

DIGITAL PAYMENT SYSTEMS ON THE CONSUMPTIVE BEHAVIOR OF UNIVERSITY STUDENTS IN D.I.Y WITH FINANCIAL RISK AS A MEDIATING VARIABLE

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ABSTRACT

The development of e-commerce and digital payment systems has changed transaction patterns and student consumption behavior. The ease of access and speed of transactions offered have the potential to encourage consumptive behavior, particularly through increased financial risk. This study aims to analyze the effect of e-commerce and digital payment system adoption on student consumptive behavior in the Special Region of Yogyakarta (D.I.Y) with financial risk as a mediating variable. This study uses a quantitative approach with a survey method involving 260 students who actively use e-commerce and digital payment systems. Data analysis was performed using Partial Least Squares–Structural Equation Modeling (PLS-SEM). The results show that the adoption of e-commerce does not have a significant direct effect on consumptive behavior, while digital payment systems have a significant effect on the consumptive behavior of students. Financial risk was found to mediate the effect of e-commerce adoption on consumptive behavior, but did not mediate the effect of digital payment systems on consumptive behavior. The R-square value shows that e-commerce adoption and digital payment systems simultaneously explain some of the variation in students' consumptive behavior and financial risk. These findings confirm that financial risk plays an important role in explaining students' consumptive behavior in the digital age.

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INTRODUCTION

Technological advances in the era of globalization have brought significant changes in various aspects of life, including transaction patterns and economic activities of society (Institute for Development of Economics and Finance (INDEF), 2024). Traditional trade, which still continues today, has also been affected by developments in digital technology, giving rise to new forms of trade that are more efficient and based on information technology (Institute

for Development of Economics and Finance (INDEF), 2024). One of the main innovations of this transformation is electronic commerce (e-commerce), a form of trade that utilizes the internet as the main medium for transactions (Del et al., 2024)

E-commerce enables interaction between sellers and buyers without space and time constraints and offers greater efficiency compared to traditional trade (Ha & Nguyen, 2025). This digital trade transformation has had a positive impact in the form of an increase in the number of workers and average annual turnover growth, especially for MSME players in Indonesia (Institute for Development of Economics and Finance (INDEF), 2024). E-commerce is defined as the buying and selling of goods and services through an electronic system connected to the internet (Del et al., 2024). In addition, e-commerce is also understood as commercial activities that enable individuals and businesses to buy and sell goods or services through digital platforms (Ha & Nguyen, 2025).

The development of e-commerce in Indonesia is marked by an increase in the number of digital platforms used by the public, with Shopee as the most popular platform, followed by TikTok Shop and other platforms such as Tokopedia, Lazada, and Blibli (Institute for Development of Economics and Finance (INDEF), 2024; Muhamad, 2025). This condition shows that e-commerce has become an important part of people's consumption activities, especially among young people such as students (Muhamad, 2025). The presence of e-commerce has also changed the way consumers interact with the market, where the entire transaction process, from product search to payment, can be done online without any space or time constraints (Institute for Development of Economics and Finance (INDEF), 2024). Along with the rapid growth of e-commerce, payment systems have also undergone a transformation towards increasingly digital forms (Abdulai et al., 2024).

Digital payment systems serve as platforms that facilitate electronic transactions between consumers and merchants in the e-commerce ecosystem (Abdulai et al., 2024). Innovations in digital payment systems include electronic wallets, credit and debit cards, mobile payments, bank transfers, pay later services, on-site payments, and cryptocurrencies (Ha & Nguyen, 2025). The presence of digital payment systems provides various benefits such as increased transaction efficiency, ease of access, speed of payment, and new business opportunities (Ha & Nguyen, 2025).

However, the convenience offered by e-commerce and digital payment systems also has various consequences in the form of risks, particularly financial risks (Bhatti et al., 2019). Financial risks refer to potential losses in the form of money lost by consumers due to transaction errors, poor purchasing experiences, or misuse of personal data (Bhatti et al., 2019). In addition, financial risks can also arise due to increased consumptive behavior triggered by ease of access, intensity of promotion, and payment flexibility in digital platforms (Featherman & Pavlou, 2003). In the context of consumptive behavior in the digital age, financial risk not only plays a role as a consequence of technology use, but also as an intermediary variable that bridges the relationship between technology adoption and individual consumption behavior (Selfianti et al., 2025).

