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Exploring the Impact of Cryptocurrency Integration on E-Commerce Platforms: A Framework for Marketplace Integration

Musaddag Elrayah[1]*, Ariff Syah Juhari[2]

[1]Department of Management, School of Business, King Faisal University, Al-Ahsa 31982, Saudi Arabia.
Email: melrayah@kfu.edu.sa

[2]College of Business Administration, Prince Sultan University, Riyadh, Saudi Arabia.

Email: asyah@psu.edu.sa

Abstract

This research intends to investigate the impact of integrating crypto currency on e-commerce websites. Studying the integration of cryptocurrency and its impact on enhancing user experiences will be the focus. Investigating security measures, transaction processing, users' attitudes towards cryptocurrency wallets, and trust in the integration process is one of the factors to be examined. The data collection involved conducting a systematic survey of 231 cryptocurrency wallet owners to ensure a diverse sample for detailed analysis. The research confirmed and assessed the reliability of the constructs through exploratory factor analyses in addition to confirmatory factor analyses, convergent validity, and discriminant validity analyses. According to the findings, incorporating a cryptocurrency wallet can enhance the user experience by offering a simplified payment option, appealing to tech-savvy individuals, and expediting the checkout process, delivering a more favourable user experience. Moreover, implementing more secure blocks of transaction instills a feeling of trust in security and fraud protection, contingent on the implementation of sufficient security measures. Furthermore, the integration of cryptocurrency offers a quick and cost-effective method for transaction processing by lowering fees, streamlining settlement procedures, and eliminating losses from chargebacks. People's inclination to use crypto wallets may be impacted by their confidence in the integration of several key factors, including platform reputation, transparency, and customer support availability. This study contributes to the current research literature by offering empirical data that can clarify different issues and relationships related to incorporating cryptocurrency into e-commerce platforms. Identifying key factors and their relationships within a complex system enables the creation of a comprehensive integration framework for the marketplace, offering valuable insights for professionals and scholars in the field.

Keywords: Cryptocurrency, Wallet, E-Commerce, Marketplace.

Introduction

The integration of cryptocurrency into e-business platforms signifies the rise of a new transaction system and the restructuring of finances. Considering and

implementing cryptocurrency in e-business systems has stemmed from a range of factors. Initially, cryptocurrencies have enhanced security and privacy levels using blockchain technology, effectively preventing identity theft. This affirms the credibility of the sellers, fostering an environment conducive to the expansion of e-commerce. Moreover, the decentralised nature of cryptocurrencies removes the necessity for intermediaries like banks, resulting in reduced transaction fees and faster, more convenient payment processing. This is advantageous for e-businesses with global operations as it streamlines international trade and opens wide market possibilities. Cryptocurrencies are gaining widespread acceptance, aligning with the preferences of tech-savvy consumers who favour innovative digital payment methods. To gain a competitive edge and expand their customer base, e-businesses nurture these preferences. Embracing cryptocurrency in e-businesses is a strategic move to stay competitive in the fast-changing digital commerce landscape, with merchants aiming to enhance security, streamline operations, and boost customer satisfaction.

In Wu's (2022) study, the impact of non-cognitive factors such as compatibility and convenience on e-retailers' adoption of cryptocurrency has been discussed, along with the importance of technostress and regulatory support. In a study by Kim (2016), the importance of Digit currency is emphasised. Cryptography has applications in marketing and security for E-commerce. Mendoza-Tello et al. (2018) and Mendoza-Tello et al. (2019) both emphasise the importance of trust and perceived usefulness in the adoption of cryptocurrencies. Social commerce plays a significant role in the industry. Ramprakash et al. (2023) highlighted the significant concern regarding potential illegal activities, a point that Sujoko, Fahreza, and Atmojo (2023) discussed in relation to security, privacy, and user experience within the cryptocurrency exchange environment. The study by Koeswandana and Sugino (2023) took a broad approach, discussing the impact of attitude, religiousness, and subjective norms on the intention to use cryptocurrency from a social and religious standpoint. Li et al. (2023) emphasises the importance of design, awareness, performance expectations, financial literacy, and cost expectancy in influencing intention.

E-wallets have been a key focus in the digital economy, with small and medium-sized industries that are highlighted as significant players (Bakar, Rosbi, & Uzaki, 2020).

