International Journal of
Economics Development Research, Volume 6(2), 2025
pp. 1017-1028

Financial Literacy and Digital Payment Adoption as Economic Drivers of Consumer Shopping Behavior and Self-Control

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Abstract:

This study aims to analyze the influence of financial literacy, digital payment usage, and self-control on shopping habits. Data were collected through questionnaires distributed to respondents and analyzed using path analysis with SmartPLS. The results indicate that financial literacy and self-control have a negative and significant effect on shopping habits, while digital payment usage has a positive and significant influence. The financial literacy coefficient of -0.122 and self-control coefficient of -0.113 suggest that an increase in these variables reduces shopping habits. Conversely, digital payment usage, with a coefficient of 0.546, shows that the more frequently digital payments are used, the higher the individual's shopping habits. These findings highlight the crucial role of financial literacy and self-control in curbing consumer behavior, while the convenience of digital transactions tends to increase shopping frequency. This study contributes to the development of financial education strategies and consumer behavior management in the digital era.

Keywords: *Financial Literacy; Digital Payments; Self-Control; Shopping Habits; Path Analysis*

Sumbitted: February 3, 2025, Accepted: March 2, 2025, Published: March 30, 2025

1. Introduction

The rapid evolution of digital technology has significantly transformed various aspects of human life, particularly consumer behavior (Adha, 2022). One of the most notable shifts is the transition from conventional in-store shopping to online marketplaces, as e-commerce platforms increasingly cater to consumers' daily necessities. Additionally, the widespread adoption of digital payment methods, such as e-wallets, mobile banking, and electronic financial services, has largely replaced cash transactions, fostering a more efficient and rapid spending culture (Sasabone et al., 2023). However, these advancements also underscore the necessity of financial literacy and self-regulation as pivotal determinants influencing purchasing habits. University students, in particular, constitute a demographic highly impacted by this technological transformation. According to a survey conducted by the Indonesian Internet Service Providers Association (APJII), approximately 77% of students in Indonesia actively utilize e-wallets for daily transactions (Yonatan, 2024).

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The extensive integration of digital financial services among students reflects the convenience offered by emerging technological advancements. However, despite increased accessibility, students frequently struggle with financial management due to inadequate planning, impulsive spending behaviors, and limited financial literacy. The inability to differentiate between essential and discretionary expenditures often results in financial instability, particularly toward the end of each month (Luhsasi, 2021).

The ease of digital transactions is further reinforced by enticing promotional strategies, including substantial discounts, cashback incentives, and exclusive offers (Nabila & Sulistyowati, 2020; Mawardani & Dwijayanti, 2021). These marketing techniques effectively capitalize on psychological principles such as scarcity (Wu et al., 2021) and immediate gratification, prompting spontaneous purchasing decisions with minimal deliberation (Fumar et al., 2023). Moreover, limited-time promotions cultivate a sense of urgency, making consumers feel compelled to make hasty purchases. Students with lower self-control are particularly susceptible to these influences, increasing their tendency toward excessive consumption. Self-regulation plays a crucial role in shaping one's financial habits, as it encompasses the ability to manage emotions and restrain impulses when making purchasing decisions (W. P. Sari & Nikmah, 2023). Those exhibiting strong self-control are more likely to allocate their financial resources wisely, prioritize essential needs, and resist the allure of promotional incentives (Lianto & Meike Kurniawati, 2024). Conversely, individuals with diminished self-regulation are easily swayed by aggressive marketing tactics, leading to unrestrained spending patterns that disrupt financial stability (Ayu, 2020). Persistent reckless spending not only exacerbates monetary stress but also diverts attention from academic goals, potentially undermining students' overall well-being. Thus, cultivating self-control is imperative for maintaining a balance between personal expenses, academic obligations, and financial sustainability.

