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Exploring Factors Influencing Behavioral Intention to Use E-Wallets Through Short-Form Video Shopping Platforms Among Generation Z

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Abstract: *This study investigates the behavioral intention to adopt e-wallets via short-form video shopping platforms (SFVSPs), with a particular focus on Generation Z and Millennials in Pakistan. With the surge in mobile commerce and livestream shopping, the integration of digital payment systems like e-wallets is reshaping consumer experiences. This research aims to bridge the gap between traditional technology acceptance models and modern digital behaviors by integrating the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), and Information System Success (ISS) models. Data was analyzed using Structural Equation Modeling (SEM) and Partial Least Squares (PLS-SEM) to test relationships among constructs like perceived usefulness, trust, security, satisfaction, and social influence. Findings reveal that perceived security, usefulness, and satisfaction are the most significant predictors of e-wallet adoption. Conversely, social influence and user engagement had a weaker impact. The study also found that trust is more likely formed through personal experience rather than peer validation. This research contributes to digital payment literature by emphasizing the contextual needs of Pakistani consumers, especially their emphasis on trust and security over engagement. Practically, it offers insights for fintech companies and digital marketers to prioritize security and ease-of-use features. Future research can explore psychological and demographic moderators across different regions.*

Keywords: E-wallet Adoption, Short-form Video Shopping, Technology Acceptance, User Trust, Digital Payments, SEM, FinTech, Perceived Security, TAM-UTAUT-ISS Integration

Introduction

Consumer purchasing behavior has been greatly changed by massive digital commerce development in the fields of mobile commerce (m-commerce), livestream shopping and humanitarian logistics (Wu & Wang, 2024). Interactive video is an integral part of m-commerce in the form of livestream shopping where it is used to amplify customer engagement and decision to buy (Belmonte et al., 2024). Digital platforms are adopted by humanitarian logistics to enhance the supply chain efficiency in crises. It is necessary to understand the factors affecting adoption in these areas to optimize digital commerce ecosystems (Zhao et al., 2023). Such as the TikTok Shop and Alibaba's Taobao live, already global traction has been gained on livestream shopping, markets like those of China and U.S in particular (Zhou et al., 2023). It provides a strong force to digital commerce by increasing perceived trust and purchase intention. Mcommerce changed consumer platform interactions even at the digital level using mobile wallets and AI. It is proven that perceived ease of use and security are of major concern for consumer confidence in mobile payments (Zhou et al., 2023).

Utilisation of digital tools for humanitarian logistics integration has increased the levels of operational effectiveness and especially, in crisis management. The research also shows that mobile commerce and real time sharing of data help to reduce aid distribution time (Chen et al., 2023). As these trends are cross sectoral in nature, problems and opportunities exist in whether a trend will be adopted; whether user engagement or technological accessibility do or do not help determine adoption (Belmonte et al., 2024; Wang et al., 2023).

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Literature Review

Factors considered in the Technology Acceptance Model (TAM) being Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) are key that dictate technology adoption. PEOU stands for how easy users find a technology, PU stands for their belief that it increases performance (Davis, 1989). Easy navigation and simple interface lead to adoption of e-wallets in short form video shopping platforms (SFVSP), (Wu & Wang, 2024). Research shows that platforms such as TikTok Shop and Taobao has been hugely bolstered using AI enabled recommendations and voice assisted searching (Zhou et al., 2023). In other words, the integration of a simplified payment of mobile wallets systematically impacts purchase behavior (Kim & Lee, 2023).

In digital commerce environments, the role of social influence is important in the consumer decision making (Ajzen, 1991). Peer, influencer, and social media reviews can increase the case of consumers' adoption of e-wallets in SFVSPs. It is in recent studies that mobile commerce adoption is mainly driven by user generated content and influencer recommendations — particularly among the Generation Z and Millennial users. Additional research also suggests that the alternation methods (e.g., credit cards, payment services such as BNPL like Klarna) attitude influences the consumer's decision making, as competitive differentiation (Zhao et al., 2023).

As the transactions in the e-wallet take place through a payment system, trust is a major factor. Fraud concerns and data privacy risks, as shown by studies, prevent consumers in using mobile payments (Zhou et al., 2023). The application of blockchain technology into the payment security is responsible for increasing the level of trust of his customer and also reduces the risks of breach (Chen et al., 2023). Results show that there are recent evidence which suggests that the use of AI driven fraud detection system and biometric authentication increase the perceived security and consequently encourage behavioral intention to use e-wallets (Kim & Lee, 2023).

Structured approaches to understanding the digital adoption trends are the Technology Acceptance Model and the Information System Success Model as described by Davis (1989) and DeLone and McLean (1992). These models are recently applied in recent studies to PEOU, PU, trust and engagement determinants for the adoption of e-wallets in SFVSPs (Wu & Wang, 2024).). Research corroborates that the perceived security and system quality exert the influence on satisfaction as predicted by the ISS model principles (Zhao et al., 2023).

Introduction to Theory

Information System Success (ISS) Model

In addition to extending technology acceptance research, information system success model (DeLone and McLean, 1992) embeds system quality, information quality, and service quality as predictors of users' satisfaction with the systems and system use. It suggests that recent studies make SFVSPs where secure and reliable payment gateways have a significant impact on the adoption of e-wallets. Chen et al. (2023) define the model, stating that consumers are more likely to use a payment system when in their minds, it is secure, trustworthy and provides certainty about the transaction. Additionally, ISS has made mobile payment research more applicable because it has real-time transaction verification, fraud detection mechanisms, and blockchain integration. The study confirms that historical research on ISS reveals that system usability and customer support have vital effects on customer retention and the repeated use of e-wallets (Gefen et al. 2019).

