

Unveiling the Dynamics of E-Wallet Adoption in Pakistan: Exploring the Mediating Influence of Facilitating Conditions on Behavioural Intentions

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Abstract

Purpose: The evolution of e-wallets in Pakistan has been significant and moulded by technological progress, consumer behaviour changes, and regulatory measures. This study aims to explore the factors that influence the behavioural intention to use e-wallets in Pakistan, considering the mediating effect of facilitating conditions (FC) between perception usefulness (PU), perceived ease of use (PE), and behavioural intention.

Design/Methodology/Approach: A primary research approach, including a quantitative survey among e-wallet users across Pakistan, is employed.

Findings: The findings of the research suggest that all independent variables have a direct impact on dependent variables. Furthermore, facilitating conditions mediate the relationship between perceived ease of use and behavioural intention. However, the relationship between PU and behavioural intention is determined not to be mediated by FC.

Research Limitations/Implications: The study enriches the literature by providing a deeper understanding of the interplay of such factors that affect e-wallet adoption in Pakistan and also provides some policy implications to policymakers and industry stakeholders to promote the adoption and usage of e-wallets in the country.

Keywords: E-wallet, UTAUT, TAM, Perceived Usefulness, Perceived Ease of Use,

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1 Introduction

Electronic wallets, commonly called e-wallets, are the future of financial technology since they offer better services than any other platform for conducting electronic transactions, which are easy and efficient (Kilani et al., [2023](#)). These electronic wallets are now transformative tools that help users keep, retrieve, and perform multiple financial transactions efficiently, compartmentalising the whole process and thereby converting the challenge of traditional payment methods (Libaque-Saenz et al., [2023](#)). The steady increase in e-wallet adoption across the globe proves that these devices are becoming more crucial for financial operations. Research shows that it was worth USD 2.32 trillion in 2019 and is anticipated to grow at a compound annual growth rate (CAGR) of 30.48% from USD 5 billion by the end of this year, which reaches US\$16 million in ten years (Libaque-Saenz et al., [2023](#)). Furthermore, as per Rahi et al. ([2023](#)), the popularity of e-wallets has increased among various regions and social groups; in fact, these are becoming popular with a wide range of populations.

Pakistan has experienced notable growth in the use of electronic wallets. The e-wallet market in Pakistan registered exceptional growth due to the increase in users opting for digital payment means. Notably, the increase in the popularity of e-wallets has greatly benefitted from the increasing penetration of smartphones, which will now be over 50% in 2022 (Baig, [2022](#)). The smartphone market in Pakistan is expected to expand by 2.89% between 2023 and 2028, reaching a market value of US\$4.3 billion in 2028 (Khan et al., [2023](#)). This development has significantly contributed to the proliferation of e-wallet adoption. According to Ali et al. ([2023](#)), the use of e-wallets in Pakistan increased significantly from 4% in the year 17 to a current rate of at least 19%, demonstrating steady development towards digital financial services within that country.

Along with providing a simplified method, Khan & Malik ([2022](#)) reveal that E-wallets have revolutionized Pakistan's payment system. They offer an array of services to cater to the changing needs of individuals who are skilled in technology, such as bill payments (Hassan et al., [2021](#)), money transfers (Alam et al., [2021](#)), online purchases (Lim et al., [2022](#)) and accessibility to various financial products (Chelvarayan et al., [2022](#)). In addition, e-wallet accessibility and convenience have played a significant role in Pakistan's initiatives towards financial inclusion. The solutions for digital payments have contributed to a more accessible and inclusive financial environment by allowing early marginalised groups to access financial services (Wong & Mohamed, [2021](#)).