Beyond self-regulation, financial literacy is instrumental in equipping individuals with the knowledge to manage expenses, establish financial priorities, and anticipate the long-term implications of their economic decisions (Adi Waluyo & Marlina, 2020). Effective financial management primarily entails three key aspects: determining the necessary expenditure for each financial cycle, strategizing the utilization of surplus funds, and identifying appropriate funding sources for both expenses and investments (D. E. Sari, 2018). Financial education, therefore, is essential not only for children but also for university students, as it fosters prudent financial behavior, reduces impulsive purchasing tendencies, and cultivates long-term financial independence (D. E. Sari, 2019). Empirical studies by Haq et al. (2023) and Simarmata et al. (2024) reveal that students possessing higher financial literacy demonstrate superior financial management skills and a more cautious approach to spending. Similarly, individuals with strong self-regulation are better equipped to resist impulsive purchases, thereby mitigating unnecessary expenditures. Nevertheless, the seamless nature of digital payments frequently encourages frequent transactions without adequate financial deliberation. In contrast, research by Abidzar et al. (2023) suggests that financially literate students are more inclined to prioritize their needs and manage expenses effectively. Although digital payment platforms offer convenience and accessibility, their pervasive use may inadvertently foster frequent and unplanned spending behavior. Supporting this claim, Dianingsih & Susilon (2020) assert that digital payments contribute positively to students' consumptive tendencies.

Further investigations by Zaman & Kurniawan (2023) affirm that students with comprehensive financial knowledge tend to exercise greater discretion in managing their expenses, thereby minimizing unnecessary purchases. Additionally, findings from Rakhman & Pertiwi (2023) suggest that students who possess strong financial management skills and self-discipline are less likely to succumb to excessive consumerism. Hence, both financial literacy and self-regulation play integral roles in curbing impulsive spending behaviors, ensuring long-term financial stability among students. While prior research has elucidated the individual influence of each factor on consumer behavior, most studies fail to provide a holistic examination of their collective impact. Previous studies predominantly focus on one or two determinants without considering the interplay between all three. Thus, this study seeks to bridge this gap by comprehensively analyzing the simultaneous effects of financial literacy, digital payment adoption, and self-regulation on student spending behavior. Given the ever-evolving digital landscape, understanding how these factors interact is crucial, particularly within the context of Indonesian students who are increasingly engaged with digital financial ecosystems. This research is imperative in addressing the risks associated with uncontrolled spending, which can compromise students' financial well-being, mental health, and academic performance. The findings are expected to contribute to the development of informed policies aimed at fostering responsible financial behavior among students. Ultimately, this study aims to assess the extent to which financial literacy, digital payment utilization, and self-control collectively shape students' consumer habits while exploring their intricate interrelationships in the digital age.

2. Theoretical Background

Financial Literacy

Financial literacy refers to an individual's ability to comprehend and manage financial matters proficiently to enhance overall well-being. Yuniningsih & Taufiq (2019) define it as the capability to grasp financial principles and regulate personal finances effectively, ultimately fostering life satisfaction. Lusardi & Mitchell (2023) describe financial literacy as possessing fundamental financial knowledge and the skill to perform elementary calculations. Adequate financial literacy equips individuals with the ability to prioritize essential needs over desires, thereby curbing excessive spending. Rakhman & Pertiwi (2023) argue that individuals with elevated financial literacy are more inclined to allocate funds for future necessities, whereas those with limited literacy tend to engage in impulsive spending (Mahendra, 2023). Additionally, financial literacy significantly affects shopping tendencies, particularly among Generation Z predominantly university students whose consumer behavior is shaped by their financial awareness (Margaretta et al., 2023). Consequently, enhanced financial literacy mitigates unnecessary expenditures and promotes rational and accountable financial choices. Based on this, H1: Financial literacy influences shopping behavior is proposed.