This technological wallet has been developed in several ways, such as an online application for small organisations within the community and a mobile-based payment system for peer-to-peer transactions. However, the accessibility of these systems is a significant concern, particularly in cases where cybersecurity could be at risk (Raghavendra et al., 2019). Integrating the cryptocurrency wallet into online business models signifies a meaningful change in how financial transactions are conducted in the online realm. Cryptocurrency wallets that securely store digital assets using cryptographic principles, which are essential to the technology, offer several benefits for e-commerce businesses looking to enhance their payment procedures and meet customer experience expectations. Additionally, cryptocurrency wallets that have been integrated into platforms offer enhanced security measures compared to conventional payment methods. This is due to the encryption of transactions and the decentralised structure, reducing the chances of fraud and unauthorised entry. Enhancing trust between buyers and sellers is crucial for cultivating a resolute customer following in a highly competitive online retail landscape. Moreover, cryptocurrency wallets facilitate seamless cross-border transactions, eliminating the necessity for currency conversions. This results in the elimination of conversion fees, thereby reducing obstacles for international online businesses.

Moreover, the blockchain technology, the foundation of cryptocurrency e-wallets, ensures transparency and immutability in financial transactions. This instills confidence in customers and fosters a more transparent business environment. In addition, integrating cryptocurrency wallets into e-businesses can cater to the increasing demand for cryptocurrency wallet solutions among tech-savvy consumers, positioning them as forward-thinking and modern entities in the digital market. Building trust in the utilisation of cryptocurrency wallets for e-commerce integration is crucial and relies on the following elements, which are essential for user trust and adoption. Developers should prioritise incorporating security features in cryptocurrency wallets to build user trust. It includes robust encryption algorithms, multi-factor authentication, and secure storage mechanisms to block unauthorised access and thwart cyber security threats to digital assets. Moreover, transparency in the operation of cryptocurrency wallets is crucial. Fees should be clearly disclosed,

transaction processes transparent, and terms of service explicitly laid out. This helps build trust with users by providing necessary information on how their assets are to be managed and protected.

The efficiency of wallets has been guaranteed by the significance of user-friendly interfaces, seamless transactions, and responsive customer support for E-businesses to provide customers with a positive and convenient experience in using cryptocurrency wallets. Ensuring user-friendly communication channels and promptly addressing any issues or inquiries also boosts confidence and trust in the platform. Albayati, Kim, and Rho (2020) and Zarifis et al. (2015) emphasise the importance of trust in embracing blockchain technology and digital currencies. They highlight the importance of regulatory assistance, experience, and reputation in building trust. Ghesmati, Fdhila, and Weippl (2022) and Gentilal, Martins, and Sousa (2017) discuss the usability and security of cryptocurrency wallets. Ghesmati et al. (2022) researched anonymity-preserving wallets, while Gentilal et al. (2017) proposed a TrustZone-backed bitcoin wallet for enhanced security.

This study aims to determine usability, accessibility, and user satisfaction through user feedback, behavioural patterns, and satisfaction levels related to interacting with the concept of cryptocurrency. Analysing the efficiency of transaction processing systems in cryptocurrencies is crucial for quick and accurate transactions, purchases, transfers, and withdrawals. Assessing throughput, latency, and error rates is crucial for identifying opportunities to optimise workflow processes and enhance transaction processing. Advancements in electronics will contribute to the development and implementation of strategies in this fast-evolving field. This study is essential as it highlights the opportunities and challenges of utilising cryptocurrencies within e-commerce systems. One way to accomplish this is by concentrating on these specific areas, enabling the company to effectively leverage the advantages of cryptocurrency while also avoiding potential pitfalls. Furthermore, the research suggests practical approaches to improve user experience, security, and trading transaction operations in cryptocurrency-enabled markets. These suggestions offer specific strategies for e-commerce platforms to enhance their back-end operations and front-end user-interface, aiming to excel in the digital marketplace. At

last, the research demonstrates the interconnected nature of e-commerce and cryptocurrency technology, making valuable contributions to both academic research and industry practices moving forward. It serves as a guide for stakeholders such as policymakers, scholars, and businesses. Policymakers base their decisions on formulating or strengthening policies regarding market integration, considering the evolving technological landscape and consumer attitudes. This report plays a crucial role in the chain reaction of transforming e-commerce and cryptocurrency integration.