Users' perceptions of financial risk can influence their confidence in conducting digital transactions, thereby determining whether technological convenience will encourage or inhibit consumptive behavior (Featherman & Pavlou, 2003). Several studies show that low individual capacity to manage financial risk increases vulnerability to consumptive behavior in digital transactions (Gunawan, 2023). Conversely, high risk perception can suppress consumptive urges through increased awareness of potential financial losses (Syahputri et al., 2025). The preliminary survey results in this study indicate that several indicators of student consumptive behavior have average scores below the neutral score of 3.00, which indicates variations in consumptive behavior among students. In addition, previous studies on the influences of e-commerce adoption and digital payment systems on consumptive behavior have shown mixed and inconsistent results (Dewi et al., 2025).

This study uses two main theories, namely the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB), as a conceptual basis for explaining the relationship between variables in the study (Chuttur,

2009; Ajzen, 2020). Both theories are relevant in examining the adoption of e-commerce and digital payment systems on the consumptive behavior of students in the Special Region of Yogyakarta with financial risk as a mediating variable (Featherman & Pavlou, 2003). The Technology Acceptance Model (TAM) is used to explain the factors that influence the acceptance and use of technology, including in the context of e-commerce and digital payment system adoption (Chuttur, 2009).

TAM states that technology acceptance is influenced by several key constructs, namely perceived usefulness, perceived ease of use, and attitude toward using the system, which then shape intention and technology usage behavior (Chuttur, 2009). This model aims to explain users' reasons for accepting or rejecting technology, particularly computer systems and digital-based technologies across various user populations (Featherman & Pavlou, 2003). In addition to TAM, this study also uses the Theory of Planned Behavior (TPB) to explain consumer behavior resulting from the use of digital technology (Ajzen, 2020). TPB explains that behavioral intention is influenced by attitude toward behavior, subjective norm, and perceived behavioral control, which shape an individual's actual behavior (Ajzen, 2020). Thus, TAM explains the process of technology adoption, while TPB explains the formation of intention and the consumer behavior that arises from the use of that technology (Featherman & Pavlou, 2003; Ajzen, 2020).

The American Marketing Association defines consumer behavior as all activities of individuals or organizations in the process of selecting, purchasing, using, and disposing of products and services to meet their needs and desires (Efriyanto et al., 2025). Consumptive behavior refers to the tendency of individuals to make purchases that are not based on rational needs, but rather on the sole desire for satisfaction, which is further reinforced by the ease of e-commerce (Del et al., 2024). The conflict between short-term impulses and long-term rational considerations reflects consumptive behavior, which is reinforced in the younger generation by low self-control due to environmental and socio-economic influences (Bai, 2022). Consumptive behavior is also influenced by financial literacy, where a good level of financial understanding enables individuals to control impulsive purchases, while socioeconomic and demographic factors shape individuals' financial attitudes and behaviors (Dewi et al., 2025; Garg & Singh, 2017).

In addition, promotions, prices, the tendency to follow trends, and a hedonistic lifestyle encourage Generation Z's consumptive behavior, while uncertainty and risk surrounding purchasing decisions cause anxiety that affects consumer behavior (Anizzah et al., 2025; Taylor, 2020). Internal and external factors such as individual characteristics, marketing strategies, shopping atmosphere, and website and affective stimuli also encourage impulsive buying in the context of digital consumption (Wang et al., 2022; Zhao et al., 2022). The use of non-cash payment systems such as electronic money increases the convenience and utility of consumption, but also has the potential to encourage unplanned consumption, although studies show different findings regarding the role of financial literacy on consumptive behavior (Bai, 2022; Wardhani & Wikartika, 2023).