Digital Payment Utilization

Digital payment denotes the execution of monetary transactions through electronic means. Putritama (2019) defines digital payment as a technology-driven system, predominantly accessible via mobile devices, facilitating activities such as fund transfers, bill settlements, and financial transactions. The contemporary era witnesses a shift from conventional cash transactions to electronic payment methods, attributed to their convenience and cost-effectiveness. Digital payment eliminates the need for physical cash by utilizing bank transfers or interbank networks. Furthermore, non-cash transactions can be executed via payment cards, such as debit, credit, and ATM cards (Tarantang et al., 2019). The adoption of digital payment enhances transaction speed and efficiency, consequently escalating purchasing frequency and fostering consumerist tendencies, particularly among younger demographics (Naufalia, 2022). The ease of utilizing digital payment tools, such as e-wallets, influences users' preference for these methods, as they provide seamless and expedient transactions (Afista et al., 2024). Additionally, frequent engagement with mobile payment platforms contributes to habitual spending behaviors within society (Gosal & Linawati, 2018). Based on this, H2: Digital payment usage influences shopping behavior is proposed.

Self-Control

Self-control refers to an individual’s ability to regulate actions and restrain impulses to attain specific objectives. Marlina & Lusia (2023) define self-regulation as the conscious ability to govern behavior and actions in ways that do not inflict harm on others, ensuring alignment with social norms and fostering societal acceptance. Furthermore, self-control entails managing responses and reactions while adapting to moral principles, social expectations, and long-term aspirations. This ability underscores an individual's capacity to evaluate circumstances before taking action, ensuring that decisions align with ethical and rational considerations. Self-discipline requires prioritization, allowing individuals to suppress unnecessary desires in favor of more essential objectives (Sufatmi & Purwanto, 2021). Individuals with robust self-control are less susceptible to the allure of advertisements and promotional strategies, enabling them to make purchase decisions based on necessity rather than impulsive tendencies. Conversely, those with diminished self-control exhibit greater susceptibility to external influences, often engaging in excessive and unplanned spending (Burhan et al., 2023). Arum & Khoirunnisa (2021) support this notion, asserting that self-regulation aids individuals in making informed purchasing choices by critically assessing their needs. Those lacking self-discipline struggle to anticipate the repercussions of their actions, whereas individuals with heightened self-control can effectively adjust their behavior to align with situational demands. Furthermore, Sari & Irmayant (2021) emphasize that individuals with superior self-regulation skills can mitigate impulsive tendencies and evaluate their financial decisions more judiciously, thereby avoiding momentary temptations and exercising greater accountability in consumption behaviors. Based on this, H3: Self-control influences shopping behavior is proposed

3. Methodology

Quantitative research is used in this study. According to Sugiyono (2013), the quantitative method is a research approach based on concrete data, where the collected data is in numerical form and analyzed using statistical testing tools. This method focuses on objective and structured measurements to examine the researched problem, ensuring valid and measurable conclusions.

Population, Sample, and Data Collection Techniques

The population in this study consists of students from the Faculty of Teacher Training and Education (FKIP) at Universitas Muhammadiyah Surakarta from the 2020, 2021, 2022, 2023, and 2024 cohorts. The population involved in this study includes active students from various study programs within FKIP, with a sample size of 325 students. In collecting data, the researcher used an online questionnaire distributed via Google Forms. This questionnaire is designed to collect information regarding the researched variables using a Likert scale, allowing respondents to provide assessments on various presented statements.

The Likert scale used in the questionnaire consists of five rating points, which represent a gradation of answers from strongly agree to strongly disagree. Each indicator in this study has two question items designed to measure variables relevant to the research. In this study, there are 11 indicators divided into four main variables. The first variable, financial literacy, consists of three indicators. The second variable, digital payment usage, also has three indicators. The third variable, self-control, consists of three indicators, while the fourth variable, shopping habits, has two indicators.

To determine a representative sample size from a large population, the researcher used the simple random sampling method with Slovin's formula. This technique was chosen to ensure that each individual in the population has an equal chance of being selected as part of the research sample. Based on calculations using Slovin's formula, the required sample size for this study is 325 respondents, which is expected to provide an accurate representation of the researched population.

After data collection, the analysis process is carried out using SmartPLS 4, which allows the researcher to perform path analysis to test the relationships between variables in the research model. This application is used to process quantitative data and produce findings that can support the research conclusions related to the studied phenomenon.

Data Analysis Techniques

The data analysis techniques used to analyze the collected data are instrument testing (Outer Model), R-Square test, F-Square test, Variance Inflation Factor (VIF) calculation, and Path Coefficient test.