Literature Review and Hypothesis

Integrating a crypto wallet will enable users to conveniently store, access, and transact with their digital assets on the e-commerce platform. The direct impact on service integration significantly influences the platform's operation, encompassing user experience, security measures, and transactions. Moreover, by providing a cryptocurrency wallet service, individuals can easily exchange their digital coins, leading to the development of various alternative payment systems. This platform merges accessibility and convenience, leading to a rise in digital currency adoption and the introduction of more features that enhance user satisfaction and engagement in e-commerce. In the end, integrating a crypto-currency wallet is essential for ensuring the security of the system. Wallets should use strong encryption protocols when storing data in secure media, which is essential for safeguarding user funds and sensitive information from cybercriminals. Security is a crucial element in establishing user trust, which could determine the success of cryptocurrency implementation. Additional transaction processing features have also been introduced to the cryptocurrency market. These involve buying, transferring, and withdrawing cryptocurrencies. Transaction processing is crucial for ensuring the smooth performance and user satisfaction of the cryptocurrency feature on the e-commerce platform. For this situation, it is essential to integrate personal wallets with cryptocurrency to ensure a seamless user experience, robust security measures, and reliable transaction processes for an optimal trading environment.

Digital technology that is both clear and secure, incorporating cryptocurrencies into e-commerce platforms, has proved to lower transaction costs, particularly in the

sale of consumer goods (Suslenko et al., 2022). This integration is part of a broader trend in blockchain technology that is disrupting traditional business models, including e-commerce models (Nethravathi et al., 2023; Treiblmaier & Sillaber, 2021). By using a data integration framework like the one suggested by Bergamaschi, Guerra, and Vincini (2002), you can effectively tackle product classification issues in e-commerce markets, particularly in relation to integrating electronic payments.

Integrating a cryptocurrency wallet serves as a connection between trust and the user's desire to use a cryptocurrency wallet. Offering a transparent and secure platform for storing, sending, and receiving cryptocurrencies helps to establish user trust in the reliability and functionality of the e-commerce platform. Users will be convinced to conduct their transactions through the platform's crypto wallets, strengthening this aspect. Research on the plan to use cryptocurrency wallets highlights several crucial elements. Findings from research by Alaeddin and Altounjy (2018) and Senali et al. (2023) suggest that trust and conscientiousness play crucial roles in shaping intentions. Additionally, individual innovativeness and trust propensity have been identified as factors that can influence intentions in the context of e-wallets. In a recent study, Yang et al. (2021) emphasises the importance of cognitive trust, among other factors, in the widespread use of e-wallets. In addition, Singh and Sinha (2020) examined the impact of cognitive credibility on merchants' willingness to adopt mobile wallet technology. Encouraging the seamless adoption of cryptocurrency wallet integration will foster a user-friendly environment, boosting participation in cryptocurrency and promoting the use of cryptocurrency wallets for e-commerce transactions.

H1 *Cryptocurrency (wallet) Integration mediates the relationship between Trust in Cryptocurrency (wallet) Integration and Intention to use Cryptocurrency (Wallet)*

Within this context, enhancements in user experience function as a mediator between confidence in integrating cryptocurrency wallets and the desire to use cryptocurrency wallets. Users who have confidence in the security and reliability of cryptocurrency wallet integration are more inclined to use these features. However, their practical application is shaped by their familiarity with using a cryptocurrency wallet. In a study conducted by Nguyen et al. (2024), it was found that the individual's

perception of e-tax and their intention to continue using it are influenced by their attitude towards it, as well as its perceived usefulness, ease of use, and compatibility. Ahmad et al. (2024) highlights the significance of trust in financial information in the public sector. In their work, Khan (2024) highlights the importance of supply chain flexibility in connecting ambidexterity and supply chain resilience. Amyar et al. (2024) highlights the importance of the value chain in connecting good corporate governance with bank asset growth. Ensuring a seamless user experience will enhance users' confidence in incorporating a cryptocurrency wallet and reinforce their commitment to using it for e-commerce transactions. On the other hand, a subpar user experience has the potential to erode trust in the integration and dissuade users from using a cryptocurrency wallet, regardless of their initial trust level.