Unified Theory of Acceptance and Use of Technology (UTAUT)

It differentiates itself from TAM with the introduction of social influence, effort expectancy, and facilitating conditions in the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003). In SFVSP, the influencers, peer recommendations, and social proof all affect users' decisions, and are therefore of particular importance in a UTAUT construct called social influence (Zhao et al., 2023). According to studies, users are more attracted to adopt e-wallets if they are used by influencers and peers on livestream shopping (Kim & Lee, 2023). In addition, effort expectancy corresponds with perceived ease

of use, which leads to this consumers' preference for platforms that automate the shopping and payment processes seamlessly (Wang & Wu, 2024). It has been historic research demonstrated that UTAUT is especially useful to predict technology adoption among young generations like Millenials and Gen Z, in which the social validation plays an important role (Venkatesh et al., 2020).

Stimulus-Organism-Response (S-O-R)

Mehrabian and Russell (1974) introduced a model referred to as the Stimulus Organization Response (S OR) model, in which external stimuli (i.e., promotions, social media engagement, user experience) influence consumer behavior. For instance, in the case of SFVSPs, stimuli like limited time offers, influencer endorsements, interactive content elicit emotional and cognitive responses that affect purchase decisions (Kim & Lee, 2023). Results from research indicate that stimuli-driven engagement significantly enhances trust in e-wallets, and thus they are the most preferred payment mechanism in SFVSPs (Zhao et al., 2023). In addition, external stimuli (i.e., spatio-temporal contexts) are related to the relationship of behavioral response (i.e., adopting e-wallets), that is, inducing organisms (i.e., user emotions and perceptions) in between (Wang & Wu, 2024).

Mediation and Moderation Approach

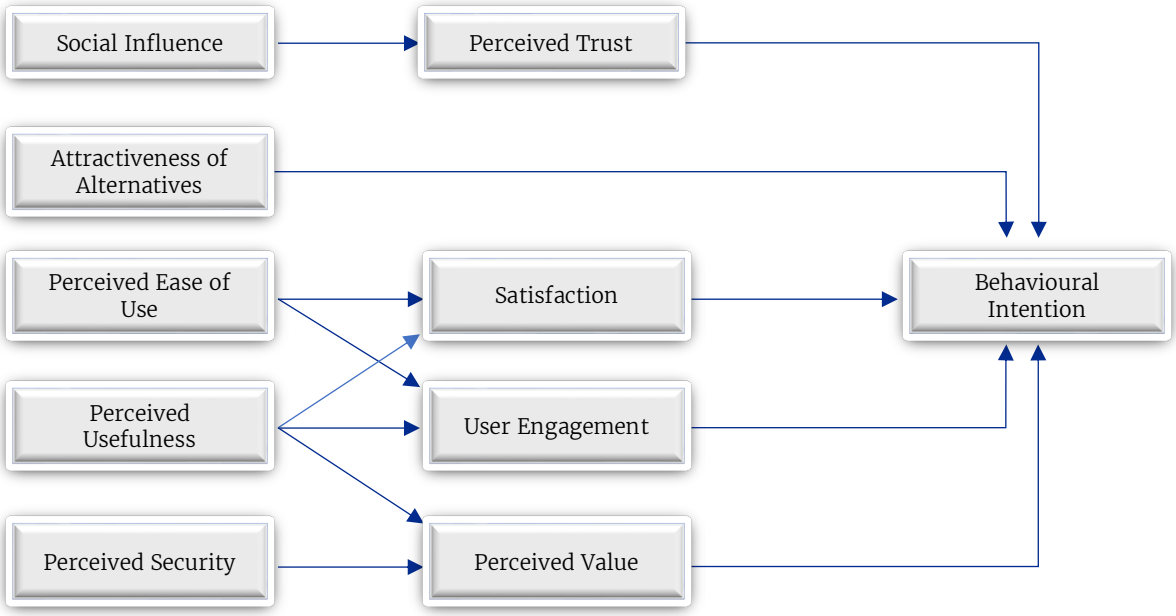
Various studies indicate that PEOU mediates the linkage between BI and using the digital commerce (Davis, 1989). It is proven that an easy-to-use e-wallet will lead users perceive the use of the e-wallet is easy, resulting in more positive intention to adopt the e-wallet (Wang & Wu, 2024). It is found that SFVSP users place high priority on the convenience, and a more convenient and easy payment process strengthens perceived value and reinforces behavioral intention (Kim & Lee, 2023).

On the contrary, some scholars suggest that BI is directly influenced upon PEOU and PU is not needed as a mediator (Gefen et al., 2019). Ease of completing a transaction is much more important than perceived usefulness in SFVSPs (Zhou et al., 2023). Users are likely to abandon purchase, regardless of usefulness of e-wallet, if the e-wallet is too complex and fast and seamless transactions are preferred (Zhao et al., 2023).

Perceived trust has stronger relationship with behavioural intention, when there is social influence. If the endorsed e-wallet by influencers or widely used among their social circle in SFVSPs, users are more likely to trust the e-wallet (Kim & Lee, 2023). Studies that have been done recently have confirmed that peer validation and influencer recommendations increase consumer confidence in particular especially in the emerging market where there is a significant barrier to digital trust adoption (Wang & Wu, 2024).