Due to the continuous adoption of e-wallets, Pakistan's customer payment behaviour is changing dramatically, leading to a cashless society (Memon & Khan, [2021](#)). Despite this growth, many adoption barriers and hurdles remain, including cybersecurity issues, concerns about legal frameworks, practical uses, lack of facilitating conditions, effectiveness, and improving digital literacy in specific populations (Shane et al., [2022](#); Rahi et al., [2023](#)). The constraints to the technological infrastructure, such as unreliable internet connectivity (Kilani et al., [2023](#)) and electricity supply, especially in some regions, mainly rural areas, prevent e-wallet platforms from working smoothly (Ramli & Hamzah, [2021](#)). In turn, it limits the proliferation of e-wallets across the country due to persistent uncertainties as regards the use and transactions through these digital apps. Issues relating to the quality of data security, ease of usage, and the conditions by which e-wallets are used also limit mobile phone users' adoption or use of technological service platforms such as electronic wallets. To overcome these challenges and ensure a more supportive environment for e-wallet adoption in Pakistan. Comparable efforts should be made to increase its usage by emphasizing the ease of use and usefulness designed to describe the coordinated facilitating conditions, consequently leading to people's intention to adopt.

Several empirical studies focused on TAM have repeatedly highlighted the critical role that PU and PE have played in influencing users' behavioural intention toward technology adoption, such

as e-wallets (Hamzah et al., [2023](#); Misbah, [2022](#)). According to several studies, people are likely to demonstrate positive attitudes toward adopting e-wallets (Olivia & Marchyta, [2022](#)) when they assume they are practical and easy to use. Perceived usefulness (PU), according to Sukwadi et al. ([2022](#)), refers to the perception of how much e-wallet transactions would help individuals in terms of efficiency and effectiveness when engaging in financial activities. Moreover, PE demonstrates the degree of perceived effort or ease in using an e-wallet system (Zahid et al., [2022](#)). PU and PE are believed to be significant determinants of intentions toward adopting e-wallet technology. Due to PU and PE strongly influencing behavioural intention concerning using e-wallets, our research model focuses on understanding their periphery pair as separate variables.

Moreover, there is a suggestion that facilitating conditions (FCs) mediate the relationship between perceived usefulness, perceived ease of use and behavioural intentions toward adopting e-wallet usage. Facilitating conditions (FC) are external factors that may either promote or hinder the successful adoption of e-wallets. Besides such, the conditions encompass social influence, technical skills, infrastructural resistance, and judicial thinking. The proposed model is hypothesized to be mediated by facilitating conditions. The empirical evidence suggests that facilitating conditions are required to mediate the effect of perceived usefulness and ease on behavioural intentions. On the one hand, if there are positive facilitating conditions concerning e-wallet adoption, users' behavioural intentions will readily increase because of switching costs.

Prior literature has also contributed a lot to the knowledge of factors relating to e-wallet adoption worldwide. Studies have shown some significant user attitude gearing factors that drive consumer intention amidst the confusing elements of E-wallet adoption (Zahid et al., [2022](#); Abdul-Halim et al., [2021](#)). Several studies have supported the significance of perceived usefulness, ease of use, and facilitating conditions for e-wallet adoption in various contexts. Nevertheless, the research gap in Pakistan is still relatively significant (Masood et al., [2023](#)). Although extensive studies from all corners of the world are conducted, little deep analysis is carried out that shows how perceived usefulness, ease of use, and facilitating conditions inter-relate with each other in addition to their impacts on people's behavioural intention towards adoption of e-wallets, specifically in Pakistan.

This gap indicates the necessity of distinct research to incorporate these aspects into Pakistan's socioeconomic and technological environment. To address this gap, the present study is centred on a hybrid of TAM and UTAUT findings about e-wallet adoption in Pakistan. Therefore, this study aims to understand the link between perceived usefulness, ease of use, and facilitating conditions in a mediating role affecting intention for adoption by using these frameworks with empirical evidence. This strategy is the mechanism through which this research expects to provide targeted insights and recommendations for enhancing e-wallet adoption in the country.

2 Literature Review and Hypothesis Development

2.1 Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT)

To evaluate the role of various determinants (IVs) towards the intention to use e-wallets, the current study employed the TAM (Technology Acceptance Model) and UTAUT (Unified Theory of Acceptance and Use of Technology) as underpinning theory in the context of Pakistan. The TAM framework was introduced in the early 1980s by Davis, and recent literature claims that the TAM framework provides a theoretical basis for predicting the acceptance of technological changes by individuals and organisations (Opoku & Francis, [2019](#); Ariffin & Lim, [2020](#); Rafique et al., [2020](#); Mustafa & Garcia, [2021](#); Natasia et al., [2022](#)). The TAM framework facilitates understanding the relationship between external factors and the intents or perceptions towards the acceptance of technology. The current study considered the two key elements of the TAM framework, PU and PE, about the prediction of technology acceptance.

