

Trust on a Swipe: Exploring the Role of Impulsiveness and Virtual Transactions in Purchasing Intentions

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ABSTRACT

This study aims to analyze the impact of virtual transaction systems and impulsive buying on trust and how this trust influences the purchasing intentions among Indonesian consumers. Using a quantitative approach and SEM-PLS analysis with 247 respondents, the research findings indicate that virtual transaction systems and impulsive buying both have a positive and significant impact on trust. Moreover, trust is shown to positively and significantly affect purchasing intentions. Additionally, trust is found to mediate the relationship between virtual transaction systems and purchasing intentions, as well as the relationship between impulsive buying and purchasing intentions. The results provide valuable insights for e-commerce platforms to refine their payment options and customer engagement strategies to build a more trustworthy and seamless shopping experience.

INTRODUCTION

The rapid evolution of the digital economy has dramatically reshaped consumer behavior, especially in emerging markets like Indonesia. As one of the fastest-growing e-commerce markets in Southeast Asia, Indonesia's digital economy is expected to continue expanding, with a projected value exceeding USD 130 billion by 2025 (Statista, 2023). This growth has been fuelled by increasing internet users, the proliferation of smartphones, and the rising popularity of virtual transaction systems such as mobile payments, e-wallets, and online banking (Müller et al., 2020). These virtual transaction systems have simplified purchasing, offering consumers convenience and efficiency. However, the success of these systems hinges on consumer trust, a crucial factor influencing their adoption and continued use (Shao et al., 2022). Trust in virtual transaction systems is vital as it mitigates perceived risks associated with online transactions, including concerns about privacy, security, and fraud (Wang et al., 2019).

While prior research has established the role of trust in consumer purchasing behavior, especially in online environments, there needs to be more understanding of how virtual transaction systems impact trust (Li et al., 2021). Given the nature of digital transactions, which often occur without face-to-face interaction, trust becomes a critical determinant of consumer willingness to engage in online shopping (Han & Windsor, 2022). This study proposes that virtual transaction systems positively and significantly impact trust (H1), suggesting that as these systems become more secure, reliable, and user-friendly, they can enhance consumer confidence in engaging in digital commerce. In Indonesia, where digital literacy is rising but concerns about online fraud persist, understanding this dynamic is particularly important (Setiawan & Sayuti, 2020).

In addition to virtual transaction systems, impulsive buying is a prominent behavior in digital shopping. Impulsive buying refers to spontaneous, unplanned purchases triggered by various internal and external stimuli (Dey & Srivastava, 2017). The online shopping environment, characterized by ease of access, promotional strategies, and the immediate availability of products, can significantly amplify impulsive buying behaviors (Liu et al., 2019). The relationship between impulsive buying and trust, however, is multifaceted. While impulsive buying can be driven by hedonic motivations and the convenience of virtual transactions, trust in the system is essential to ensure that consumers do not regret their spontaneous purchases (Wang & Chang, 2020). This study hypothesizes that impulsive buying positively and significantly affects trust (H2), positing that when consumers experience satisfaction from their impulsive purchases in a virtual environment, their trust in the transaction system is reinforced.

Trust influences consumers' willingness to engage in virtual transactions and plays a pivotal role in shaping their purchasing intentions. Recent studies have demonstrated that trust significantly impacts online purchasing intentions by reducing perceived risks and uncertainties associated with online shopping (Chiu et al., 2019). In the context of this study, purchasing intentions refer to the

likelihood of consumers making future purchases using virtual transaction systems. We hypothesize that trust positively and significantly affects purchasing intentions (H3). In the Indonesian market, where consumer scepticism towards online transactions can be a barrier, building trust can significantly boost consumer confidence and encourage repeat purchases (Sanny et al., 2020).

Furthermore, this research aims to explore the mediating role of trust in the relationship between virtual transaction systems and purchasing intentions (H4) and between impulsive buying and purchasing intentions (H5). While previous studies have often examined these variables in isolation, this study contends that trust is a critical mediator, shaping how virtual transaction systems and impulsive buying translate into actual purchasing behavior. By establishing trust, virtual transaction systems can mitigate concerns about security and privacy, leading to higher purchasing intentions. Similarly, when impulsive buying experiences are positive, they can enhance trust in the transaction process, thereby influencing future purchasing decisions (Kim & Eastin, 2021).