H2 *User Experience (UX) Enhancements mediates the relationship between Trust in Cryptocurrency (wallet) Integration and Intention to use Cryptocurrency (Wallet)*

Security measures function as a mediator between trust in cryptocurrency wallet integration and the intention to use cryptocurrency wallets in this scenario. Having faith in the security and reliability of cryptocurrency wallet integration can boost users' interest in using these features. However, the actual adoption and use of bitcoin wallets are crucial factors in users' trust in the security measures protecting their assets and personal data. Research on the connection between trust in crypto integration and intention to use crypto wallets has yielded conflicting results, but there is a consensus that trust in crypto integration has a positive impact on intention to use crypto wallets. April 2023 research discovered that users of mobile wallets had different approaches to safety measures related to the technology. However, Alomari and Abdullah (2023) discovered a positive influence of security on the intention to use cryptocurrencies, especially among students in Saudi Arabia. This reflection may stem from a variety of samples and settings that have been examined. Security mechanisms are crucial in considering trust and the use of technology in areas like e-commerce, IoT, and electronic purses (Erinle et al., 2023; Picoto, Abreu, & Martins, 2023). Security measures play a crucial role in connecting trust in the cryptocurrency wallet integration with the intention for the cryptocurrency wallet usage by influencing the user's security and trust in the integrated wallet ecosystem. Establishing a robust

regulatory framework is essential for driving the adoption of crypto wallets in the e-commerce industry, enhancing trust among users.

H3 *Security Measures mediates the relationship between Trust in Cryptocurrency (wallet) Integration and Intention to use Cryptocurrency (Wallet)*

Transaction processing serves as a bridge between trust in cryptocurrency wallet integration and the willingness to use cryptocurrency wallets. Having faith in the security and reliability of cryptocurrency wallet integration can boost users' interest in using these features. Nevertheless, the practical implementation and utilisation of cryptocurrency wallets are also influenced by how users view the effectiveness and dependability of the transaction processing system. In a recent study, Macedo et al. (2022) highlights the significance of trust in consumer IoT applications, stressing the necessity of secure communication between devices. Amyar et al. (2024) and Yusuf et al. (2024) investigate the mediating role of value chain and integrated reporting in the connection between corporate governance and asset growth in Indonesian public banks and sustainability finance in the Islamic banking sector. In a recent study, Namahoot and Rattanawiboonsom (2022) expanded the technology acceptance model by incorporating attitude and perceived risk as mediators in the connection between perceived usefulness, ease of use, innovation, and the adoption of cryptocurrency platforms. In their study, Ghaisani, Kannan, and Basbeth (2022) highlights the significance of feelings of security and satisfaction in the intention to continue using cryptocurrency mobile wallets. In the study by Hossain, Akter, and Adnan (2022), the focus is on highlighting the importance of privacy and security, ease of use, usefulness, and trust in influencing the intention to use e-wallets. Transaction processing plays a crucial role in connecting trust in cryptocurrency wallet integration with the intention to use cryptocurrency wallets. It impacts users' views on trustworthiness and efficiency within an integrated wallet system. Ensuring a smooth transaction processing experience is crucial for building trust and increasing crypto wallet usage on e-commerce platforms.

H4 *Transaction Processing mediates the relationship between Trust in Cryptocurrency (wallet) Integration and Intention to use Cryptocurrency (Wallet)*

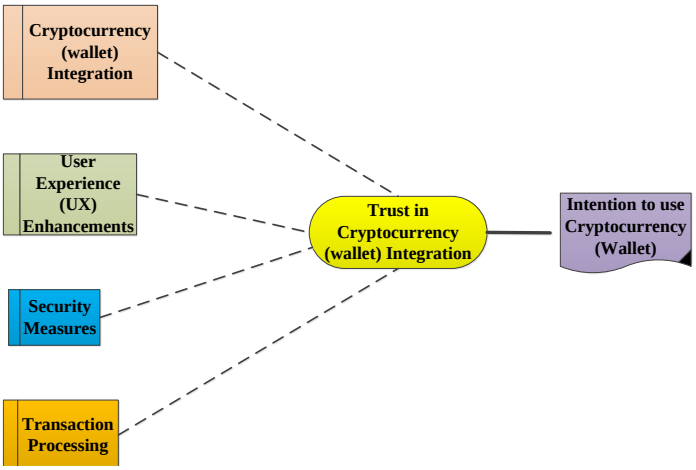

Figure 1: Conceptual Framework.