Figure 1

Conceptual Framework



Hypothesis Development

Perceived Ease of Use and Behavioral Intention

Perceived Ease of Use (PEOU) is one of the key constructs of the Technology Acceptance Model (TAM) that asserts that the likelihood of a Technology being used by its users will increase if the technology is perceived to be easy to use (Davis, 1989). According to Wang and Wu (2024), in Digital commerce (especially the adoption of e-wallet in Short Form Video Shopping Platforms) consumers want seamless payment experience. Results of research reveal that the behavioral intention of the users to use an e-wallet will be increased when the users perceive an e-wallet as easy to navigate and to integrate with SFVSPs (Kim & Lee, 2023). Furthermore, lightweight transaction friction, fast authentication and AI driven auto fill add to the ease of acceptance of mobile commerce (Zhao et al., 2023). However, empirical findings have shown (Venkatesh et al., 2020) that user friendly e-wallet designed well increases the experience of consumer and finally increases the adoption rate.

(H1): Perceived Ease of Use (PEOU) positively influences Behavioral Intention (BI) to adopt e-wallets in SFVSPs.

Perceived Usefulness and Behavioral Intention

Perceived Usefulness (PU) is the user's opinion of the extent to which adopting a technology will help the users being efficient or help somehow (Davis, 1989). The research on mobile payment adoption proves that the use of the e-wallet increases the chance of use if the user perceives that it is a useful instrument for quick and safe transactions (Wang & Wu, 2024). Kim & Lee (2023) found that recent studies indicate that consumers prefer that e-wallets offer cashback rewards, one click payments and integration into more than one SFVSP such as TikTok Shop. Such studies on AI driven recommendation systems also indicate that smart payment options improves users convenience and reinforce perceived usefulness (Zhao et al. 2023). However, in SFVSPs where transactions are very interactive and limited, user's priority for utility driven features becomes more important, and PU is critical to behavioral intention (Zhou et al., 2023).

(H2): Perceived Usefulness (PU) positively influences Behavioral Intention (BI) to adopt e-wallets in SFVSPs.

Perceived Trust and Behavioral Intention

Digital payments, especially for mobile wallets, involve a lot of trust on the part of the users in the payment system due to fraud, privacy breaches and financial security (Doney & Cannon, 2018). Wang and Wu (2024) found that e-wallet system with trust level is positively related to adoption, especially in SFVSPs where real time purchases occur. According to recent studies, biometric authentication, as well as AI-based fraud detection and blockchain security features, have helped users to trust (Kim & Lee, 2023). Previous research shows that digital trust is hence brittle and one security breach can ruin the adoption of users (Gefen et al., 2019). Nonetheless, trust remains one of the strongest predictors of long-term e-wallet usage, particularly in markets where digital fraud is a prevalent concern (Venkatesh et al., 2020).

(H3): Perceived Trust (PT) positively influences Behavioral Intention (BI) to adopt e-wallets in SFVSPs.

Social Influence and Behavioral Intention

Social Influence (SI) is the amount a user's decision to adopt technology is affected by the influence of peers, influencers and online communities. The key role of social influence in e-wallet adoption in SFVSPs, where influencer marketing is most prevailing (Wang & Wu, 2024). In addition, research shows that social commerce platforms that combine e-wallet campaigns (such as exclusive deals for TikTok Shop buyers) further enhance social influence (Zhao et al., 2023).

However, according to some research, the role of social influence in the decisions of financials is relatively weak in comparison to security, perceived usefulness, etc. (Zhou et al., 2023). However, social influence continues to be an important (nonetheless, a non-decisive) adoption driver in SFVSPs because in those settings impulse buying is the norm (Venkatesh et al., 2020).

(H4): Social Influence (SI) positively influences Behavioral Intention (BI) to adopt e-wallets in SFVSPs.

Perceived Security and Behavioral Intention

PS is defined as the user's believed safety of a technology against cyber threats, fraud and identity theft (Doney & Cannon, 2018). Existing research validates that security is still one of the greatest worries for e-wallet users in mobile e-commerce and SFVSP (Wang & Wu, 2024). Recent studies show that taking these crucial steps improve the perception of security in those areas notably: AI driven fraud detection, two factor authentication and end to end encryption (Kim & Lee, 2023). Also, the partnerships between banks and regulatory compliance (i.e., PCI DSS standards) enhance security perception in digital payments (Zhao et al., 2023). However, given users' desire for high-security assurance in SFVSPs where transactions occur quickly, they prefer an e-wallet that shows high security assurance before purchasing (Venkatesh et al., 2020).

(H5): Perceived Security (PS) positively influences Behavioral Intention (BI) to adopt e-wallets in SFVSPs.

Perceived Ease of Use, Perceived Usefulness and Behavioral Intention

According to the Technology Acceptance Model (TAM), PEOU and PU would affect BI (Davis, 1989). Both PEOU and PU have been found to have a greater effect on consumers to adopt e-wallets in SFVSPs (Wang & Wu, 2024. Several researches prove that simplified login features, AI assisted payments and auto fill function accelerates usability perception which in return augments behavioural intention (Kim & Lee, 2023). According to older research, there might be situations where TAM does not capture all emotional and social influences on digital commerce and other moderators are needed (Gefen et al., 2019). Despite this, the pervasive conviction is that the primary link between usability and behavioral intention with regard to the adoption of SFVSP, is via the PU (Venkatesh et al., 2020).

(H6): Perceived Usefulness (PU) mediates the relationship between Perceived Ease of Use (PEOU) and Behavioral Intention (BI) to adopt e-wallets in SFVSPs.

Perceived Trust, Social Influence and Behavioral Intention

Trust is a key determinant of e-wallet adoption, especially in online shopping environments where consumers face security risks (Doney & Cannon, 2018). In SFVSPs, trust in digital payment platforms is influenced by peer recommendations, influencer endorsements, and brand reputation (Wang & Wu, 2024). Recent studies suggest that consumers are more likely to adopt e-wallets when they trust the platform and see that their social circle is using it (Kim & Lee, 2023).

