

MAPPING IDEA & LITERATURE FORMAT | RESEARCH ARTICLE

The Influence of Information System Quality and Shopee's Digital Marketing Strategy on Changes in Online Shopping of Asahan University Students in 2025

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ABSTRACT

The development of digital technology has changed shopping behavior, especially among students, as the digital native generation. This study aims to analyze the influence of Shopee's information system quality and digital marketing strategy on changes in online shopping behavior among Asahan University students in 2025. The method used was quantitative with a causal associative approach. Data were collected through questionnaires and analyzed using F-tests, t-tests, and the coefficient of determination (R^2). The results show that Shopee's information system quality and digital marketing strategy simultaneously and partially significantly influence changes in online shopping behavior among students. A fast and user-friendly system, along with digital promotions such as flash sales and personal discounts, increases shopping intensity and patterns. These findings emphasize the importance of technology and marketing synergy in shaping digital consumer behavior.

Keywords: Information Systems, Digital Marketing, Online Shopping, Shopee, Students.

I. Introduction

The development of digital technology has brought significant changes to nearly all aspects of human life, including how individuals shop. The Fourth Industrial Revolution marks a digital transformation that strengthens the role of information technology as a key driver across various economic sectors, including electronic commerce (e-commerce). Amid globalization and technological advancement, digital platforms such as Shopee play an important role in reshaping consumption patterns, especially among the younger generation, such as university students. The increasing trend of online shopping reflects a shift in consumer behavior from traditional to digital methods, influenced by ease of access, time efficiency, convenience, and various superior features offered by e-commerce applications. (Kotler & Keller, 2016). Students, as part of the millennial and Gen Z generations, are active users of technology and the internet who are highly responsive to digital changes. In Indonesia, the growth of e-commerce usage among students has experienced a significant increase. Data from the Indonesian Internet Service Providers Association (APJII) shows that more

than 90% of internet users aged 15–24 in Indonesia have conducted online transactions at least once in the past six months. This change not only reflects a new consumption trend but also opens up discussion on the influence of information system quality and digital marketing strategy on the shopping patterns of the younger generation. (APJI, 2023)

Shopee, as one of the largest marketplaces in Southeast Asia, has a major influence on students' online shopping habits. The quality of the information system in the Shopee application is a crucial aspect in attracting and retaining consumers. A well-designed information system not only presents products with an appealing interface but also offers fast access, reliability, information accuracy, as well as ease in payment processes and shipment tracking. These aspects are key determinants in user experience and ultimately influence shopping decisions and frequency. (DeLone, DeLone, & McLean, 2003). In addition to a reliable information system, Shopee's success in influencing student shopping patterns is also closely related to its integrated digital marketing strategies. Shopee consistently optimizes various digital channels such as social media, email marketing, content marketing, and collaborations with influencers to reach the youth market segment. Strategies such as flash sales, 11.11 and 12.12 campaigns, and the use of personalized product recommendation algorithms create a strong sense of urgency and exclusivity in users' minds. Intensive promotions with direct notification systems within the application also trigger impulsive buying behavior, even for products not initially planned for purchase. (Kotler & Keller, 2016)

Shopee's data-driven marketing strategy, which targets consumer behavior, strategically positions students as a primary target, considering their active digital lifestyle, dependency on gadgets, and desire to obtain the best prices efficiently. This phenomenon is worth further study because students are not only potential consumers but also individuals who are in a formative phase of developing long-term habits and economic behavior. Therefore, understanding changes in student online shopping patterns is crucial to determine how marketing strategies and digital systems shape their way of thinking and acting in daily economic activities. Changes in shopping patterns can be observed from various dimensions, such as increased frequency of online shopping, preferences for certain types of products, flexible shopping times, and shifts in perceptions of product value. Students at the University of Asahan, as part of the academic population in North Sumatra, are not immune to the significant influence of digital platforms in their daily activities. The availability of internet networks, high smartphone usage, and active social media engagement make students in this region an ideal representation to study the influence of two main factors, information system quality and digital marketing strategy, on consumption behavior.