On the other hand, interdependent constructs refer to performance expectancy, effort expectancy, social influence, and facilitating conditions in the Unified Theory of Acceptance and Use of Technology developed by Venkatesh et al. in [2012](#). In the case of UTAUT, it has the potency to extend itself by including additional factors that increase its explanatory power and produce more precise outcomes. It also emphasises enablers known as extraneous factors that may either promote or discourage technology acceptance. This wide-ranging theory covers the influence of external variables on technology acceptance, factors beyond individual perceptions.

2.2 Perceived Usefulness

One of the key concepts in the TAM framework is perceived usefulness, which measures how individuals consider using technology to increase their productivity and reduce waste at work. A component of the TAM framework is perceived usefulness, which measures how people perceive technological use to increase productivity and eliminate waste from their work. However, the relationship between perceived usefulness and behaviour usage intention has been a core of many technological innovations, such as e-wallets and other technological advances (Wardana et al., [2022](#)). Research derived from TAM has always shown a correlation between behavioural usage intention and perceived usefulness in various technical settings. This positive relationship has also been supported by empirical research that has studied the realisation of other technologies, such as information systems, online platforms, and mobile apps. For instance, one Nicolini ([2023](#)) study revealed a strong positive relationship between behavioural intention to use mobile applications and perceived usefulness among different user groups. Likewise, Ahmad et al. ([2023](#)) showed that people who considered technology practical had higher intentions to adopt and use it, confirming the positive relation of adoption technology between perceived usage background in various technological contexts.

This variation shows the peculiarity of both human behaviour and technological innovation. Although most research confirms the positive relationship between behavioural intentions and perceived usefulness regarding various technologies, some evidence suggests that sophisticated interactions with mediating factors may alter users' intentions somewhat differently than the perception of benefit. The complicated relationship between behavioural usage intention and perceived usefulness extends beyond e-wallets to encompass many other factors. The comprehension of these features remains relevant to designing all-inclusive plans to support technology diffusion and practice in different user groups and socioeconomic settings across various technological landscapes.

However, a group of studies within this body of research have contrary results. Other studies, such as (Bee & Ying [2021](#); Setiawan et al., [2021](#)), have identified weaker correlations or indicated that behavioural intentions toward adopting technology might only partially depend on perceived usefulness. As these studies highlight, the direct effect of perceived usefulness on behavioural usage intention across various technological contexts may be moderated or mediated by other factors, such as perceived ease of use, facilitating conditions, and individual characteristics. In light of all of these factors, the study's hypothesis was that:

H1: *Perceived usefulness significantly influences behavioural intention to use e-wallets.*

H2: *Perceived usefulness significantly influences facilitating conditions associated with using e-wallets.*

2.3 Perceived Ease of Use

One of the primary constructs in the Technology Acceptance Model (TAM) is perceived ease of use, which captures how easy people believe a technology to be. Interestingly, this relationship between behavioural usage intention and perceived ease of use is not e-wallet specific; it carries over to other technological domains, elucidating its implications on user intentions towards

adopting a wide range of technical innovations. Research-based on TAM suggests that behavioural usage intention and perceived ease of use positively correlate in various technological environments. This positive relationship is consistently supported by empirical research on other technologies besides e-wallets, including digital platforms, software systems, and mobile apps. A study by Senali et al. (2023) across different user groups revealed a highly positive relationship between the behavioural intention to use mobile applications and the perceived ease of using these devices. Tian et al. (2023) also established that people who considered technology easy to use had higher behavioural intentions for accepting and implementing such technologies in their routine activities. These findings help us understand how perceived ease of use and intentions to utilise technology is positively associated across various technological contexts, such as facilitating related conditions.

