

CONCLUSION AND EXPECTED CONTRIBUTION

This study contributes to mobile wallet technology literature with the integration of two well-known theories, namely, the expectation confirmation model and the technology acceptance model. The purpose of this study is to explore the determinants which affect the individuals who continue to use mobile wallet technology in the post-pandemic era. In the theoretical contribution, this study found that individuals' continuance intention to use mobile wallet applications is favorably influenced by their perceptions of trust, risk, usefulness, ease of use, satisfaction, and confirmation. It is suggested that the providers of mobile wallets concentrate on manufacturing safe and user-friendly applications. The findings also showed that confirmation expectations influence user satisfaction and perceived usefulness positively. This suggests that consumers get the expected advantages from using mobile wallet technology. Furthermore, perceived usefulness, directly and indirectly, influences the intention to continue using mobile wallet technology in India.

The study reveals that perceived trust moderates the relationship between perceived risk and continuance intention to use mobile wallets. Improved security features and quality service reinforce users' trust in mobile wallets. Service providers should not be injudicious by the rise in the number of people using mobile wallets, as this is due to the pandemic. They should try to alleviate security concerns by educating consumers on safeguarding their mobile wallets from unauthorized usage,

fraudulent activities, and other potential risks. Secure and trustworthy mobile applications with security features like encryption, biometrics, and two-stage authentication features can enhance the feeling of being protected. The findings highlighted that satisfaction is an important determinant in influencing the continued usage of mobile wallets after initial acceptance. Rapid and professional services should be the guarantee of an outstanding mobile wallet service provider. This united with personalized customer services like location-based offers, will end up with the continued usage of mobile wallets after the pandemic.

The Covid-19 pandemic has had a noteworthy impact on the use of mobile wallets in India as people have become more mindful of the necessity for contactless transactions to evade the spread of the virus. According to a report by the Reserve Bank of India (RBI), the use of mobile wallets in India increased significantly during the pandemic. The value of transactions through mobile wallets increased from INR 1.4 trillion from 2019 to 20 to INR 3.4 trillion from 2020 to 2021. The number of transactions also increased from 1.4 billion to 2.8 billion during that period.

Overall, it seems that mobile wallets continue to be an important mode of digital payments in India, especially in the wake of the pandemic. However, the long-term impact of the pandemic on the use of mobile wallets and other forms of digital payments remains to be seen. Mobile wallets give numerous features and benefits, such as discounts, cashback offers, and loyalty programs to appeal to and uphold the users. They have become gradually popular in India in the post-pandemic era due to their satisfaction, trust, and ease of use.

Generally, the adoption of mobile wallets in India has been driven by factors such as convenience, ease of use, and security, which appeal to users across different age groups. While younger users are more tech-savvy and comfortable with digital transactions, older users are gradually identifying the benefits of digital payments and are adopting mobile wallets as a convenient and safe way to make financial transactions. Service providers can take advantage of situation arise due to Covid-19 pandemic in escalating the adoption rate of mobile wallets and their continued usage. Since mobile wallets eliminate the need to engage with people and surfaces directly, it reduces the likelihood of getting infected by communicable viruses. Governments, mobile service providers, health care professionals, and business merchants can work together to encourage the usage of mobile wallets to maintain social distancing and subsequently its spread through contactless payments.

LIMITATIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

This study has some limitations. First, the study was carried out in Hyderabad, India, and whether the results can be generalized to other parts of the country and other nations needs further examination. Second, this study is limited to mobile wallets, mobile banking applications were not included. Third, other variables like hedonic motivation, situational variables, and habit may affect continuance intention to use mobile wallets. Hence, such variables should be included in the model to better evaluate continuance intention to use mobile wallets in the future. This study recommends that mobile payment service providers should devise and formulate a formal security policy and strategy for mobile payment applications which go through periodic assessment, monitoring and challenges.

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