4. Empirical Findings/Result

Respondent Characteristics

Table 1. Respondent Characteristics

Characteristic	Percentage (%)
Gender	
Male	30.46
Female	69.54
Cohort Year	
2020	9.85
2021	23.08
2022	24.31
2023	21.54
2024	21.23
Study Program	
Accounting Education	11.38
Indonesian Language and Literature Education	17.85
English Education	13.23
Biology Education	6.15
Geography Education	5.54
Early Childhood Education Teacher Training	10.77
Elementary School Teacher Education	8.00
Physical Education and Sports	6.46
Citizenship Education	4.31
Mathematics Education	8.00
Pancasila and Citizenship Education	1.85
Informatics Engineering Education	6.46
Monthly Allowance (IDR)	
>1,500,000	39 students
1,000,000 – 1,500,000	144 students
<1,000,000	142 students

Source: Processed data (2024)

Based on Table 1, the majority of the 325 respondents consist of 226 female and 99 male students. The respondents come from various cohorts ranging from 2020 to 2024, with the highest number from the 2022 cohort, totaling 79 students. Most respondents receive a monthly allowance between IDR 1,000,000 and IDR 1,500,000, with 144 students falling into this category.

Instrument Testing (Outer Model)

Table 2. Outer Model Test Results

Variable	Code	Validity		Reliability	
		Convergent Validity	Discriminant Validity		
		Outer Loading	AVE	Composite Reliability	Cronbach Alpha
		> 0,70	> 0,50	> 0,70	> 0,70
Financial Literacy	LK1	0.825	0.672	0.908	0.908
	LK2	0.802			
	LK3	0.775			
	LK4	0.732			
	LK5	0.845			
	LK6	0.761			
Use of Digital Payments	PPD1	0.779	0.781	0.913	0.913
	PPD2	0.872			
	PPD3	0.791			
	PPD4	0.832			
	PPD5	0.812			
	PPD6	0.782			
Self-Control	SC1	0.821	0.708	0.961	0.961
	SC2	0.764			
	SC3	0.761			
	SC4	0.814			
	SC5	0.849			
	SC6	0.802	0.693	0.939	0.939
Shopping Habits	KB1	0.785			
	KB2	0.798			
	KB3	0.885			
	KB4	0.820			

Source: Processed SEM-PLS data (2024)

Based on Table 2, all indicators in the research variables demonstrate loading factor values above 0.70, indicating that each indicator has sufficient validity. The Average Variance Extracted (AVE) for each variable also exceeds 0.50, meeting the minimum criteria for convergent validity. Additionally, the composite reliability and Cronbach's alpha values for all constructs are above 0.70, signifying that each construct has high reliability and good internal consistency, in accordance with standard criteria.

Structural Model Evaluation (Inner Model)