However, this literature is full of contradictory results. In some studies, behavioural intentions are weak or non-significant associations across various technologies and perceived ease of use (Bee & Ying, 2021; Setiawan et al., 2021; Wang et al., 2020). These studies underscore the multidimensionality of technology adoption processes since it is only found to have an effect. Still, other factors such as perceived usefulness, facilitating conditions, or individual characteristics may influence or moderate its direct impact on behavioural intentions. These highly different research findings demonstrate how users' perceptions and intentions significantly differ in various technological contexts. Though most studies show that perceived ease of use positively affects behavioural intentions for all technologies, some have pointed to possible moderators or mediator factors that can affect intention beyond mere easiness. Knowing the relationship between perceived ease of use and behavioural intentions relates to more than e-wallets; it also applies to technological innovations. Despite these considerations, it is still necessary to study and understand such complicated relationships to develop comprehensive strategies targeting technology adoption along numerous user groups of technological domains. Thus, this research hypothesized that:

H3: *Perceived ease of use significantly influences behavioural intention to use an e-wallet.*

H4: *Perceived ease of use significantly influences facilitating conditions associated with using e-wallets.*

2.4 Facilitating Conditions

External factors like infrastructure, economic capacity, and technological prowess affect how much a technological system is used. FC comprises the user's perceptions of barriers to use or readily available resources that facilitate using e-wallet applications (Leong & Kwan, 2021). For example, the cost or availability of internet services in a given location may influence or inhibit a user's inclination to use e-wallet programs for purchases. To put it simply, FC is the degree to which an individual acknowledges that structural, technological, and financial capacity is available to support the use of technologies. According to Herget et al. (2021), more people may utilise e-wallets if better technological platforms help users rather than complicate their lives. Relatedly, Chawla & Joshi (2020) point out that mobile technology improvements, especially regarding online payments and internet accessibility, may positively impact the adoption of digital platforms like e-wallets. To use location-based digital payment applications, customers need to have adequate facilities. Customers may feel encouraged if they believe an e-wallet is suitable for use with the extra or alternative solutions they now use and can help them minimise the difficulties associated with using one. It suggests a greater behavioural intention to use the available instruments to execute contactless payments.

The environment has many different components that affect how broadly technology is used. These include prior software or technological competence, and similar to wallets, FCs for digital

payments contain smartphone proficiency requirements, confidentiality and security guidelines, and the cost and accessibility of telephones and internet connections (Ronaghi & Forouharfar, 2020). The FCs represent user perceptions of the facilities and support provided to participate in a particular behaviour. The favourable conditions significantly impact users' desire to pay with a technology platform. Because e-wallets simplify payments, provide security, and are practical, users will be more likely to adopt them (Edeh et al., 2021; Shane et al., 2022). Some investigations have discovered definitive results, and others have not demonstrated any conclusive association between facilitation conditions and behavioural intention. Therefore, the generality of this correlation needs to be investigated. Despite these conflicting results, this study backs up the assertion made by (Venkatesh et al., 2012) and puts forth the following hypothesis:

H5: Facilitating conditions significantly influence behavioural intention to use an e-wallet.

2.5 Mediating Role of Facilitating Conditions

One primary moderating variable affecting people's readiness to embrace new technologies is FC, which influences actual behavioural intention and PU. This mediating role hypothesis suggests that the relationship between PU-behavioural intentions is moderated or mediated by external variables like infrastructure readiness, technical support, and legal setting. Studies consistent with theories of technology diffusion have corroborated FC's mediational role. For instance, Shane et al. (2022) demonstrated that the behavioural intentions to adopt different technologies, such as e-wallets, and perceived usefulness were significantly mediated by facilitating conditions. In addition, Ghazali et al. (2023) supported these findings by claiming that the effect of perceived usefulness on behavioural intentions was enhanced with facilitating conditions provided within such an environment.