Methodology and Data Sampling

Stratified random sampling was employed in this study to gather data from a cohort of 231 individuals who were actively utilising cryptocurrency wallets. Cryptocurrency wallets serve as digital tools for storing and managing diverse types of cryptocurrencies. Identifying individuals with a strong interest or involvement in cryptocurrency is crucial for ensuring the data aligns with the research objectives. For this study, the focus is on cryptocurrency users to understand the factors influencing their behaviour and cognition in this context. Having a sample size of 231 allows for a substantial data set for analysis, enabling the drawing of reasonable conclusions on the elements under study. This study uses a statistical sampling tool to investigate a wide range of user wallet practices, categorising them based on demographics and experience level within the system.

Factor Loadings Reliability, Convergent Validity

Factor loadings, reliability coefficients, and measures of convergent validity for the main constructs assessed in the study. The strength of factor loadings indicates the connection between observed variables and the underlying latent factors. Higher factor loadings indicate that the underlying construct being measured by the particular factor is more reliable. The study demonstrates strong relationships between the observed indicators and the underlying latent constructs, with factor loadings ranging from 0.700 to 0.764 for all variables. Cronbach's alpha (α) indicates

the reliability of the measurement items within each construct. This statistic has been used to gauge the internal consistency of measurement items. The Cronbach's alpha values ranged between 0.733 and 0.788, surpassing the acceptable threshold of 0.70, indicating the reliability of the scale used. In addition, the average variance extracted (AVE) indicates the proportion of variance explained by the construct relative to measurement errors. With AVE scores ranging from 0.60 to 0.65, it demonstrates satisfactory convergent validity, suggesting that the constructs explain a significant amount of the variance in their respective indicators. At last, the results demonstrate that the measurement model in our study is a strong and effective tool for evaluating key aspects of cryptocurrency wallet integration, such as benefits, security, transaction management, user willingness, and trust.

Table 1: Factor Loadings Reliability, Convergent Validity.

	CR	**AVE**	**α**
Cryptocurrency (wallet) Integration	0.700	0.60	0.743
User Experience (UX) Enhancements	0.726	0.62	0.760
Security Measures	0.711	0.61	0.754
Transaction Processing	0.706	0.60	0.733
Intention to use Cryptocurrency (Wallet)	0.764	0.62	0.788
Trust in Cryptocurrency (wallet) Integration	0.709	0.65	0.758

Discriminant Validity

The table displays the validity of comfort between the constructs examined in the study. Examining discriminant validity involves assessing the extent of differences in construction compared to other constructs through correlation coefficients and comparing this to the square root of the average extracted variance. The AVE for each structure can be in the main diagonal of the table. Based on this analysis, the AVE value exceeds the correlation squared, indicating discriminant validity as it captures average variance relative to measurement error. For instance, the correlation between Crypto Currency (Wallet) Integration (CWI) and User experience (UX) improvement (UEE) is 0.25. The AVE values for CWI and UEE are 0.60 and 0.62, suggesting that CWI and UEE are distinct constructs. In addition, asterisks indicate the significance levels of the correlations, which reflect the importance of the relationship. Overall, the

findings show that the concepts under investigation are unique from one another, as the measurement model aligns well with the concepts being studied.

Table 2: Discriminant Validity.

	1	2	3	4	5	6
CWI	**0.42**					
UEE	0.25*	**0.52**				
SM	0.20	0.49	**0.29**			
TP	0.15*	0.34	0.10**	**0.51**		
IUCW	0.11**	0.29**	0.16	0.35*	**0.27**	
TCWI	0.38	0.34*	0.11*	0.40	0.14**	**0.21**

Note: values of AVE on diagonal higher than squared correlations values. † $p < 0.100$; * $p < 0.050$; ** $p < 0.010$; *** $p < 0.001$

Measurement Model Fit

The accuracy of the measurement model assesses the overall effectiveness of the measurement model used in the research. Various goodness-of-fit indices have been used to evaluate the model fit in different scenarios. Assessing the fit of the suggested model to the given data involves comparing it to a null model. In this case, the CFI value of 0.92 indicates a good fit, surpassing the required threshold of 0.90. The AGFI is a metric used to assess the proportion of variance in observed data accounted for by the model. With a value of 0.841, it surpasses the threshold of 0.80. RMSEA (root mean square error of approximation) is a statistical measure that assesses the agreement between the model and the actual data. The value of 0.017 is below 0.10, suggesting a strong fit. The CMIN/df ratio offers insights into the model fit relative to the sample size, with a threshold of 3. The ratio value 1.68 suggests that the model is appropriate since it does not exceed the threshold value. In addition, the TLI (Tucker-Lewis Index) and IFI (Incremental Fit Index) indicate a relative improvement in fit compared to the base model, with values of 0.90 and 0.91, respectively, meeting or surpassing the recommended thresholds of 0.89 and 0.90. Although the fit indices mentioned above indicate that the structural model effectively demonstrates the connections between observed variables and underlying constructs, thus confirming its validity for this study.