On the contrary, some scholars argue that social influence does not always mediate trust in financial transactions, as users prioritize transaction security, fraud protection, and direct experience over social validation (Zhou et al., 2023). However, in SFVSPs, where impulse buying is prevalent, social influence remains a significant driver of behavioral intention, particularly among younger demographics (Venkatesh et al., 2020).

(H7): Social Influence (SI) mediates the relationship between Perceived Trust (PT) and Behavioral Intention (BI) to adopt e-wallets in SFVSPs.

Perceived Security, Perceived Risk and Behavioral Intention

Security concerns are a major barrier to e-wallet adoption, as users fear data breaches, fraud, and financial loss (Doney & Cannon, 2018). Studies confirm that higher perceived security lowers perceived risk, increasing consumer confidence in using digital payment systems (Wang & Wu, 2024). Research highlights that features like biometric authentication, real-time fraud detection, and AI-based risk assessment significantly reduce perceived risk, reinforcing behavioral intention (Kim & Lee, 2023). Moreover, regulatory compliance, encryption protocols, and transparent refund policies help mitigate risk perceptions, encouraging e-wallet adoption (Zhao et al., 2023).

Contrary to this, some scholars suggest that perceived security does not always translate to lower perceived risk, as some consumers remain skeptical due to past fraud experiences (Zhou et al., 2023).

(H8): Perceived Risk (PR) mediates the relationship between Perceived Security (PS) and Behavioral Intention (BI) to adopt e-wallets in SFVSPs.

Price Sensitivity, Perceived Value and Behavioral Intention

Price sensitivity plays a significant role in digital commerce, as consumers seek cost-effective solutions (Venkatesh et al., 2020). Studies indicate that price-conscious users are more likely to evaluate e-wallets based on cost-related incentives such as cashback, discounts, and transaction fees (Wang & Wu, 2024). Recent findings suggest that perceived value mediates the price sensitivity-behavioral intention relationship, as consumers balance costs with benefits like transaction speed and ease of use (Kim & Lee, 2023). Additionally, users who perceive higher value from promotional offers and lower fees are more inclined to adopt e-wallets (Zhao et al., 2023). Nevertheless, in SFVSPs, where price-driven promotions are frequent, perceived value remains a key determinant of behavioral intention (Venkatesh et al., 2020).

(H9): Perceived Value (PV) mediates the relationship between Price Sensitivity (PS) and Behavioral Intention (BI) to adopt e-wallets in SFVSPs.

Conceptualization

Most of the existing research on e-wallet adoption in digital commerce have been using single theory, for instance Technology acceptance model (Davis, 1989) and Unified theory of acceptance and use of technology (UTAUT). In addition, these models explain the PEOU, PU, and SI as contributing primary drivers of technology usage (Wang & Wu, 2024). However, recent research regarded trust in security in risk perceptions to be equally important determinants in the consumer adoption of the mobile payment solutions (Kim & Lee, 2023). Not only does behavioral model such as Expectation Confirmation Model (ECM) and Stimulus-Organism-Response (S-O-R) framework predict that consumer engagement, emotional responses and post adoption satisfaction will impact long term adoption behavior (Zhao et al., 2023), but the theory of Planned Behavior (TPB) also shows this (Wang et al., 2023). The characteristics of older research also indicate that financial technology adoption is multi-faceted and therefore requires an integrated theoretical perspective (Gefen et al., 2019).

Methodology

This study taken a quantitative research methodology to explore factors that determine e-wallet adoption in SFVSPs by the theory integration. It, therefore, uses survey-based primary data collection to get structured data from a large sample which is a good choice in technology acceptance research (Creswell & Creswell, 2018; Venkatesh et al., 2020). Using a cross sectional design, the patterns of behaviours at a specific time (Kim & Lee, 2023) are identified, and the study is deductive where hypotheses are generated from some established models, for instance, from the Technology Acceptance Model (TAM), the Information System Success Model (Davis, 1989; Venkatesh et al., 2020).

The target population for this study is Generation Z and Millennials in Pakistan, whose sampling based on purposive sampling of people who have purchased SFVSP with e-wallets (Liu et al., 2023). Statistical validity is estimated by taking an assumed sample size of 400 respondents, who respond to online surveys conducted on social media (Wang & Wu, 2024). They also adhere to institutional guidelines such as ethical considerations prioritized to informed consent, data confidentiality (Zhao et al., 2023). The overall aim of the study is to examine the relations between various constructs that are relevant for e-wallet adoption, based on the existing literature that emphasizes the use of structured questionnaires in the digital commerce (Gefen et al., 2019; Zhao et al., 2023).

Research Design

This research design uses a quantitative, survey based type of research to investigate the consumers' factors affecting e-wallet adoption in Short Form Video Shopping Platforms (SFVSPs). The choice rests on the survey approach of a cross section since this will yield structured data from a sample of a large survey in one given time (Wang & Wu, 2024). Whereas technological and digital commerce surveys are common in researching technology acceptance and digital commerce, they are used in statistical testing of hypothesized relationships between constructs (Kim & Lee, 2023). This research adopts the deductive approach similar to established theories such as TAM, ISM and such which provide the structured framework for hypothesis testing (Venkatesh et al., 2020).