Theoretically, this research can contribute to the development of literature on digital consumer behavior, particularly in the higher education sector. This study also enriches perspectives in the fields of management information systems and digital marketing, emphasizing the importance of synergy between technological quality and adaptive marketing approaches. Practically, the findings of this research are expected to serve as a reference for digital business players such as Shopee and other platforms in designing more targeted strategies, considering the needs and preferences of students as a strategic market. The rapid growth of digital technology in the 21st century has created a profound transformation in almost every aspect of human life. Communication, information dissemination, education, and even daily consumption patterns are now heavily influenced by technology-based platforms that continue to evolve at an unprecedented pace. Among the sectors most affected by this transformation is commerce, particularly the way people shop and consume goods. Online shopping, once perceived as an alternative or complementary method of purchasing, has now become a primary choice for many individuals around the globe. This phenomenon has not only reshaped consumer behavior but has also challenged businesses to adopt new models of operation that rely heavily on the integration of technology, information systems, and digital marketing. The growing dependency on e-commerce platforms in Indonesia provides an excellent context for analyzing how the quality of information systems and digital marketing strategies influence consumer choices, especially among young people, such as university students. (Maulidina & Prasetyo, 2022).

One of the most prominent e-commerce platforms in Southeast Asia, and particularly in Indonesia, is Shopee. Since its launch in Indonesia in 2015, Shopee has grown into a household name, rapidly gaining

popularity across diverse market segments. Its competitive strategies, including aggressive digital marketing campaigns, attractive promotional offers, and easy-to-use mobile applications, have positioned it as one of the most influential players in the online retail sector. For Indonesian consumers, especially students, Shopee is not only a marketplace for buying and selling products but also a digital ecosystem that shapes their spending habits, influences their preferences, and integrates itself into their daily routines. Unlike traditional forms of shopping, Shopee offers convenience, accessibility, and personalization that appeal strongly to younger consumers who are constantly connected to the digital world. University students, as members of Generation Z and younger millennials, represent a unique consumer group that is highly responsive to digital environments. They are characterized by their comfort with technology, their reliance on smartphones and social media, and their tendency to adapt quickly to new applications and trends. For these students, online shopping is not simply a matter of convenience but a lifestyle that reflects their values, social identity, and even aspirations. They are more likely to be influenced by online advertisements, recommendations from influencers, peer reviews, and various digital promotions compared to older generations, who may still rely on traditional shopping habits. This makes them a crucial target for e-commerce companies like Shopee, which constantly design marketing strategies to appeal to their digital-savvy mindset.

In understanding the dynamics of online shopping behavior, two critical factors emerge as dominant drivers of change: the quality of the information system used by the platform and the effectiveness of its digital marketing strategy. Information system quality refers to the extent to which the platform provides a reliable, efficient, and secure environment for users to engage in online transactions. It encompasses aspects such as system reliability, user interface design, navigation ease, responsiveness, security of payment systems, and accuracy of information provided. For students who often multitask between academic responsibilities and personal activities, the quality of an e-commerce system is crucial. A platform that offers smooth navigation, clear product information, reliable customer support, and secure payment options will significantly increase their trust and satisfaction, thereby influencing their intention to purchase repeatedly. Conversely, if the system is prone to glitches, errors, or insecure payment mechanisms, students are more likely to abandon their transactions and seek alternatives. (Gefen & Karahanna, 2003)

Alongside system quality, digital marketing strategies play an equally important role in shaping consumer behavior. In today's competitive digital economy, marketing no longer depends solely on traditional media such as television or newspapers but has shifted toward online platforms where engagement is interactive and personalized. Shopee has mastered the art of digital marketing through tactics such as flash sales, free shipping programs, voucher giveaways, push notifications, influencer endorsements, and targeted advertising that appeals directly to consumer needs and desires. These strategies not only attract first-time users but also encourage repeat purchases by creating a sense of urgency, exclusivity, and affordability. Students, who often have limited financial resources, find promotions like free shipping or discounts particularly appealing. Moreover, social media campaigns and influencer marketing resonate strongly with students who are deeply engaged with digital communities. As a result, marketing strategies directly shape not only their awareness of the platform but also their perception of value, satisfaction, and loyalty.

While much research has been conducted on consumer behavior and e-commerce adoption, the specific interaction between system quality and marketing strategies in influencing student online shopping behavior remains underexplored. Most previous studies have either focused on urban populations in big cities such as Jakarta, Surabaya, or Medan or have analyzed consumers in general without paying attention to university students as a distinct demographic group. Yet, students from semi-urban areas such as Asahan represent an important and growing consumer base. Their digital literacy, combined with the challenges of limited financial resources, cultural influences, and specific lifestyle needs, creates a unique context for studying how they respond to the technological and promotional aspects of online platforms. By focusing on students of the University of Asahan in 2025, this research attempts to fill that gap and provide a more nuanced understanding of the factors driving online shopping behavior in such environments.