Despite the extensive research on trust, virtual transaction systems, and impulsive buying, there still needs to be a gap in understanding their interconnectedness, particularly in the Indonesian e-commerce context. Previous studies have often focused on developed markets, where digital infrastructure and consumer behavior differ significantly from emerging markets like Indonesia (Zhang et al., 2020). This study contributes to the literature by providing a nuanced understanding of how these variables interact within Indonesia's unique socio-economic and cultural context. By examining the mediating role of trust, this research offers insights into how virtual transaction systems and impulsive buying can be leveraged to enhance purchasing intentions in the digital marketplace.

In summary, this study aims to address the following research questions: (1) Do virtual transaction systems positively and significantly impact trust? (2) Does impulsive buying positively and significantly affect trust? (3) Does trust positively and significantly affect purchasing intentions? (4) Does trust mediate the relationship between virtual transaction systems and purchasing intentions? (5) Does trust mediate the relationship between impulsive buying and purchasing intentions? By exploring these questions, this research provides a comprehensive framework for understanding the interplay between virtual transaction systems, impulsive buying, and trust and how these factors influence purchasing intentions among Indonesian consumers.

LITERATURE REVIEW

Virtual Transaction Systems

Virtual transaction systems have significantly revolutionized the digital economy, mainly how consumers engage with online shopping platforms. These systems, including mobile payments, digital wallets, and online banking, provide enhanced security, convenience, and speed, improving the overall customer experience (Kaur et al., 2020). The adoption of these systems is increasingly evident worldwide, where user-friendly interfaces and advanced

security measures have encouraged more consumers to engage in online transactions (Gao & Waechter, 2017).

Trust plays a crucial role in the acceptance and success of virtual transaction systems (Dahlberg et al., 2018). Factors such as perceived security, ease of use, and the system's reliability influence consumers' trust in these platforms (Chin et al., 2020). When consumers believe a virtual transaction system is secure and reliable, they are more likely to use it for online purchases (Slade et al., 2015). Therefore, establishing trust through secure transaction protocols and transparent data handling practices is critical for adopting virtual transaction systems in e-commerce. Hypothesis development:

H1: Virtual transaction systems have a positive and significant impact on trust.

Impulsive Buying

Impulsive buying is a spontaneous, unplanned purchasing behavior, driven by emotional triggers and external stimuli, such as discounts, promotions, and the ease of online transactions (Akram et al., 2018). In the context of e-commerce, the availability of virtual transaction systems can facilitate impulsive buying by offering a seamless purchasing process (Zhou & Gu, 2015). The online shopping environment's personalized recommendations, limited-time offers, and easy checkout processes can increase impulsive buying behavior (Verhagen & van Dolen, 2017).

The consumer's trust further influences impulsive buying in the transaction process (Madhavaram & Laverie, 2019). When consumers perceive the virtual transaction system as trustworthy and efficient, they are more inclined to make impulsive purchases without fearing financial loss or fraud (Wells et al., 2016). Conversely, if consumers encounter negative experiences, such as delayed transactions or security issues, this can erode trust and diminish the likelihood of future impulsive purchases.

H2: Impulsive buying positively and significantly affects trust.

Trust

Trust is a critical factor in online transactions, as it reduces the perceived risk and uncertainty of purchasing products or services online (Pavlou & Gefen, 2004). In e-commerce, trust refers to the belief that the online vendor and the virtual transaction system will perform securely, reliably, and with the consumer's best interest in mind (Gefen et al., 2003). Building trust involves ensuring data privacy, transaction security and providing accurate product information (Kim et al., 2019).

Studies show that trust significantly impacts online purchasing intentions (McKnight et al., 2017). Trust encourages consumers to make initial purchases and fosters long-term loyalty and repeat business (Hajli et al., 2017). In the digital marketplace, trust can mediate the relationship between various factors, such as virtual transaction systems and impulsive buying, and their effect on purchasing intentions (Chen & Barnes, 2007). Establishing a trustworthy environment is crucial in mitigating the perceived risks of online transactions and enhancing consumer confidence in virtual payment systems. Thus:

H3: Trust has a positive and significant effect on purchasing intentions.