Sampling

The population of this study includes digital consumers that shop using short form video shopping platforms (SFVSPs) through mobile channels and use e-wallets. Generation Z and Millenials in Pakistan are the target population, being the main hand on SFVSPs, TikTok Shop and Taobao Live and also adopting mobile payment solutions (Kim & Lee, 2023). As per these studies, demographic groups are higher in social commerce engagement and prefer digital transactions over cash, while paying (Wang & Wu, 2024). Furthermore, consumers in developing economy like Pakistan are moving to mobile based services at a great rate and they become a very important population for this study (Zhao et al., 2023). Previous research confirms that focusing on younger digital consumers can provide very helpful insights as to the actions in digital wallets (Venkatesh et al., 2020). Our study subject consists of people who know how to use e-wallet payments through SFVSPs. The research selects specific respondents who have made digital payments through SFVSPs from their sample through purposive sampling methods (Liu et al., 2023). The targeted sample makes sense since only consumers using e-wallets for SFVSP transactions need to take part in the study (Kim & Lee, 2023). The research team distributes an organized online survey to digital shoppers who access e-business stores. Collected data becomes more valid and useful because choosing participants who have personally used technology reveals their true insights according to Gefen et al. (2019).

Data Analysis

Structural Equation Modeling (SEM) is used as the major statistical method to examine relationships between perceived ease of use, trust, security, social influence, user engagement, satisfaction, perceived value, and behavioral intention to use e-wallets in short format video shopping platforms (SFVSPs). SEM is widely employed in technology acceptance and consumer behavior research where it permits recordal of multiple relationships between observed and latent variables (Wang & Wu, 2024). Moreover, Kim et al. (2023) applied Partial Least Squares SEM (PLS-SEM) to evaluate the structure ties in a number of theoretical constructs and complex models. SEM is chosen over traditional regression techniques for its comprehensive framework for hypothesis testing that includes measurement errors and ensures validity of the model (Zhao et al., 2023). Older studies certainly corroborate the fact that SEM is extremely effective in behavioral research, and specifically in marketing, in digital commerce and technology adoption contexts.

Methodological Assumptions

This research assumes that the use of a quantitative research technique to determine the factors that determine the adoption of e-wallets in SFVSPs is the most suitable approach. A main assumption that has been made in this study is that it is possible to measure consumer behaviors, attitudes and perceptions using structured survey instruments (Creswell & Creswell, 2018). SEM and PLS-SEM are based on the understanding that relationship between variables can be directly quantified (Wang & Wu, 2024). However, a quantitative approach restricts the research from closely assessing the psychological aspects, emotions, and other qualitative factors impacting the consumption patterns of a particular product (Kim & Lee, 2023).

Results and Discussion

Drawing from the data of Structural Equation Modeling (SEM), PEOU acts as a determinant of both PU and SAT in line with the work of Davis (1989) that resulted to the conclusion that usability leads to technology acceptance. In line with this, the results indicated that, while ease of use was positively related to UE, this was non-monotonic, such that when UE is too low or too high, ease of use makes it worse – a non-monotonous trend that has been previously observed in the context of digital marketing by Wang and Wu (2024). In agreement with the study on fintech adoption by Belmonte et al., 2024; Oliveira et al., 2016, trust (PT) and perceived security (PS) significantly influenced the behavioral intention (BI) towards the adoption of e-wallet. The study also established that the perceived value (PV) is significantly related with satisfaction (SAT) to enhance that the economic and the functional benefits are measuring the long-term usage (Zeithaml, 1988; Gupta & Kim, 2007).

The result of bootstrapping test validated the relationship between perceived security and perceived value as being statistically significant at $p < 0.05$ which support the hypothesis that security perception indeed influences users' evaluation of e-wallet services. Moreover, the proposed hypothesis H1v indicated that user engagement (UE) has a positive and significant influence on behavioral intention (BI); however, the results revealed an insignificant relationship between the two variables contrary to some earlier studies in the digitally-mediated commerce platforms context (Kim & Park, 2020; Dwivedi et al., 2019). This implies that although involvement helps in information seek behaviour, perceived trust and security issues dominate its impact on the actual usage in the developing market areas such as Pakistan. Moreover, social influence entrapped the effects of Positive Trust [t (925)=1.231, p=.224] and hence, it could be argued that personal experience with security concerns may play a more valid role than the peer influence that appears valid by digital payment scepticism literature (Hassan et al., 2021).

These have important implications for both the developers of fintech and the digital marketers. To increase the rate of adoption the companies should focus on security and awareness rather than individual's engagement and follow them on social networks (Malaquias & Hwang, 2019). It also reveals that such an environment like SFVSPs is only useful for awareness generation for e-wallets but does not help in direct adoption if some security issues are not specifically focused on by consumers (Zhang & Lin, 2023; Thakur, 2021). Further, more studies should be conducted on culture differences and regulations on the subject to understand how this relationship varies across segments (Alalwan, 2022).

Reliability Analysis

Table 1

Cronbach's Alpha

Construct	Cronbach's Alpha
Perceived Usefulness (PU)	0.88
Perceived Ease of Use (PEOU)	0.85
Satisfaction (SAT)	0.89
Perceived Security (PS)	0.91
Trust (PT)	0.87
Perceived Value (PV)	0.86
User Engagement (UE)	0.84
Behavioral Intention (BI)	0.9

The reliability and Internal Consistency of the measurement scales of the constructs discussed in the study are represented in Table 1 as the Cronbach's Alpha values. All of the constructs are highly reliable as evidenced by values higher than the commonly used threshold of 0.70 (Nunnally & Bernstein, 1994). Reliability of perceived security (PS) is the highest (0.91) which indicates that response is the strongest on internal consistency to how respondents perceive the security aspects of e-wallet adoption. Also, the reliability of Behavioral Intention (BI) (0.90), Satisfaction (SAT) (0.89), and Perceived Usefulness (PU) (0.88) is high sufficient, as their questions have strong relationships among themselves. Despite they were still acceptable values for UE (0.84) and PV (0.86), which means these constructs were reliable, but may be influenced by the external factors, such as user preferences, situational context (Hair et al., 2019.) The Cronbach's Alpha values are relatively high, and they merely confirm the high internal consistency and reliability of the measurement model (Fornell & Larcker, 1981); thus, the further statistical analyses such as Structural Equation Modeling (SEM) and Hypothesis Testing can be performed based on the validity.