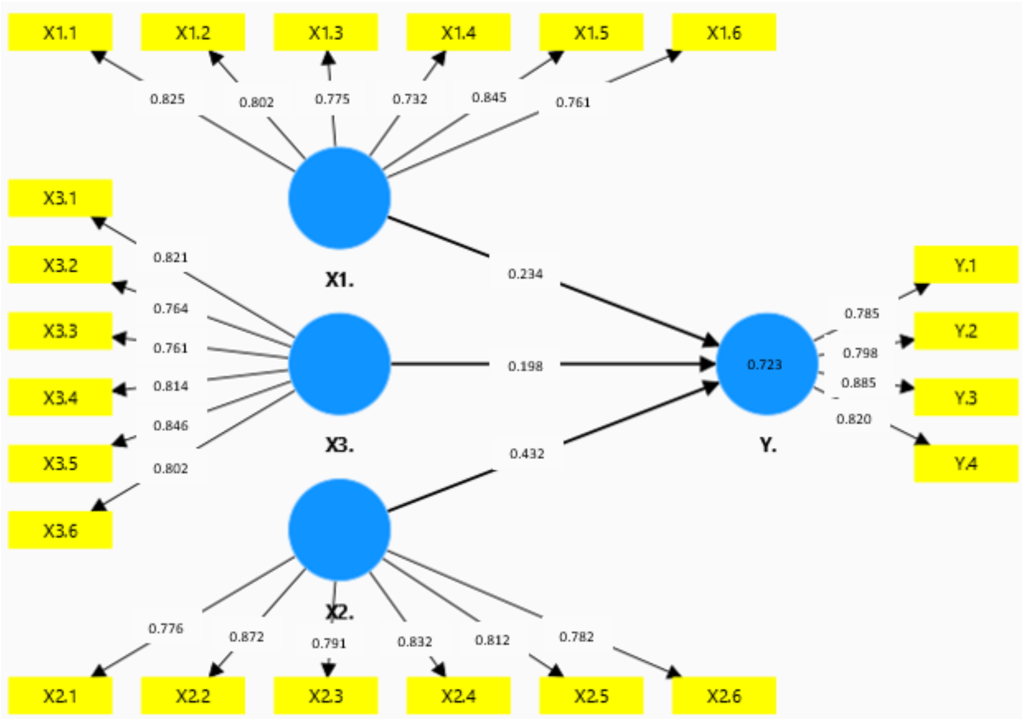

Figure 2. Structural Model

Source: SEM-PLS data processing results (2024)

Figure 2 shows the Structural Equation Modeling (SEM) model that describes the relationship between latent variables, namely Financial Literacy (X1), Use of Digital Payments (X2), self-control (X3), and Shopping Habits (Y) along with their indicators. Latent variables are measured by the loading factor value which indicates the strength of the relationship between the indicator and the latent variable (ideally ≥ 0.7). The arrows between latent variables indicate the path coefficient, illustrating the strength of the relationship between the variables. For example, X2 has the largest contribution to Y with a path coefficient of 0.432. The R-squared value on the Y variable of 0.723 indicates that 72.3% of the variance in Y is explained by X1, X2, and X3.

R-Square Test

Table 3. R-Square Test Results

Variable	R-square	R-Square Adjusted
Shopping Habits	0.723	0.716

Source: Processed SEM-PLS Data (2024)

The regression analysis results indicate an R-Square value of 0.723, meaning that 72.3% of the variation in Shopping Habits can be explained by Financial Literacy, Use of Digital Payments, and Self-Control. The Adjusted R-Square value of 0.716 shows that after adjustment, the model still explains 71.6% of the variation. The small difference between R^2 and Adjusted R^2 (0.007) suggests that the model does not suffer from overfitting.

F-Square Test

Table 4. F-Square Test Results

Variable	Shopping Habits
Financial Literacy	0.234
Use of Digital Payments	0.432
Self-Control	0.198

Source: Processed SEM-PLS Data (2024)

The f^2 values for each independent variable illustrate their influence on Shopping Habits. Financial Literacy has a small to moderate effect, with an f^2 value of 0.234. In contrast, Use of Digital Payments has a greater impact, with an f^2 value of 0.432, indicating a significant effect. Meanwhile, Self-Control also has a small to moderate influence, with an f^2 value of 0.198. Overall, Use of Digital Payments has the strongest influence on Shopping Habits compared to the other two variables.

Collinerity VIF Values

Table 1. Collinearity VIF Values

Variable	VIF
Financial Literacy -> Shopping Habits	1.429
Use of Digital Payments -> Shopping Habits	1.443
Self-Control -> Shopping Habits	1.309

Source: Processed SEM-PLS Data (2024)

Based on Table 5, all variable indicators have a VIF value of less than 5, indicating that there are no multicollinearity issues present among the variables.

Path Coefficient Test (T-Test)

Table 6. Path Coefficient Test Results (T-Test)

Variabel	Shopping Habits			
	Original Sample (O)	Standar Deviasi	T-Statistik	P Values
Financial Literacy	-0.122	0.037	3.262	0.001
Use of Digital Payments	0.546	0.059	9.208	0.000
Self-Control	-0.113	0.038	3.005	0.003

Source: Processed SEM-PLS Data (2024)

Based on the T-test (Path Coefficient) results, Table 6 demonstrates a significant influence of Financial Literacy, Use of Digital Payments, and Self-Control on Shopping Habits.