Another reason why this research is significant lies in the growing importance of digital commerce in Indonesia. With one of the largest internet user bases in the world, Indonesia has witnessed a dramatic surge in e-commerce adoption over the past decade. Reports suggest that young people, especially university students, are among the most active online shoppers. Their engagement with platforms such as Shopee not only influences their personal consumption patterns but also has broader implications for the future of the Indonesian digital economy. By understanding how system quality and digital marketing shape their shopping behavior, companies can develop more effective strategies to sustain growth, while policymakers and educators can design programs that promote financial literacy, responsible spending, and digital ethics among young consumers.

It is also important to note that the relationship between system quality, digital marketing, and consumer behavior is not static but dynamic. As technology evolves, so do consumer expectations. For instance, the integration of artificial intelligence, data analytics, and personalized algorithms has raised the standard for what consumers expect from online platforms. Students are no longer satisfied with generic promotions or static interfaces; they demand personalized recommendations, faster load times, seamless integration across devices, and secure transactions. Similarly, digital marketing strategies must evolve to keep pace with these expectations, utilizing advanced tools such as big data, social media analytics, and influencer collaborations to remain relevant. This dynamic relationship makes it necessary to conduct timely and context-specific studies to capture how these factors influence consumer behavior in real-world settings.

The title chosen for this research, "The Influence of Shopee's Information System Quality and Digital Marketing Strategy on Changes in Online Shopping Behavior of University of Asahan Students in 2025," reflects the central aim of exploring this dynamic relationship in a specific context. The focus on Shopee is justified by its dominant position in the Indonesian market and its significant appeal among students. The emphasis on the University of Asahan provides a specific population that represents semi-urban Indonesian students, offering insights that may differ from those obtained in metropolitan areas. The year 2025 is also significant because by this time, digital commerce is expected to be even more deeply integrated into everyday life, making it an ideal period to analyze how student shopping behavior has evolved. This research is not only academically relevant but also practically useful. For Shopee and similar platforms, the findings can provide valuable insights into how their system quality and marketing strategies are perceived by students, and how these perceptions translate into changes in purchasing behavior. Such insights can guide improvements in system design, promotional strategies, and customer engagement practices. For students, the research can highlight the psychological and behavioral mechanisms that shape their shopping habits, encouraging more reflective and informed decision-making. For educators and policymakers, the study can serve as a basis for promoting digital literacy, consumer awareness, and responsible financial behavior among young people who are increasingly immersed in online shopping environments.

Based on this background, the researcher recognizes that there is a pressing need to systematically analyze the dual impact of information system quality and digital marketing strategy on student shopping behavior. While one might assume that attractive promotions alone are sufficient to influence students, without a reliable system, such strategies are unlikely to sustain consumer trust. Conversely, a highly efficient system without compelling marketing may fail to capture the attention and loyalty of students who are constantly bombarded by competing offers. Therefore, the interplay of these two variables must be studied together rather than in isolation to provide a comprehensive understanding of consumer behavior in the digital era. From the explanation above, it becomes evident that the online shopping behavior of students is influenced by a complex set of factors that go beyond mere convenience or affordability. The reliability of the system, the persuasiveness of digital marketing, the cultural context of the consumer, and the socio-economic conditions of students all interact in shaping their decisions. This complexity highlights the importance of academic inquiry into how these elements converge to transform traditional shopping habits into digital consumer practices. By conducting this study, the researcher hopes to contribute to a deeper understanding of e-commerce adoption among students, while also offering practical recommendations for businesses, universities, and policymakers to navigate the opportunities and challenges of the digital economy.

In conclusion, the growing influence of digital platforms like Shopee on university students cannot be ignored. Their reliance on such platforms for meeting daily needs, their responsiveness to digital marketing strategies, and their expectations of system quality all point to a fundamental shift in consumer behavior. To capture this shift, systematic and context-specific research is required, particularly in semi-urban universities like the University of Asahan, where students represent an important yet understudied demographic. Therefore, this study is undertaken with the aim of exploring and analyzing the influence of Shopee's information system quality and digital marketing strategy on changes in online shopping behavior of University of Asahan students in 2025. The results of this research are expected to provide not only academic contributions but also practical implications for the future of digital commerce in Indonesia. From the explanation above, it is clear that there is a complex relationship between information system quality and digital marketing strategy on changes in student online shopping behavior. Therefore, a systematic study is needed to examine and analyze the extent to which these two variables influence student shopping behavior in today's digital era. Based on this background, the researcher is interested in conducting a study entitled: "The Influence of Shopee's Information System Quality and Digital Marketing Strategy on Changes in Online Shopping Behavior of University of Asahan Students in 2025."

II. Literature Review and Hypothesis Development

2.1. Information System Quality

Information system quality refers to how well a system meets users' needs in terms of ease of use, access speed, data accuracy, and service availability (DeLone & McLean, 2003). In the context of e-commerce platforms like Shopee, a high-quality information system enhances transaction convenience and user satisfaction, thereby influencing shopping behavior.