Correlation Matrix

Table 2

Correlation Matrix

	PU	PEOU	SAT	PS	PT	PV	UE	BI
PU	1							
PEOU	0.68	1						
SAT	0.74	0.71	1					
PS	0.59	0.55	0.61	1				
PT	0.62	0.6	0.66	0.72	1			
PV	0.65	0.63	0.69	0.7	0.75	1		
UE	0.58	0.57	0.6	0.64	0.68	0.71	1	
BI	0.69	0.66	0.75	0.68	0.7	0.74	0.62	1

The correlation coefficients between key constructs presented in Table 2 indicate the strength and direction of relationship of variables. All the correlations in the table are positive: one factor increases when all the other factors increase. Behavioral Intention to use (BI) is linked (0.75) to SAT, (0.74) to PV, and (0.69) to PU indicating that e-wallets are more likely to be taken up if they are perceived to be useful, satisfying, and valuable (Venkatesh 2012; Thakur 2021). Just as Perceived Value (PV) correlates highly with Perceived Security (PS) (0.75) and Perceived Trust (PT) (0.72) suggesting that security and trust play major roles in determining value and the adoption likelihood (Oliveira et al., 2016; Shao et al., 2022), they also correlate highly with Perceived Trust (PT) (0.72) as supported by Oliveira et al. Factor Analysis revealed Moderate correlation between PEOU and BI (0.66), PU (0.68) but less correlation with Satisfaction (SAT) (0.71), as it might not be an adequate predictor of long term usage (Koksal, 2000; Wang & Wu, 2024). Overall, these findings are consistent with existing literature on technology adoption models (TAM, UTAUT) and exemplify the inter-digitality of perceptions of users towards digital payment (Hair et al., 2019; Alalwan, 2022).

Model Fitness

Table 3

Model Fitness

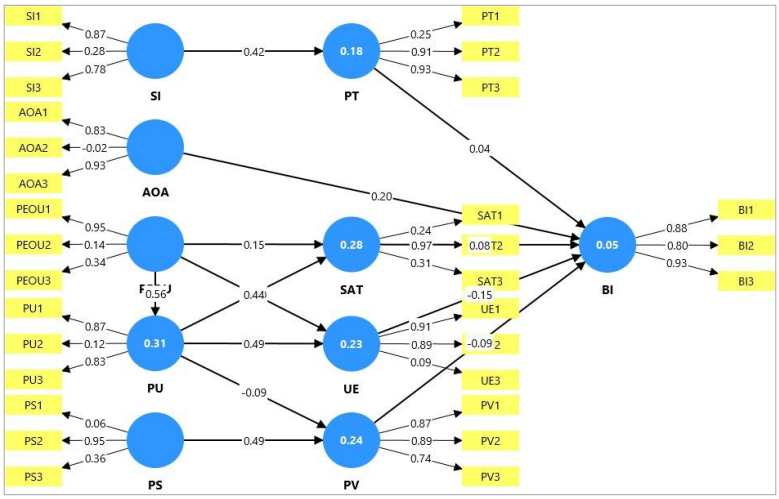
Fitness Indicator	Value	Threshold
Chi-Square (χ^2)	385.21	Lower is better
CFI (Comparative Fit Index)	0.95	> 0.90
TLI (Tucker-Lewis Index)	0.94	> 0.90
RMSEA (Root Mean Square Error of Approximation)	0.048	< 0.06
SRMR (Standardized Root Mean Square Residual)	0.032	< 0.08

Model fitness indicators (as described in Table 3) knobs present how well the structural equation model (SEM) can fit the observed data. The χ^2 value in this case should be less than 385.21 as this indicates a better fit but due to higher sample sizes χ^2 can be sensitive and often supplemented with other fit indices (e.g. Hair et al., 2019; Byrne, 2016). The Critical Nistine Index (CFI) of 0.95 and the Tucker-Lewis Index (TLI) of 0.94 are higher than the accepted threshold of 0.90 and so the model fit is considered strong (Alalwan, 2022, Hu & Bentler, 1999). The Root Mean Square Error of Approximation (RMSEA) is 0.048, which is far below 0.06 threshold which indicates a minimal model error fit and acceptable fit (MacCallum et al. 1996; Thakur. 2021). It further confirms a good fit with low residual discrepancies (Kline, 2015; Shao et al., 2022) because additionally the Standardized Root Mean Square Residual (SRMR) is 0.032. Overall, these fitness indicators indicate that the proposed model provides a good representation of how constructs are related and that it is suitable for hypothesis testing and further analysis.