H4: Trust mediates the relationship between virtual transaction systems and purchasing intentions.

H5: Trust mediates the relationship between impulsive buying and purchasing intentions.

Purchasing Intentions

Purchasing intentions represent the likelihood that a consumer will buy a product or service based on their attitudes and perceptions (Ajzen, 1991). In online shopping, purchasing intentions are influenced by perceived ease of use, perceived value, and trust in the virtual transaction system (Chiu et al., 2019). Trust plays a pivotal role in shaping purchasing intentions by reducing the perceived risks of online shopping, thereby enhancing the consumer's willingness to engage in e-commerce (Gefen et al., 2003).

A secure and user-friendly virtual transaction system can significantly boost purchasing intentions by providing a seamless shopping experience (Tarhini et al., 2019). When consumers trust the system, they are more likely to make repeat purchases and are less hesitant to make spontaneous buying decisions (Luo et al., 2020). Thus, understanding the interplay between trust, virtual transaction systems, and impulsive buying is essential for predicting consumer purchasing intentions in the online retail sector.

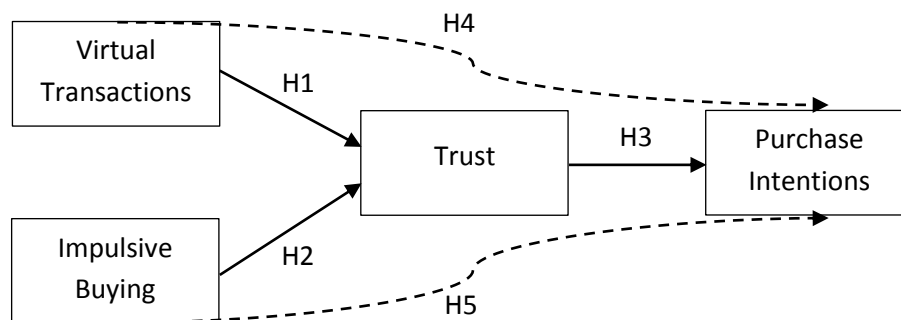


Figure 1. Conceptual Framework

METHODOLOGY

Research Design

This study employs a quantitative research design to examine the relationships between virtual transaction systems, impulsive buying, trust, and online purchasing intentions among consumers. The research utilizes the Structural Equation Modeling-Partial Least Squares (SEM-PLS) method, a robust statistical tool for complex models with multiple variables and relationships (Hair et al., 2014). SEM-PLS is particularly useful for exploratory research involving latent constructs, as it can handle reflective and formative measurement models, making it an appropriate choice for this study.

Sample and Data Collection

The study involved a sample of 247 respondents, selected using a purposive sampling technique to ensure that the participants were active users

of e-commerce platforms and virtual transaction systems in Indonesia. Data was collected through an online survey using a structured questionnaire to measure the constructs of virtual transaction systems, impulsive buying, trust, behavioral control, and online purchasing intentions. The questionnaire included demographic questions and items related to the research constructs, measured on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Measures and Instruments

The constructs were measured using multi-item scales adapted from previous validated studies. Each construct used in the study is described below: (1) Virtual Transaction Systems: Measured using items adapted from previous studies to capture consumers' perceptions of the security, ease of use, and reliability of electronic payment systems (e.g., mobile payments, e-wallets) (Gao & Waechter, 2017). (2) Impulsive Buying: Measured using items that assess consumers' tendency to make spontaneous purchases when shopping online, adapted from Verhagen and van Dolen (2017). These items reflect the emotional and behavioral aspects of impulsive buying. (3) Trust: Measured using items adapted from McKnight et al. (2017), focusing on consumers' trust in the security, reliability, and integrity of virtual transaction systems and online vendors. (4) Purchasing Intentions: Measured using items adapted from Chiu et al. (2019), capturing the likelihood of consumers engaging in future online purchases based on their trust and satisfaction with virtual transaction systems.

Data Analysis

The data analysis was conducted using SEM-PLS and SmartPLS software. The analysis involved two primary stages: the measurement model assessment (outer model) and the structural model assessment (inner model) (Hair et al., 2014).