Structural Model Fit

Examining model fit through structural assessment involves evaluating the alignment between the expected relationships among variables and the actual data. The CFI value of 0.93, exceeding 0.90, indicates a strong alignment between the proposed model and the collected data as shown by the Comparative Fit Index (CFI). Moreover, the adjusted fit index (AGFI) was approximately 0.853, surpassing the acceptable threshold of 0.80. The model successfully accounted for a sizeable portion of the data variance. The RMSEA is a measure of how well the model fits the observed data, with a value of 0.010 below the threshold of 0.10, indicating a good fit. The CMIN/df ratio was 1.32, indicating that the model fit the sample size appropriately. Furthermore, the Tucker- Lewis Index (TLI) and Incremental Fit Index (IFI) exceeded 0.89 and 0.90 respectively, indicating the adequacy of the model tests. Together, these measures indicate strong consistency in the proposed relationships between constructs and observed data, demonstrating a solid alignment between the theoretical framework and empirical evidence.

Summary of Effects

In Table 3, the concept of direct, indirect, and total effects of the variables in the structural equation is summarised. Direct effects refer to the immediate influence of a variable on another, while indirect effects involve the mediated impact on a variable through others. The overall effects consider both the direct and indirect impacts. To illustrate, a straight relationship of "(wallet) integration cryptocurrency" (CWI) on "(wallet) integration cryptocurrency (TCWI)" is 0.314, meaning that CWI immediately affects TCWI. What is more, in the case of "UX improvement" (UEI), "security" (SM) and "transaction processing" (TP), their direct impacts on TCWI are 0.297, 0.347 and 0.159. Apart from this, the comprehensive impact of CWI on the intended utilization of cryptocurrency (wallet) (IUCW) is 0.641 which consists of both direct impact (0.641) and the indirect impact mediated by TCWI. Analogously, the highest impacts of UEE, SM and TP on IUCW are 0.446, 0.631 and 0.497, respectively. Also, from 0.450, the total impact of TCWI on IUCW has been observed, this means that TCWI has a direct

impact on IUCW. This study uncovers the pathways by which numerous factors impact the intention to use cryptocurrency wallets, highlighting the importance of direct relationships and indirect mediating effects in shaping user behaviour and attitudes in the cryptocurrency industry.

Table 3: Summary of Effects.

Variables	Direct Effects	Indirect Effects	Total Effects
CWI → TCWI	0.314		0.314
UEE → TCWI	**0.297**		0.297
SM → TCWI	**0.347**		0.347
TP → TCWI	**0.159**		0.159
TCWI → IUCW	**.450**		0.450
CWI → IUCW		0.641	0.641
UEE → IUCW		0.446	0.446
SM → IUCW		0.631	0.631
TP → IUCW		0.497	0.497

Result of Analyses and Hypotheses

Table 4 displays the results of the analysis conducted to determine the validity of the hypothesis in the study. Every hypothesis plays a role in mediating specific factors between the trust of integrating a cryptocurrency wallet and the intention to use a cryptocurrency wallet. The p-values linked to each hypothesis indicate the level of statistical significance, as values below 0.05 are deemed significant. Moreover, the t values indicate the strength and direction of the relationship, with values exceeding 1.96 being statistically significant at the 0.05 level. One hypothesis suggests that the connection between belief in cryptocurrency wallet integration and the intention to use cryptocurrency wallets is influenced by cryptocurrency wallet integration. Based on the results, the p-value was found to be 0.012 and the t-value was 2.39, meeting the criteria for acceptance. This suggests that the connection between self-esteem and cryptocurrency wallet integration was influenced by the process. Furthermore, Hypothesis 2 suggests that user experience plays a role in connecting trust in cryptocurrency wallet integration with the intention to use cryptocurrency wallets. The results of the analysis show that with p=0.019 and t=3.54, the values are below the critical threshold, meeting the acceptance criteria. This indicates that improving user experience acts as a mediator in

this relationship. Hypothesis three suggests that security measures play a role as a mediating variable between trust in cryptocurrency wallet integration and the intention to use cryptocurrency. Obtaining a p-value of 0.010 and t-value of 2.99 from the analysis indicates that the security measures have a moderating effect on this correlation. One theory suggests that the transaction processing plays a role in connecting the belief in adopting a cryptocurrency wallet and the actual intention to adopt one. The results displayed a p-value of 0.000 and a t-value of 4.36, meeting the criteria for acceptance and suggesting that transaction processing was mediating this relationship. These findings provide empirical evidence for the mediation effects, illustrating the intricate relationship between users' confidence in cryptocurrency wallets integration, mediators, and their intention to adopt cryptocurrency wallets.