2.2. Digital Marketing Strategy

Digital marketing encompasses strategies that use digital technologies to reach and influence consumers more effectively. Shopee implements digital marketing tools such as algorithm-based promotions, flash sales, and segmented discounts, which directly impact consumer purchasing decisions (Kotler & Keller, 2016).

2.3. Digital Consumer Behavior Theory

According to (Schiffman & Wisenblit, 2015), Consumer behavior (11th ed.) Schiffman and consumer behavior are shaped by psychological, personal, and social factors. In digital environments, these factors interact with technology and marketing strategies, creating new patterns of impulsive, frequent, and convenience-driven online shopping behaviors.

2.4. Prior Research

Several previous studies have supported the influence of information systems and digital marketing on online shopping behavior:

- a. Setiawan & Arifin (2021) found that information system quality significantly affects user satisfaction with e-commerce platforms.
- b. Maulidina & Prasetyo (2022) indicated that digital promotions and personalized offers increase the frequency of online purchases among university students.

- c. Rahayu (2023) concluded that efficient information systems are closely related to increased buying behavior on platforms such as Shopee.

H1: Shopee's information system quality has a significant effect on changes in the online shopping behavior of University of Asahan students.

H2: Fill your Hypothesis Shopee's digital marketing strategy has a significant effect on changes in the online shopping behavior of University of Asahan students.

H3: Information system quality and digital marketing strategy simultaneously have a significant effect on changes in online shopping behavior of University of Asahan students.

III. Research Methods

3.1. Type and Approach of Research

This study employs a quantitative approach with a causal associative research design, which aims to examine the relationship and influence between two independent variables—information system quality and digital marketing strategy on a dependent variable, namely changes in online shopping behavior. This approach is suitable as the study intends to test hypotheses that explain cause-and-effect relationships through numerical data processing and statistical analysis. (Sarwono, 2006)

3.2. Research Location and Period

The research is conducted at the University of Asahan, located in Asahan Regency, North Sumatra Province. The selection of this location is based on the characteristics of the target population, namely active university students who are regular users of the Shopee e-commerce platform. The research period is scheduled from June to August 2025, including the phases of preparation, data collection, analysis, and report writing. (Note: This timeline assumes the current year is 2025.)

3.3. Population, Sample, and Sampling Technique

The population of this study comprises all active students at the University of Asahan. The sampling technique employed is purposive sampling, where participants are selected based on specific criteria: they must be active students who have made at least one online purchase through Shopee in the past three months. The sample size is determined using the Slovin formula with a margin of error of 5%.

3.4. Ethical Considerations

This research adheres to ethical principles regarding participant involvement. All respondents are informed of the purpose of the study, participation is voluntary, and their identities remain anonymous. Consent is obtained before the distribution of questionnaires, and data is used solely for academic purposes.

3.5. Hypothesis Testing and Statistical Analysis

To analyze the data and test the hypotheses, the study applies the following statistical methods using SPSS or equivalent software:

- a. Multiple Linear Regression Analysis, to determine the simultaneous and partial effects of the independent variables on the dependent variable.
- b. F-Test, to evaluate the joint influence of the independent variables.

- c. t-Test, to assess the partial (individual) significance of each independent variable.
- d. Coefficient of Determination (R^2), to explain the proportion of variance in the dependent variable that is predictable from the independent variables.

3.6. Operationalization of Variables

Each variable is measured using indicators adapted from validated questionnaires:

- a. Information System Quality (X_1): accuracy, timeliness, user interface, ease of use, and system reliability.
- b. Digital Marketing Strategy (X_2): frequency of promotions, personalization, influencer collaboration, and urgency (e.g., flash sale, limited-time offers).
- c. Changes in Online Shopping Behavior (Y): shopping frequency, product category preference, impulsive buying tendency, and timing flexibility.

The responses are collected using a Likert scale (1–5) and analyzed quantitatively.

3.7. Interpretation of R^2

The coefficient of determination (R^2) is used to indicate the extent to which variation in the dependent variable (Y) is explained by the independent variables (X_1 and X_2).

- a. $R^2 = 0.00-0.25$ → weak influence
- b. $R^2 = 0.26-0.50$ → moderate influence
- c. $R^2 = 0.51-0.75$ → strong influence
- d. $R^2 > 0.75$ → very strong influence

IV. Results And Discussion

4.1. Results of Multiple Linear Regression Analysis

The results of the multiple linear regression analysis indicate the influence of the independent variables on the dependent variable. A positive coefficient suggests an increase in online shopping behavior, whereas a negative value would indicate a decline in consumer satisfaction.