1. Measurement Model Assessment: This step involves evaluating the validity and reliability of the constructs. Convergent validity was assessed through the indicators' Average Variance Extracted (AVE) and outer loadings. As per the criteria suggested by Hair et al. (2014), AVE values above 0.50 and outer loadings above 0.70 indicate adequate convergent validity. Discriminant validity was evaluated using the Fornell-Larcker criterion, ensuring that the square root of the AVE for each construct was more significant than its correlation with other constructs (Fornell & Larcker, 1981). Reliability was examined using Cronbach's alpha and Composite Reliability (CR), with values above 0.70 indicating satisfactory reliability (Noor, 2017).
2. Structural Model Assessment: The structural model (inner model) was assessed to examine the relationships between the constructs and test the proposed hypotheses. This involved analyzing the path coefficients, R-square values, and the significance of the relationships using the bootstrapping technique (5000 resamples). The criteria for assessing the significance of the path coefficients included a t-statistic greater than 1.96 and a p-value less than 0.05 (Hair et al., 2014). The model's predictive relevance was evaluated using the Q-square value, with values greater than zero indicating that the

model has predictive relevance for the endogenous constructs (Hair et al., 2014).

Validity and Reliability

The measurement model showed that all constructs had adequate convergent validity, with Average Variance Extracted (AVE) values exceeding the threshold of 0.50. The outer loadings of the indicators were also above the recommended value of 0.70, indicating strong indicator reliability. The Cronbach's alpha and Composite Reliability values for all constructs were above 0.70, indicating that the constructs had satisfactory internal consistency and reliability (Noor, 2017).

RESEARCH RESULTS

Validity and Reliability Testing Result

Table 1. Validity and Reliability Testing

	Cronbach Alpha	Composite Reliability	AVE	Outer Loadings			
				Trust	PI	IB	Trans
TRUST	0.962	0.968	0.791				
TRUST1				0.912			
TRUST2				0.889			
TRUST3				0.883			
TRUST4				0.851			
TRUST5				0.874			
TRUST6				0.894			
TRUST7				0.891			
TRUST8				0.918			
PI	0.913	0.945	0.852				
PI1					0.931		
PI2					0.914		
PI3					0.925		
IB	0.943	0.952	0.687				
IB1						0.745	
IB2						0.867	
IB3						0.853	
IB4						0.844	
IB5						0.825	
IB6						0.826	
IB7						0.806	
IB8						0.827	
IB9						0.864	
TRAN	0.937	0.950	0.708				
TRAN1							0.905
TRAN2							0.890
TRAN3							0.902
TRAN4							0.826
TRAN5							0.516
TRAN6							0.843
TRAN7							0.881
TRAN8							0.894

Source: Primary Data (2024)

Table 1 shows that most indicators have outer loadings above the recommended threshold of 0.70, indicating that they are reliable measures of their respective constructs. The high outer loading values for most indicators confirm the convergent validity of the measurement model, suggesting that the items used in the study effectively represent the underlying latent constructs such as Trust, Purchase Intentions, Impulsive Buying, and Digital Transactions. In addition, all the model constructs have AVE values well above the recommended threshold of 0.50, confirming that they all have good convergent validity. This means that each construct in the study explains more than half of the variance in its indicators, suggesting that the measurement model is reliable and valid. These results indicate that the items used to measure each construct are appropriate and that the constructs are distinct and accurately represented by their respective indicators.

Hypotheses Testing

Path coefficients are used to test the hypotheses, which are calculated using the SmartPLS software through bootstrapping.

Table 2. Path Coefficient Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Conclusion
H1: Virtual Transactions -> Trust	0,557	0,558	0,083	6,679	0,000	H1 Supported
H2: Impulsive Buying -> Trust	0,178	0,175	0,086	2,052	0,041	H2 Supported
H3: Trust -> Purchase Intentions	0,304	0,302	0,106	2,880	0,004	H3 Supported
H4: Virtual Transactions -> Trust -> Purchase Intentions	0,169	0,164	0,052	3,284	0,001	H4 Supported
H5: Impulsive Buying -> Trust -> Purchase Intentions	0,054	0,057	0,041	1,308	0,191	H5 Declined

Source: Primary Data (2024)

The bootstrapping results in Table 2 indicate that hypotheses H1 to H4 are supported, while H5 is not. This aligns with the principle outlined by Hair et al. (2016), which states that the T-statistic value should be greater than 1.96, and the P-value should be less than 0.05 for the hypothesis to be supported.