Financial Literacy has a negative impact on Shopping Habits, with a coefficient of -0.122, indicating that the higher a person's Financial Literacy, the lower their tendency to shop. This is supported by a T-statistic value of 3.262 and a P-Value of 0.001, confirming a statistically significant relationship.

Use of Digital Payments has a positive and significant effect on Shopping Habits, with a coefficient of 0.546, meaning that the more an individual uses digital payments, the higher their tendency to shop. The very high T-statistic value (9.208) and P-Value of 0.000 further emphasize the significance of this effect.

Self-Control also has a negative impact on Shopping Habits, with a coefficient of -0.113, meaning that the higher a person's Self-Control, the lower their Shopping Habits. A T-statistic of 3.005 and a P-Value of 0.003 confirm that this effect is significant as well.

Overall, the results in Table 6 indicate that Use of Digital Payments has the most substantial positive influence on Shopping Habits, while Financial Literacy and Self-Control negatively affect Shopping Habits. This suggests that the higher a person's Financial Literacy and Self-Control, the lower their shopping tendencies. All relationships are statistically significant, as evidenced by T-statistic values greater than 1.96 and P-Values below 0.05

5. Discussion

The Influence of Financial Literacy on Shopping Habits

The findings indicate that Financial Literacy exerts a negative impact on Shopping Habits. Students with strong financial literacy tend to demonstrate prudence in managing their expenditures, allowing them to regulate both the frequency and intensity of their shopping behaviors more efficiently. This outcome aligns with prior research by Haq et al. (2023), Simarmata et al. (2024), and Abidzar et al. (2023), which emphasized the crucial role of financial literacy in curbing excessive consumerism, particularly among university students. Financial literacy equips individuals with the ability to make more rational and strategic spending decisions, ultimately fostering better control over their purchasing tendencies.

The Influence of Digital Payment Utilization on Shopping Habits

The adoption of digital payment systems has been found to have a positive correlation with Shopping Habits. The convenience, rapid transaction processing, and appealing promotional offers associated with digital payments enhance consumers' propensity to engage in shopping activities. This suggests that digital payment technology stimulates higher consumer spending, whether through online or offline channels. These findings are consistent with the research of Abidzar et al. (2023) and Dianingsih and Susilo (2020), who also established a positive relationship between digital payment usage and shopping behavior. The seamless nature of digital transactions often leads to impulsive purchasing tendencies, as individuals may make purchases without thorough financial planning, thereby fostering less disciplined shopping patterns.

The Influence of Self-Control on Shopping Habits

Self-control exhibits a negative effect on Shopping Habits, signifying that individuals with heightened self-discipline are better equipped to resist impulsive or unplanned purchases. This supports the study by Rakhman and Pertiwi (2023), which highlighted the substantial role of self-control in mitigating excessive shopping tendencies. Students possessing robust self-regulation skills are more likely to prioritize necessity over desire when making purchasing decisions, allowing them to manage their financial resources more effectively. Self-control enables individuals to remain committed to their financial priorities, minimizing susceptibility to temptations that could lead to non-essential expenditures.

6. Conclusion

The findings of this study indicate that Financial Literacy and self-control negatively influence Shopping Habits, whereas the adoption of Digital Payment Systems has a positive effect. Consequently, students with a high level of financial acumen and strong self-regulation tend to make more prudent purchasing decisions, while the convenience of digital transactions appears to amplify spending tendencies. This research underscores the significance of financial management and self-discipline in adapting to technological advancements. However, certain limitations exist, such as the study's restricted demographic scope, which hinders generalizability. Moreover, the employed methodology lacks an in-depth exploration of personal motivations behind shopping behaviors, and other potential determinants, including cultural and social influences, remain unexamined. Future research should broaden the demographic range, implement longitudinal approaches, and investigate additional variables affecting consumer habits. These findings emphasize the necessity of enhancing Financial Literacy and self-control to foster responsible spending behaviors amid the rapid evolution of digital payment technologies.

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