Table 4: Result of Analyses and Hypotheses.

	Hypotheses	P-value	t-value	Accept or Reject
H1	Cryptocurrency (wallet) Integration mediates the relationship between Trust in Cryptocurrency (wallet) Integration and Intention to use Cryptocurrency (Wallet)	0.012	2.39	Accept
H2	User Experience (UX) Enhancements mediates the relationship between Trust in Cryptocurrency (wallet) Integration and Intention to use Cryptocurrency (Wallet)	0.019	3.54	Accept
H3	Security Measures mediates the relationship between Trust in Cryptocurrency (wallet) Integration and Intention to use Cryptocurrency (Wallet)	0.010	2.99	Accept
H4	Transaction Processing mediates the relationship between Trust in Cryptocurrency (wallet) Integration and Intention to use Cryptocurrency (Wallet)	0.000	4.36	Accept

p-value <0.05 (Hair et al., 2007), t-value > 1.96 (Bhatti & Sundram Kaiani, 2015)"

Discussion

The results from these studies indicate that the relationship between cryptocurrency wallet integration trust, the mediating factors, and the intention of use

is intricate. At last, the results illustrate a complex relationship between reliability in cryptocurrency wallet integration and various interactive elements such as enhanced user-friendliness, security, and transaction speed. By utilising both translation and an e-wallet, users can easily access the platform. The information provided highlights the importance of ensuring trust, security, and user-friendliness in cryptocurrency wallet platforms to encourage user adoption and usage, leading to increased user participation in the cryptocurrency ecosystem. The results of the study on financial cryptocurrency integration demonstrate various interconnected outcomes and relationships between the adoption of cryptocurrencies in e-commerce platforms and the distinct characteristics of these platforms. Integrating crypto wallets enhances the overall user experience by providing a fast and easy payment method, particularly beneficial for tech-savvy individuals, streamlining the checkout process. Improving user experience can lead to higher satisfaction and attract more users. Moreover, cryptocurrencies enhance security through blockchain technology. It enhances trust in transaction security and detects fraudulent activities. However, it is essential for e-commerce platforms to implement strong security measures to safeguard users from monetary loss or the exposure of their personal information. In addition, the integration enhances the transaction process by lowering fees, speeding up settlements, and reducing the risks of chargebacks, benefiting both customers and merchants. Users' interest in using cryptocurrency wallets is heavily influenced by their confidence in the presence of integration. Trust in a platform is significantly impacted by elements like its reputation, transparency, and the presence of responsive customer support. Therefore, the research emphasises the importance of a carefully planned integration framework for marketplaces, which should prioritise user experience, security measures, transaction speed, trust-building strategies, and ongoing evaluation to maximise benefits and reduce risks.

Hypothesis 1 suggests that the belief in cryptocurrency wallet integration acts as a mediating variable that influences the relationship between the intention to use cryptocurrency wallet and the belief in cryptocurrency wallet integration, as confirmed by the analysis. Therefore, the adoption of cryptocurrency wallet integration relies heavily on user trust in the integration, which serves as a mediator

in this relationship. In this study by Kerr et al. (2023), the author discusses prominent fraud cases, fraud risks, and the financial sector's performance. This mediation effect indicates that users' trust in the smooth integration of cryptocurrency wallets into TOEFL examination is crucial for their willingness to engage in cryptocurrency transactions.

Similarly, Hypothesis 2 posits that an improved user experience mediates the connection between trust in cryptocurrency wallet integration and the intention to use crypto wallets. The results support the hypothesis by indicating that trust in wallet integration does not directly influence the intention to use cryptocurrency wallets. Instead, it affects user experience. According to Mashatan, Sangari, and Dehghani (2022), the results highlight the importance of enhancing consumer understanding and awareness of information privacy risks and security concerns related to cryptocurrency payments to enhance transaction accessibility and safety and alleviate consumer concerns. Offering a positive and welcoming experience in cryptocurrency wallets could enhance users' trust and encourage them to use the wallets for crypto transactions.