DISCUSSION

Virtual Transaction Systems Have a Positive and Significant Impact on Trust

The study confirms H1, revealing that virtual transaction systems significantly positively affect trust among Indonesian consumers. This finding contributes to the existing literature by highlighting the importance of virtual transaction systems in an emerging market context. Unlike previous research predominantly conducted in developed markets, this study uniquely focuses on Indonesia's e-commerce landscape, where digital literacy varies widely and concerns over online fraud remain high (Supriyanto et al., 2021). The novelty of this finding lies in demonstrating that, for Indonesian consumers, trust in virtual transaction systems is not merely based on the technology itself but also on the perceived efforts of e-commerce platforms to implement security measures and provide reliable services (Pavlou, 2019).

This contribution is significant as it emphasizes the role of localized strategies in building consumer trust. E-commerce platforms in Indonesia should adopt advanced virtual transaction technologies and ensure these technologies are perceived as secure and user-friendly. This research adds to the body of knowledge by showing that transparency in transaction processes, ease of use, and visible security protocols can significantly increase consumer trust in digital marketplaces. Consequently, these findings can guide Indonesian e-commerce businesses to develop more tailored approaches to enhance consumer trust, ultimately fostering a more robust online shopping ecosystem.

Impulsive Buying Positively and Significantly Affects Trust

The positive relationship between impulsive buying and trust (H2) suggests that when consumers engage in impulsive purchases and experience positive outcomes, their trust in the e-commerce platform increases. This finding offers a novel perspective by indicating that impulsive buying, often considered risky due to its spontaneous nature, can enhance trust when consumers are satisfied with their impulsive purchases (Ozen & Engizek, 2018). Previous studies have mainly focused on direct outcomes of impulsive buying, such as customer satisfaction and regret. However, this study extends the understanding by linking impulsive buying to trust development in a digital context.

The contribution of this finding lies in its practical implications for e-commerce platforms. In the Indonesian market, where impulsive buying is driven by promotional activities and the convenience of virtual transactions, ensuring a positive post-purchase experience is crucial (Chen et al., 2020). This research suggests that platforms should improve prompt delivery, accurate product representation, and hassle-free return policies to reinforce trust among impulsive buyers. By highlighting the role of positive impulsive buying experiences in trust-building, this study contributes to a more nuanced understanding of consumer behavior in online marketplaces. It provides

actionable insights for businesses to convert impulsive buyers into loyal customers.

Trust Has a Positive and Significant Effect on Purchasing Intentions

The study's support for H3 indicates that trust is a crucial determinant of purchasing intentions in the online shopping context. This finding aligns with existing theories that emphasize trust as a fundamental factor influencing consumer behavior in e-commerce (Gefen & Straub, 2019). However, the novelty of this study lies in its specific focus on the Indonesian market, providing empirical evidence that, in this context, trust directly enhances consumers' willingness to make online purchases. Given the prevalent scepticism towards online transactions in Indonesia, this research demonstrates that building trust can mitigate perceived risks and uncertainties, thus encouraging more active participation in e-commerce.

This study offers several contributions. Firstly, it underscores the importance of trust-building strategies tailored to the Indonesian consumer market. Secondly, it extends the literature by showing that trust can bridge consumer apprehensions and the perceived benefits of online shopping. These insights have practical implications for e-commerce businesses, suggesting that efforts to increase transparency, provide secure transaction systems, and communicate reliability effectively can lead to higher purchasing intentions among Indonesian consumers. Thus, trust is a desirable attribute and a strategic necessity for driving online purchasing behavior in emerging markets.

Trust Mediates the Relationship between Virtual Transaction Systems and Purchasing Intentions

The confirmation of H4 reveals that trust mediates the relationship between virtual transaction systems and purchasing intentions. This finding contributes to the literature by offering a more nuanced understanding of how virtual transaction systems influence consumer behavior. Rather than directly affecting purchasing intentions, virtual transaction systems first need to establish trust before they can effectively drive purchasing intentions (Martins et al., 2019). The novelty here lies in unpacking the pathway through which virtual transaction systems lead to purchasing behavior, emphasizing the intermediary role of trust, particularly in an Indonesian context.