E-commerce is the digital form of the process of buying and selling goods and services that utilizes information and communication technology through internet-based platforms (Del et al., 2024). E-commerce activities are closely related to online shopping behavior, which encompasses the processes of perception, product evaluation, and purchase decision-making by consumers (Bhatti et al., 2019). The presence of e-commerce offers transactional flexibility without spatial or temporal constraints, supported by increasingly advanced digital payment systems (Ha & Nguyen, 2025). In an organizational context, the adoption of e-commerce has become a critical strategy for enhancing competitiveness and adaptability to shifts in consumer behavior in the digital era (Hanum & Sinarasri, 2017; Del et al., 2024). However, the implementation of e-commerce also faces privacy and data security risks that affect the level of consumer trust in online shopping (Forsythe & Shi, 2003; Bhatti et al., 2019).

Financial technology is a technology-based innovation that produces digital payment systems to facilitate financial transactions (Del et al., 2024). Online payments are defined as payment processes conducted via the internet using various methods, such as P2P payments, e-wallets, mobile payments, credit/debit cards, and cryptocurrencies

(Rahman et al., 2018; Lara-Rubio et al., 2020), Digital payment systems improve the efficiency and accessibility of transactions, especially in conditions of mobility restrictions such as during the Covid-19 pandemic (Dinh, 2024).

The use of digital payments is influenced by utilitarian and hedonistic factors, such as speed, ease, convenience, and user enjoyment (Dinh, 2024). Digital payment systems can be classified into cash-based systems and account-based systems, the use of which is influenced by security, trust, and social influence (Barkhordari et al., 2016; Liu et al., 2019). Financial risk is a critical aspect of online transactions related to the potential for financial loss and uncertainty regarding the outcomes of purchasing decisions (Alrawad et al., 2023). Financial risk includes the potential loss of money due to transaction errors, data misuse, and product failure (Forsythe & Shi, 2003). Risks in e-commerce include financial, privacy, and product risks that can hinder consumers' purchase intentions (Bhatti et al., 2019). The use of digital payment systems without adequate financial management and literacy can increase financial risks, such as overspending and transaction errors (Alrawad et al., 2023). Therefore, financial risks play a significant role in shaping the consumption behavior of digital technology users (Featherman & Pavlou, 2003).

These differing findings indicate the presence of psychological and financial factors, such as financial risk, which need to be re-examined as mediating variables (Selfianti et al., 2025); Gunawan, 2023) The selection of the Special Region of Yogyakarta as the research location was based on its characteristics as a representative student city and often referred to as a miniature Indonesia (Yu & Setiyaningrum, 2019). The diversity of student backgrounds and relatively affordable socioeconomic conditions make this region relevant for studying student consumption behavior in the digital age (Haryono, 2009). Therefore, this study is expected to contribute academically to understanding digital consumption behavior and the role of financial risk in the adoption of e-commerce and digital payment systems (Featherman & Pavlou, 2003).

METHOD

This study uses a quantitative approach with a survey method to analyze the relationship between variables empirically (Creswell & Creswell, 2018; Soesana et al., 2023). The research population consisted of 410,789 active students who use e-commerce and digital payment systems in the Special Region of Yogyakarta (Badan Pusat Statistik Provinsi Daerah Istimewa Yogyakarta, 2025). The sampling technique used non-probability sampling with a purposive sampling approach (Sugiyono, 2013). Data analysis uses SEM-PLS to test direct and indirect relationships between variables, including validity and reliability tests, as well as structural path hypothesis testing.

RESULTS AND DISCUSSION

Based on the results of the PLS-SEM analysis, this discussion aims to explain the meaning of statistical findings in each variable relationship and research hypothesis testing. The analysis results show that e-commerce adoption does not have a significant effect on consumptive behavior with a coefficient value of -0.002 , a t-statistic value of 0.018 (< 1.96), and a p-value of 0.986 (> 0.05), indicating that the convenience and accessibility of e-commerce does not directly encourage consumptive behavior (Chuttur, 2009). This finding is in line with research stating that the adoption of e-commerce is influenced by technological and environmental readiness, so that it does not always have a direct impact on individual consumption behavior (Hanum & Sinarasri, 2017).