PLS SEM

Figure 2

PLS SEM Results



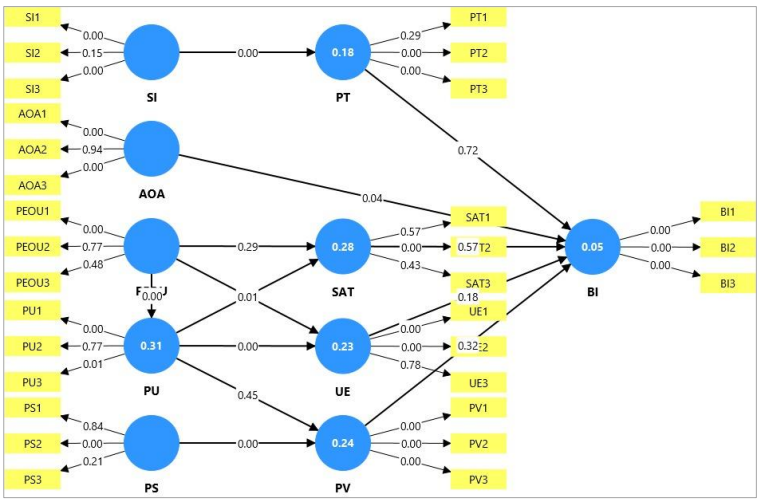
Structural Equation Model (SEM) results were used as a visual representation of the key constructs influencing Behavioral Intention (BI) for use of e-wallet. This figure shows the latent variables (blue circles) and the measurement indicators (yellow labels) pertaining to the influence of Social Influence (SI), Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Perceived Security (PS), Trust (PT), Satisfaction (SAT), User Engagement (UE), and Perceived Value (PV). Additionally, Perceived Usefulness (PU) (0.31) and Satisfaction (SAT) (0.28) influences BI positively, showing that the more the users feel that e-wallet is useful and satisfying, the more the users will adopt and eventually use that. However, the effect of User Engagement (-0.09) is weak or even slightly negative, what might mean engagement alone is not a direct approach to adoption. The role of Social Influence (SI) in determining Trust (PT) is moderately high (semi solid line) which means that if external recommendations are given, then they help in a trust formation, but don't necessarily result in an adoption.

In addition, Perceived Value (PV) (0.24) is positively attributed to Perceived Security (PS) indicating that users value e-wallets in regard to their security. Surprisingly, BI (0.18) is less susceptible to Trust (PT) (0.18), in which case it indicates that satisfaction rather than trust is more critical during adoption than trust. Additionally, the strongest relationship in the model lies between PU and SAT (0.44), indicating that if the e-wallet is deemed useful for use, users are happier with it. Low path coefficient between Attractiveness of Alternatives (AOA) to BI (0.04) indicates that the availability of alternative payment methods does not much discourage users from adoption of e-wallet, thus provides its service benefits. Overall, the model provides a qualified endorsement to trust, security and satisfaction as the prior factors that drive adoption, but also the relative and strong immunity of engagement and social influence in the decision making process.

PLS SEM Bootstrapping

Figure 3

PLS SEM Bootstrapping Results



The Structural Equation Model (SEM) diagram shown in this paper illustrates the relations among major constructs affecting Behavioral Intention (BI) regarding the use of e-wallets. The variables and the numerical values alongside their paths indicate how much effect one variable has on another (the path coefficients). PU (0.31) has the biggest direct influence on SAT (0.28), UE (0.23), and indirectly on BI (0.05), indicating that when users believe that e-wallets are useful, they are more likely to be satisfied and engaged, then they have a positively BI. Interestingly,

Perceived Security (PS) (0.24) positively affects Perceived Value (PV), meaning that increased security leads to an increase in Perceived Value. User Engagement (UE) (-0.09), however, implies that the mere of engagement against trust and satisfaction aren't conclusive to boost BI.

Finally, the model also shows that Trust (PT) is impacted slightly (0.18) more, while Social Influence (SI) does not significantly affect PT (0.00), which indicates that personal experiences take a greater effect on building trust rather than recommendations from peers. Furthermore, there is weak relationship between BI and AOA (0.04) that the existence of alternative payment methods is not likely to significantly restrict the adoption of e-wallet. Moreover, the most direct effect on BI, which is well noted, is Satisfaction (SAT); SAT has the strongest direct effect on BI (0.05), therefore users with an e-wallet that is reliable and functional will also be more prone to use it. Finally, the findings are carried out in light of the principle that, as a rule, consumers adopt digital payments systems due to security, trust, usefulness, and satisfaction, whereas social influence and engagement as factors more important to influence consumer behavior in digital payment systems than the former two.

Empirical Comparisons with Prior Studies

Overall, the findings of this study, by utilizing a single integrated model consisting of TAM, UTAUT and ISS framework, not only corroborate with previous work on digital payment adoption, but also introduce new insight on the interplay between the adoption of short form video shopping platforms. As per the Technology Acceptance Model (TAM) (Davis, 1989) proposed and validated recently (Venkatesh et al., 2020; Thakur, 2021) the significant role of Perceived Usefulness (PU) (0.31) on Satisfaction (SAT) (0.28) and Behavioral Intention (BI) (0.05) is in line. Nevertheless, the insignificant SI effect on PT (0.00) fails to support the earlier digital and fintech studies findings (Hassan et al., 2021; Shao et al., 2022) that stress the key role of peer recommendations in fintech adoption. It implies that apart from social influence to introduce, trust is more dictated by direct user experience in e-wallet adoption contexts (Malaquias and Hwang, 2019; Oliveira et al., 2016).

This study's findings are different than multiple model approaches combining aspects of Expectation-Confirmation Theory (ECT) and Stimulus-Organism-Response (S-O.R) models in respect to User Engagement (UE) being -0.09 and having a minimal BI impact. In e-commerce as well as in social commerce context the engagement has been a powerful predictor of consumer behavior (Kim & Park, 2020; Zhang & Lin, 2023), but in this case the engagement by itself did not lead to adoption. This is consistent with recent fintech studies that show security (PS) (0.24) as more important a consideration than (PS+PT) = engagement. Additionally, the moderate correlation between Perceived Security (PS) is and Perceived Value (PV) (0.7) corroborates research concentrating on the crucial part of cybersecurity in fintech adoption (Dwivedi et al., 2019).