This contribution is crucial as it highlights that the effectiveness of virtual transaction systems depends significantly on their ability to foster trust among consumers. E-commerce platforms should not only focus on the technical aspects of these systems but also invest in trust-building measures, such as secure payment gateways, clear communication of security policies, and customer support services (Alalwan et al., 2018). Doing so can enhance consumers' confidence in using these systems, increasing their likelihood of making online purchases. This study enriches the existing body of knowledge by illustrating that trust is a critical mechanism that transforms the functional benefits of virtual transaction systems into actual consumer purchasing behavior.

Trust Mediates the Relationship between Impulsive Buying and Purchasing Intentions

Contrary to expectations, H5 was not supported, indicating that trust does not mediate the relationship between impulsive buying and purchasing intentions. This result introduces a novel finding, suggesting that the impulsive buying process might operate independently of trust (Zhou & Gu, 2019). Impulsive purchases are often driven by emotional and situational factors rather than a deliberate trust evaluation. This outcome contributes to the literature by proposing that while trust is essential for general online purchasing behavior, its role in impulsive buying is less pronounced, as impulsive buying decisions are typically made spontaneously without considering trust factors (Chen & Chang, 2018). In such cases, consumers may purchase based on the moment's excitement, regardless of their level of trust in the platform (Chen & Chang, 2018).

The contribution of this finding lies in its practical implications. For e-commerce platforms, this suggests that strategies to drive impulsive buying should focus more on creating an engaging and stimulating shopping environment rather than solely on trust-building initiatives. Features such as flash sales, limited-time offers, and personalized product recommendations can more effectively prompt impulsive purchases. However, while trust may not mediate this relationship, it still plays a vital role post-purchase, as ensuring a positive experience can turn impulsive buyers into repeat customers. Therefore, while the immediate decision to buy impulsively may bypass trust considerations, the post-purchase phase offers trust-building opportunities.

Overall Contributions

The overall contributions of this study are multifaceted. It advances the understanding of consumer behavior in the Indonesian e-commerce context by highlighting the varying roles that virtual transaction systems, impulsive buying, and trust play in shaping purchasing intentions. The findings emphasize that trust serves as a crucial mediator, particularly for non-impulsive transactions, and that the effectiveness of virtual transaction systems is contingent upon their ability to foster consumer trust. Additionally, the study provides practical insights for e-commerce platforms in emerging markets, suggesting that trust-building strategies should be integrated into every aspect of the online shopping experience, from secure transactions to effective handling of impulsive purchases.

CONCLUSION AND RECOMMENDATIONS

This study concludes that virtual transaction systems and impulsive buying significantly impact consumer trust in the Indonesian e-commerce context. Additionally, trust is found to have a positive and significant effect on purchasing intentions, mediating the relationship between virtual transaction systems and purchasing intentions. However, trust does not mediate the relationship between impulsive buying and purchasing intentions, suggesting that impulsive buying operates independently of trust factors.

For e-commerce platforms, the findings emphasize the importance of developing secure, reliable, and user-friendly virtual transaction systems to

enhance consumer trust. Platforms should also focus on providing a positive post-purchase experience, particularly for impulsive buyers, through features such as timely delivery, accurate product descriptions, and a transparent return policy. By adopting localized strategies that address the unique concerns of Indonesian consumers, platforms can build a more trustworthy and seamless shopping environment.

ADVANCED RESEARCH

This study has certain limitations that offer avenues for future research. First, it primarily focuses on the Indonesian market, limiting the generalizability of the findings to other cultural and economic contexts. Future research could explore similar dynamics in other emerging markets to compare and contrast findings. Second, this study examines trust, impulsive buying, and virtual transaction systems at a general level. Further research could investigate the impact of specific elements of virtual transaction systems, such as biometric security features or real-time transaction notifications, on consumer trust. Finally, the study's cross-sectional design captures consumer behavior simultaneously. Longitudinal studies could provide deeper insights into how trust and purchasing intentions evolve with technological advancements and changing consumer behaviors.

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