On the other hand, contradictory perspectives can be observed in the literature, reflecting multifaceted connections and various results. Several studies, including Kilani et al. (2023), needed more evidence on the mediating role of facilitating conditions. These studies demonstrated that despite facilitating conditions being crucial, their mediator effect might change for specific technologies and user groups, affecting the relationships between PU and behavioural intention in various ways. The intermediary's role in facilitating conditions becomes especially significant in Pakistan. Other factors, such as the heterogeneity of Pakistan's socioeconomic system and technological infrastructure gaps, determine people's views on accepting new technologies, including e-wallet applications. Research has shown the role of the FC factor in moderating relationships between behavioural intentions towards technology adoption and its perceived usefulness. In addition, the effect of both regulatory frameworks' accessibility and infrastructure readiness on the perceptions about the benefits of e-wallet use is consistent with international research's mediating effect.

The variation observed in the empirical data proves that this relationship is relatively more complex. Still, it indicates a mediating position between behavioural intentions and perceived usefulness concerning technology acceptance. Policymakers and stakeholders must understand the mediating effects of facilitating conditions, as peculiar in Pakistan, so that they can develop policies to resolve infrastructure problems by strengthening legal framework provisions and raising accessibility levels. By acknowledging and leveraging these intermediary factors, efforts can be directed toward establishing a conducive environment for the systematic implementation of technology, including e-wallets, in Pakistan's evolving economic landscape.

Facilitating conditions help mediate the effect of behavioural intention to use e-wallets and PE. This relationship has been critical in deciding whether individuals should embrace new technologies. Environmental factors that promote or prevent the emergence of new technologies are represented by the label facilitating conditions. Infrastructure readiness, technical support, regulatory frameworks, environment accessibility, and social influence are among the variables.

The Behavioural Intention-Perceived Ease of Use relationship has been explored based on facilitating conditions by several technological acceptance theories, including TAM and UTAUT. The mediation hypothesis mainly received empirical support. As suggested by Teng & Khong (2021), significant facilitating conditions, including technical support and regulatory environment, increase the effect of perceived ease of use on user behavioural intentions. According to Zainol (2021), with favourable facilitating conditions such as modern technical support and regulation systems.

On the contrary, others have contradictory perspectives, such as the facilitation of conditions in the internal environment serves to increase technology adoption speed, but according to Ghazali et al. (2023), with regards neither as a direct nor potent mediator between behavioural intention and perceived ease usage when looking into research made by him. These studies show how complicated the mediation process is and that other significant factors play a role in determining the user's intentions. The same aspect of favourable conditions is also very prominent in the case of Pakistan. The technological landscape of the nation provides a vast range of favourable factors that fuel the popularity of various technologies, such as e-wallets. In the Pakistani setting, eased usage facilitates and influences infrastructure willingness as a mediator between perceived ease of use and intention to adopt technology use. Even though empirical evidence usually validates the mediating effect of facilitating conditions between perceived ease of use and behavioural intention toward technology adoption for e-wallets, among others. The nature, however, is still challenging, calling for complex analysis to understand contextual factors. Infrastructural limitations, intermediary conditions, and environmental benevolence can be leveraged to encourage the adoption of e-wallets and other electronic technologies among Pakistani individuals. Such tactics should be necessary to exploit the leverage that users' intentions have concerning perceived ease of use. This study proposed the following hypothesis in light of all of the research findings:

H6: *Facilitating Conditions mediate the relationship between perceived usefulness and behavioural usage intention.*

H7: *Facilitating Conditions mediate the relationship between perceived ease of use and behavioural usage intention.*