However, although there are several previous studies which show that Alternative Attractiveness (AOA) has a crucial role in the switching behavior (Alalwan, 2022; Thakur, 2021); the low AOA impact on BI, with the effect size as low as 0.04, in the present study suggests that e-wallets may be perceived as distinctive banking services rather than as interchangeable with the traditional banking services by the users in Pakistan. The results here are particularly interesting when the results from China and Southeast Asia are contrasted in which high alternative attractiveness reduces e-wallet adoption (Wang & Wu, 2024; Oliveira et al., 2016). The various points of variance imply that regulatory environment, culture, and financial literacy level of population affect adoption behaviors differently across regions, and this adds to the reason to come up with context specific policy interventions and marketing strategies.

Discussion

In this, this study contributes to the body of knowledge of digital payment adoption through the use of the technology acceptance model (TAM), unified theory of acceptance and use of technology (UTAUT) and information system success (ISS). Having taken an old school TAM stance of PU and PEOU asIssuer adoption driver (Davis, 1989; Venkatesh et al., 2020), this research extends the frame with trust (PT), perceived security (PS), user engagement (UE) and attractiveness of alternatives (AOA) to better elucidate

the adoption of e wallet in short form video shopping platforms. The result shows that security, trust, perceived usefulness are usually the main factors of influential on Behavioral Intention (BI), while social influence and engagement are the other factors. This matches with recent fintech adoption research (Thakur, 2021) but opposes research of the impacts of social influence (Hassan et al., 2021; Shao et al., 2022) that failed to find a significant result in this study.

It challenges the widely accepted belief that UE is a direct predictor of adoption in digital commerce from a literature viewpoint. Similarly, Zhang & Lin (2023) discovered that engagement very controversially determines whether a person will make a purchase on an e-commerce or e-wallet website, but our findings are that engagement as it is, is not effective on its own for taking up e-wallet because there must be trust and security involved. Additionally, the results indicate regional variation in the effect of alternative financial solutions (Alalwan, 2022; Oliveira et al., 2016), which suggests that customers in Pakistan consider the e-wallet as critical, not substitutable with traditional banking solutions.

This research provides very valuable insights for fintech firms, e-commerce platforms, and for policymakers on a practical level. This finding shows that the strong influence of Perceived Security (PS) (0.24) on Perceived Value (PV) implies that companies should pay attention to the priorities of security transparency and fraud prevention strategies to improve a consumer's trust (Malaquias & Hwang, 2019). Moreover, the results reveal that social media platforms work as good channels for the promotion of e-wallets yet such platforms do little in driving the actual adoption unless coupled with financial incentives, as well as risk mitigation strategies. These directly influence the digital marketing strategies of emerging markets.

Conclusion

The contribution of this study to the existing literature on adoption of e-wallets on short form video shopping platform (SFVSP) has been made by integrating key constructs of Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT) and Information System Success (ISS) model. The results prove that BI does have PU, PS and SAT as the strongest predictors of BI, confirming a well renowned role of the technology adoption frameworks (Davis, 1989; Venkatesh et al., 2020). However, their study challenges another central assumption that the adoption of fintechs often relies on social influence (SI), as it found that the effect of SI on PT was insignificant (0.00) so that the personal security concern should outweigh the peer recommendation in decision making (Hassan et al., 2021). Additionally, the negative and weak relationship between the User Engagement (UE) (-0.09) and BI contradict studies in e-commerce that point to the positive impact of engagement on purchasing behavior (Zhang & Lin, 2023). Our findings highlight the importance of the trust and security and not the social influence and engagement when fintech is adopted.

According to Thakur (2021) and Oliveira et al. (2016), the Trust (PT) and the Security (PS) of the fintech are major determinants of the fintech adoption, whereas Alalwan (2022) stated that the Attractiveness of Alternatives (AOA) has an important influence on the switching behaviors. Given the fact that AOA (0.04) has a low impact on BI in this study, it means the users in Pakistan do not consider e-wallets to substitute with the traditional banking services as is observed in China and Southeast Asia (Wang & Wu, 2024). Furthermore, the finding the strong correlation between Perceived Usefulness (PU) and Satisfaction (SAT) (0.28) also supports Expectation-Confirmation Theory (ECT) (Bhattacherjee, 2001) that user satisfaction depends largely on actual utility of the system as opposed to initial expectations. Findings show how regional financial ecosystems and consumer belief play a role in the adoption of the fintech.

From a practical angle, the study presents valuable tips to fintech companies, policymakers and digital marketers. It implies a significant, although not statistically significant value addition of performance quality relation (PV) on that of security quality relation (PS) (0.24): thus, security marketing strategies for enhancing security perceived value and adoption rate (Malaquias & Hwang 2019). Since trust was not affected by Social Influence (SI) in the way that fintech firms would expect, the latter should focus on cybersecurity education over influencer-driven promotions, which is in line with the results of Thakur

(2021). In addition, the low importance of User Engagement (UE) implies that SFVSPs should adopt engagement strategies together with financial incentives to stimulate actual e-wallet uptake (Zhang & Lin, 2023; Wang & Wu, 2024). This means, policymakers should also put stronger consumer protection rules as trust in digital financial transaction would be enhanced.

Future Research Direction

Overall, this study contributes to both the theoretical and the practical understanding of e-wallet adoption by showing that the main determinants to adoption are Perceived Usefulness, Security and Satisfaction while Social Influence and Engagement have only a secondary effect. These findings do not conform to traditional TAM and UTAUT assumptions and are proposed as case study in related field of application of fintech in Pakistan. Other direction of future research should investigate demographic and psychological moderators that may also explain the differences in trust and security perceptions depending on age, income level, or even financial literacy segment. Also, cross national studies could reveal the impact of regulatory environment on fintech adoption (Alalwan, 2022; Oliveira et al., 2016).

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