Furthermore, Hypothesis 3 posits that the security measures play a mediating role between trust in cryptocurrency wallet integration and the intention to use cryptocurrency wallets. The evidence supports the idea that security measures such as cryptocurrency wallet integration are crucial for users' decision to use cryptocurrency wallets based on trust. The study by Rahardja et al. (2023) demonstrates that technology awareness and cognitive trust are inversely influenced by technological readiness and perceived risk. The compromised security of wallets highlights the importance of users' trust in digital currency platforms and the need to ensure the reliability of security measures. As a result, it will motivate individuals to use these platforms.

Investigating Hypothesis 4 involves examining how transaction processing mediates the relationship between an individual's belief in cryptocurrency integration and their intention to adopt a wallet. The findings reveal a noteworthy mediation effect, suggesting that users' confidence in cryptocurrency wallet integration indirectly influences their willingness to use cryptocurrency wallets by facilitating

quick transaction processing. The study by Ghaisani et al. (2022) aimed to investigate the impact of security perception, effort expectancy, and social influence on the decision to continue using cryptocurrency mobile wallets. The advancement of open and reliable transaction processing systems will significantly boost users' trust and the adoption of these wallets for transactions.

The contribution involves introducing new observations or adding to existing literature in the research field. This could provide a concise summary of the key findings and demonstrate how they have enhanced comprehension of the topic. For example, the statement represents a significant contribution to the research literature by establishing the mediating effect of numerous factors in the trust-intention to use cryptocurrency wallets relationship through the findings in the studies.

Overall, the study emphasises that incorporating cryptocurrency can enhance e-commerce platforms to gain a competitive edge. By incorporating smooth payment methods, boosting security measures, and improving transaction processing, cryptocurrency integration strives to elevate user experience and foster trust among users. However, to fully reap the advantages, it is crucial to have strong security measures, transparent operations, and excellent customer service in place on e-commerce platforms. It is crucial to implement a comprehensive strategy for market integration, continuously evaluating and adapting to maximise benefits and minimise risks. Overall, the integration of cryptocurrencies is seen as a transformative shift that is poised to significantly alter the e-commerce landscape, capturing the interest of individuals seeking fresh avenues for innovation and creativity.

Implication

Integrating cryptocurrencies could revolutionise e-commerce platforms by transforming them into alternative payment systems, enhancing security, and decreasing transaction durations. Despite the advanced technological capabilities of e-commerce platforms, it is crucial to prioritise high-level security measures, transparency, and customer support simultaneously. Similarly, it is crucial to prioritise the evaluation and adaptation of the market union's core structure, considering both advantages and potential drawbacks in order to maximise benefits and minimise risks.

Theoretical implications highlight how the research findings impact the current theoretical or conceptual framework within the study area. Regarding this matter, the theoretical importance will include a detailed explanation of how the research findings contribute to the existing theories and concepts related to the use of e-money. Research on how cryptocurrency wallet integration mediates the relationship between trust and the use intention of cryptocurrency wallets could have implications for both theory and consumer beliefs and behaviours.

Practical implications stem from the real-world applications of research. This chapter will cover the practical application of your research findings in real-world scenarios, such as developing a decentralised cryptocurrency wallet or designing marketing strategies to promote cryptocurrency adoption. In another instance, the recognition that the improved user experience and security of the wallet serve as the gatekeeper for users to embrace it can guide developers and marketers in creating and promoting secure and user-friendly wallet platforms.

Limitations and Future Directions

Constraints could pertain to any restrictions or deficiencies in the research that might impede the results or the understanding of the study. Transparency and the study's boundaries are clearly outlined here. One potential limitation may arise from issues related to sample size, data collection methods, measurement scales, and external factors that could potentially lead to underestimation of the results. Recognising the study's limitations is essential for maintaining its authenticity and providing a foundation for future research.

Future research directions will be influenced by the study's findings and limitations, potentially opening new avenues for further exploration in the field. This section typically focuses on unresolved issues or topics that require further examination. It can serve as a link between the proposed research and the current research directions of scientists. For example, future research could delve into user trust and intention to use based on specific characteristics of cryptocurrency wallet integration, as well as explore the impact of various influences like cultural or demographic factors on cryptocurrency adoption behaviour.

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