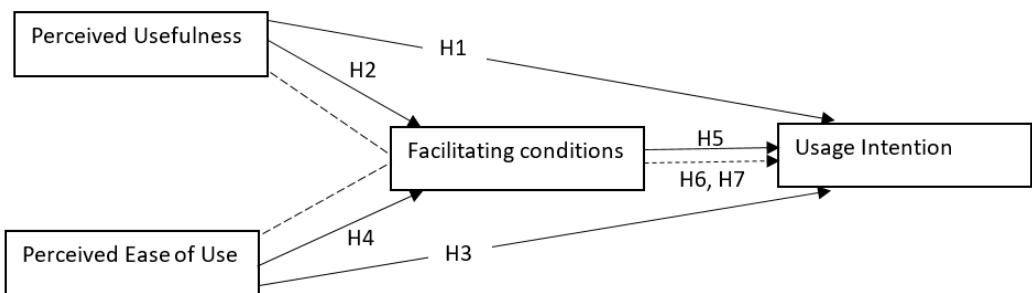


Figure 1: Conceptual Framework

3 Research Methodology

3.1 Questionnaire Design, Measures and Data Collection

In the current study, a self-administrated online Google questionnaire has been used. Before being permitted to reply to the variables of interest in a survey, study participants were asked a screening question on their knowledge of and use of e-wallet services. There are three sections in the questionnaire. Questions about demographic factors like age, gender, educational attainment, and

residency status comprise section A. The two independent variables in section B are PU and PE, and each has five items, both adopted from (Abdul-Halim et al., [2021](#)). The questionnaire's section C requested questions on the mediating and dependent variables. These facilitating conditions consist of seven items adapted from (Pandey & Chawla, 2019) and the three-item scale adapted from Dewi et al. ([2021](#)) about the intention to use an e-wallet (DV). The current study's sample is homogeneous since it consists of people who utilise e-wallet services and are residents of Pakistan's four provinces to increase the study's breadth. It is a cross-sectional investigation using a quantitative approach adopting a five-point Likert scale (with five denoting highly agree, four agree, three neutral, two disagree, and one severely disagree).

Using the G*power calculator, the sample size magnitude has been determined. Its findings indicate that 98 people would comprise the study's sample size. One question about e-wallet usage is in the survey's initial section, which asks, "Do you understand or use e-wallet services?" Every participant must provide their answer to that specific question to go to the next segment of the survey. Before conducting additional data analysis, the responses of the individuals who replied negatively were, however, ignored. The study's participants, from all four of Pakistan's provinces, filled out 298 questionnaires. The purpose of the screening question is to find out how familiar the respondents are with e-wallet services. Forty-four respondents said they didn't use e-wallet services. Those answers have been removed in light of the study's target audience: e-wallet service users. Based on the collected data, 14.77% of the participants did not utilize an electronic wallet service, whereas the respondents were e-wallet users already.

4 Data Analysis

4.1 Validity and Reliability

The assessment of the measurement model includes two steps: 1) assessment of composite reliability and 2) assessment of discriminant validity. To evaluate the composite reliability internal consistency and reliability, the present study evaluates the item loading, Cronbach alpha, composite reliability and average variance extracted (AVE) of relevant constructs. The findings of the current study indicate that all the item loadings meet the threshold criteria of 0.50, Cronbach alpha 0.70, composite reliability 0.70, and AVE 0.5, as suggested in prior literature (Chin, [2010](#); Afthanorhan, [2013](#); Alarcón et al., [2015](#)). Hence, there is no issue of internal consistency or scale reliability.

Table 1: Measurement and Operationalization

Constructs	Items	Loading	Alpha	CR	AVE
Perceived Usefulness	PU1	0.817	0.885	0.914	0.683
	PU2	0.698			
	PU3	0.904			
	PU4	0.890			
	PU5	0.805			
Perceived Ease of Use	PE1	0.784	0.850	0.893	0.626
	PE2	0.859			
	PE3	0.848			
	PE4	0.797			
	PE5	0.652			
Facilitating Conditions	FC1	0.758	0.826	0.868	0.533
	FC2	0.498			
	FC3	0.798			
	FC4	0.761			
	FC5	0.833			
Usage Intention	FC7	0.676	0.710	0.838	0.633
	UI1	0.756			
	UI2	0.838			
	UI3	0.790			

4.2

Criteria for Heterotrait-Monotrait (HTMT)

The current study assesses the discriminant validity using the HTMT technique, as the prior literature documents the drawbacks of the Fornell-Larcker technique. The lenient criteria document that the threshold value of discriminant validity under the HTMT technique is 0.90, while the strict criteria indicate the threshold value is 0.85 (Gold et al., 2001; Kline, 2011). All the corresponding values of latent constructs meet the threshold value of the lenient criteria, which is 0.85. Hence, there is no issue of discriminant validity.