The results of further analysis show that the adoption of e-commerce has a significant effect on financial risk with a coefficient value of 0.211 , a t-statistic value of 2.646 (> 1.96), and a p-value of 0.008 (< 0.05), indicating that increased intensity of e-commerce use increases consumers' perception of financial risk (Bhatti et al., 2019). These findings indicate that data security risks and potential financial losses are consequences of high e-commerce adoption, in line with the Theory of Planned Behavior, which emphasizes the role of behavioral control in shaping attitudes and consumption behavior (Ajzen, 2020).

In the digital payment system variable, the analysis results show a significant effect on consumptive behavior with a coefficient value of 0.213, a t-statistic value of 2.507 (> 1.96), and a p-value of 0.012 (< 0.05), indicating that the ease of digital transactions encourages increased consumer behavior (Gunawan, 2023). This finding is supported by research stating that the use of digital payment systems is influenced by ease of use, subjective norms, and personal innovation that increase consumption intensity (Lara-Rubio et al., 2020). However, these results are not entirely consistent with studies that found that payment methods do not always have a significant effect on impulsive purchases because they are influenced by user perceptions and characteristics (Bakar et al., 2025; Chuttur, 2009).

The analysis results also show that digital payment systems do not have a significant effect on financial risk with a coefficient value of 0.151, a t-statistic value of 1.789 (< 1.96), and a p-value of 0.072 (> 0.05), indicating that the intensity of digital payment usage does not always increase perceived financial risk (Gunawan, 2023). These findings highlight the importance of financial literacy and individual self-control in minimizing financial risk, as explained in the Theory of Planned Behavior (Ajzen, 2020).

Furthermore, financial risk was found to have a significant effect on consumptive behavior with a coefficient value of 0.352, a t-statistic value of 6.416 (> 1.96), and a p-value of 0.000 (< 0.05), which confirms the role of risk perception as a psychological factor in shaping consumption behavior (Bakar et al., 2025; Ajzen, 2020). The mediation test results show that financial risk does not mediate the influence of digital payment systems on consumptive behavior, but it is proven to mediate the influence of e-commerce adoption on consumptive behavior, indicating that the influence of e-commerce occurs indirectly through the perception of financial risk (Bakar et al., 2025; Chuttur, 2009).

The effect size test results show that all relationships between variables are in the small effect category, indicating that although statistically significant, their influence is relatively weak in practical terms (Ajzen, 2020). These findings reinforce the view that consumptive behavior is influenced by various factors other than technology, such as psychological factors and financial literacy (Bakar et al., 2025; Selfianti et al., 2025). The model evaluation shows that the adoption of e-commerce and digital payment systems with financial risk can explain 21.4% of the variation in consumptive behavior and 11.4% of the variation in financial risk, while the rest is influenced by factors outside the model, as described in the Theory of Planned Behavior and Technology Acceptance Model (Ajzen, 2020; Featherman & Pavlou, 2003).

CONCLUSION

Based on the results of the analysis and discussion, it can be concluded that the adoption of e-commerce does not have a significant direct effect on the consumptive behavior of students, indicating that ease of access and use of e-commerce does not necessarily encourage consumptive behavior without certain psychological and financial factors. Conversely, digital payment systems have been proven to have a significant effect on consumer behavior, indicating that the ease and flexibility of payment systems can encourage an increase in student consumption.

Furthermore, financial risk has been proven to mediate the effect of e-commerce adoption on consumer behavior, indicating that the effect of e-commerce adoption on consumer behavior occurs through students' perception of financial risk. However, financial risk was not proven to mediate the influence of digital payment systems on consumptive behavior. Simultaneously, the adoption of e-commerce and digital payment systems can explain some of the variation in students' consumptive behavior and financial risk, while the rest is influenced by other factors outside the research model. These findings emphasize the importance of the role of financial risk in understanding students' consumptive behavior in the digital era, particularly in the context of e-commerce use.

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