Table 2: Heterotrait-Monotrait Criterion (HTMT)

	BI	FC	PE	PU
BI				
FC	0.567			
PE	0.489	0.562		
PU	0.318	0.299	0.495	

Moreover, every variable of the current research HTMT value is less than 1.0, as shown by the results in the above table, suggesting that this framework does an excellent job of fitting the data (Kline, 2011).

4.3 Structure Model

Multicollinearity occurs whenever a high correlation among the predictors is present in any framework. Regression assumptions claim that predicting constructs must be unbiased for best linear estimations. The current study uses the VIF test to assess the multicollinearity among the predictors. The results indicate that all the corresponding values have no issue with multicollinearity, as the corresponding values are less than the threshold value of 5.0 (Akinwande et al., 2015).

Table 3: Results of the variables' items for the VIF

	BI	FC	PE	PU
BI				
FC	1.403			
PE	1.597	1.239		
PU	1.245	1.239		

4.4 Direct Relationships

Each construct's path coefficient is displayed in the table below. Since all of the variables employed in this study have a substantial direct impact on the BUI, it stands to reason that raising one of the explanatory constructs' units will change the unit for the outcome constructs. Except PU, which the table shows is not significantly correlated with FC, all explanatory variables significantly directly impact the facilitating conditions, which is a mediating variable in the same context.

Table 4: Direct relationship

Hypothesis	β Value	Std. Error	t Value	P Value
FC -> BI	0.346	0.054	6.449	0
PE -> BI	0.171	0.063	2.706	0.007
PE -> FC	0.505	0.053	9.517	0
PU -> BI	0.083	0.05	1.659	0.097
PU -> FC	0.064	0.068	0.929	0.353

4.5 Indirect Relationships

The study assesses the facilitating condition's mediating role in predicting the intention to use e-wallet. The mediation analysis results were reported in Table 5, indicating that facilitating conditions significantly mediate the relationship between PE and BI. However, hypothesis H5 regarding the mediating role of FC between PU and BI was rejected.

Table 5: Indirect relationship

Hypothesis	β Value	Std. Error	t Value	Confidence Interval		P Value
				2.50%	97.50%	
PU -> FC -> BI	0.022	0.024	0.903	-0.02	0.075	0.367
PE -> FC -> BI	0.175	0.034	5.1	0.113	0.246	0

5 Discussion

The result shows a significant direct and indirect relationship between perceived usefulness, perceived ease of use, facilitating conditions and behavioural intention to use. H2 shows an insignificant direct relationship between perceived usefulness and reducing conditions. This result suggested that even if proper resource facilities and technological tools have been provided, individuals in Pakistan might not be interested in adopting e-wallets. The results of the current study indicate that PU has no significant association with facilitating conditions, and prior literature supports the findings of the current study (Wang et al., [2020](#); Bee & Ying, [2021](#); Setiawan et al., [2021](#)). However, H1, H3, H4, and H5, in which PU towards BI, PE towards BI and FC, and FC related to BI, show significantly positive impacts according to the analysis results. The current results suggest that when customers perceive an e-wallet as compatible with their existing solutions or as a viable alternative, offering convenience in their daily routines, thereby reducing the obstacles associated with e-wallet usage, their inclination to adopt an e-wallet also grows. Previous research findings corroborate the outcomes of this current study (Chawla & Joshi, [2020](#); Shane et al., [2022](#)).

Moreover, the indirect relationships between PU and PE with FC towards BI with the mediating effect of facilitating conditions have shown two contrasting results. The H6, which shows the mediating impact of FC between PU and BI, depicts highly insignificant effects concerning e-wallet usage intention. This finding suggests that despite perceiving e-wallets as offering valuable features and benefits, along with favourable facilitating conditions compared to more conventional methods like cash or credit/debit cards, prospective users in Pakistan still need to express an intention to adopt e-wallets. Based on the results, the current study concludes that FC fails to mediate the relationship between PU BI and prior literature and also indicates an insignificant association, which supports the findings of the current research (Abdul-Halim et al., [2021](#); Olivia & Marchyta, [2022](#); Rantung et al., [2020](#); Zahid et al., [2022](#)).

Contrastingly, H7, which depicts the mediation of FC as having a significant and positive effect on PE towards BI, also lines with the findings of previous studies, which claim that favourable intentions can developed in the adoption of an e-wallet if the application is easy to use and supported by the manuals, and customisations. When users consider that they do not need to waste

time or energy on a particular technological tool and that tool or app can be computed efficiently, their intentions are shaped by how they use it, such as e-wallet apps. The results of the current study well aligned with the prior literature (Weng et al., [2018](#); Purwanto et al., [2019](#); Setiawan et al., [2021](#); Huang & Chueh, [2022](#)).

6 Theoretical and Practical Implications

This study contributes substantially to the limited body of literature on e-wallet services in Pakistan. Academic exploration of Pakistan's financial technologies and their adoption remains scarce, primarily due to their early stages of development in the country. This study provides a great insight into perceived usefulness as this construct is quite controversial in prior literature and indicates an insignificant association with acceptance of new technologies. The current study contributes to the literature by empirically documenting the association among the latent construct under the TAM model. The findings indicate no significant relationship between PU and BI in the presence of facilitating conditions as mediating variables. The current study empirically documents the mediating role of facilitating conditions between the predictors and dependent variables and outlines the implications for future studies. The indirect association of predictors can be assessed using FC as a mediating construct using e-wallet usage. In practical terms, this study supports companies providing e-wallet services and entrepreneurs aiming to expand e-wallet operations in Pakistan. It highlights that perceived usefulness does not influence users' intentions to adopt a specific technological tool. This research can benefit financial firms by enhancing collaboration with e-wallet operators. Through this partnership, banks can improve payment techniques to meet clients' needs, fostering greater interest and acceptance of e-wallets among users. Finally, as e-wallet usage grows, businesses like e-marketers, travel companies, and hotels benefit, boosting profitability. This research provides insights into factors influencing e-wallet usage intention, aiding policymakers, operators, banks, and researchers in future studies on e-wallets.

7 Limitations and Future Recommendations

Despite its valuable contributions, this study has limitations. Firstly, using a cross-sectional technique imposes a temporal constraint, capturing a snapshot of e-wallet usage intentions in Pakistan at a specific moment. The study raises concerns about the long-term applicability of the findings. Secondly, the study's focus on Pakistani respondents may limit the generalizability of results, particularly considering Pakistan's position in technology acceptance compared to other economies. Finally, the exclusive inclusion of e-wallet users as participants overlooks insights into the non-adoption perspective. Based on these discussed limitations, this study offers recommendations for future research. Conducting longitudinal studies to track shifts in customer behaviours over time, collecting data from multiple countries for more universal findings, exploring reasons for non-adoption of e-wallets with non-user respondents, incorporating additional variables to improve explanatory power, and including moderators and facilitating variables for a deeper understanding of outcome shifts.

8 Conclusion

This research has provided valuable insights into the factors influencing the acceptance and usage of e-wallet apps, with a specific focus on the interplay between perceived ease of use (PE), perceived usefulness (PU), facilitating conditions (FC), and behavioural user intention (BI). The study aims to develop a conceptual framework for analysing the factors influencing Pakistan's intention to use e-wallets. This study shows that the intention to use an e-wallet is influenced by perceived ease of use and facilitating conditions. Furthermore, perceived usefulness does not affect facilitating conditions and intention to use e-wallets, but it does affect perceived ease of use. An individual's perception of an e-wallet's ease of use may be influenced if they believe it to be a

solution-rich and facilitated condition among Pakistan's population.

Additionally, this study ascertains the behaviour determinants impacting the desire to utilise an e-wallet app in Pakistan. This study combined the components of the UTAUT and TAM frameworks to investigate behavioural intentions, which aims to provide researchers with insight by analysing the acceptance of e-wallets. The findings of this study will assuage the fears and concerns of nonadopters while assisting financial institutions in developing deep connections with Pakistan's market. Comprehending the factors that affect the use of e-wallet practices encourages them to step up their marketing efforts for e-wallets.

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