Table 1.

Model	Unstandardized Coefficients	Standardized Coefficients
	B	Std. Error
(Constant)	1.585	0.470
Information System (X_1)	0.470	0.116
Marketing Strategy (X_2)	0.243	0.114

Regression Equation:

$$Y = 1.585 + 0.470X_1 + 0.243X_2$$

Explanation:

- a. The constant value of 1.585 indicates that when both independent variables (Information System and Digital Marketing Strategy) are zero, the dependent variable (Change in Online Shopping Behavior) remains at 1.585.

- b. The regression coefficient for the Information System variable (X1) is 0.470, meaning a one-unit increase in X1 increases Y by 0.470, assuming X2 remains constant.
- c. The regression coefficient for Digital Marketing Strategy (X2) is 0.243, implying that a one-unit increase in X2 increases Y by 0.243, with X1 held constant.

4.2. Simultaneous Test (F-Test)

Table 2. Simultaneous Test (F-Test)

ANOVA ^a		
Model		
	F	Sig.
1	Regression	35.190
	Residual	
	Total	
a. Dependent Variable: Perubahan belanja online		
b. Predictors: (Constant), Sistem Informasi, strategi pemasaran		

Since $F_{\text{calculated}} (35.190) > F_{\text{table}} (3.112)$ and $\text{Sig.} (0.000 < 0.05)$, It can be concluded that the independent variables simultaneously have a significant influence on the dependent variable. Therefore, H1 is accepted, and H0 is rejected.

4.3. Partial Test (t-Test)

The second hypothesis (H2) was tested using the t-test to determine the individual impact of each independent variable. T-table value was determined using the formula: $n - k = 80 - 3 = 77 = 1.664$

Table 3. Partial Test (t-Test)

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.585	1.652		.959	.340		
	Information System	.470	.116	.417	4.049	.000	.510	1.960
	Marketing Strategy	.243	.114	.214	2.142	.035	.542	1.844
a. Dependent Variable: Perubahan belanja online								

The results indicate that the Information System variable has a significant partial effect, as shown by the $t_{\text{calculated}}$ value of 4.049, which is greater than the t_{table} value of 1.664, with a significance level of 0.000 that is less than 0.05. This finding supports the acceptance of hypothesis H2. Similarly, the Marketing Strategy variable also demonstrates a significant partial effect, with a $t_{\text{calculated}}$ value of 2.142 exceeding the t_{table} value of 1.664 and a significance level of 0.035, which is below the 0.05 threshold. Therefore, hypothesis H2 is likewise accepted, indicating that both the Information System and Marketing Strategy variables contribute significantly on a partial basis.

4.4. Coefficient of Determination (R² Test)

The value of R² was determined using the Adjusted R Square, as there are multiple independent variables.

Table 4. Coefficient of Determination (R^2 Test)

Model Summary
R
0.756

The adjusted R^2 value of 0.556 implies that 55.6% of the variation in online shopping behavior is explained by the independent variables. The remaining 44.4% may be attributed to other variables not examined in this study.

4.5. Discussion

The findings indicate that both the Information System quality and Digital Marketing Strategy of Shopee significantly influence the changing patterns of online shopping behavior among Universitas Asahan students in 2025. The Information System variable has a regression coefficient of 0.470, with a significance of 0.000 and a t-value of 4.049, exceeding the t-table value of 1.664. This means the system's speed, usability, and security directly contribute to user trust and efficiency, leading students to prefer Shopee for online shopping. Meanwhile, the Digital Marketing Strategy also demonstrates a significant effect, with a regression coefficient of 0.243, a significance value of 0.035, and a t-value of 2.142. Shopee's promotional strategies, including discounts, free shipping, loyalty programs, and social media campaigns, attract the student demographic and reinforce their shift to digital shopping habits.

The F-test results support the simultaneous significance of both variables, with $F = 35.190$ and $p < 0.05$, proving that the combination of a robust information system and effective digital marketing substantially influences consumer behavior. The Adjusted R^2 of 0.556 shows a moderately strong model, indicating that the variables in this study explain 55.6% of the behavior change, while the remaining 44.4% may result from factors such as product quality, pricing, customer reviews, service quality, and social influences. The findings of this research highlight the significant influence of Information Systems and Digital Marketing Strategies on the evolving patterns of online shopping behavior among students at Universitas Asahan in 2025. The regression model demonstrates that both independent variables have a meaningful and positive impact, whether analyzed simultaneously through the F-test or individually through the t-test. This section discusses the results in greater depth, situating them within existing theoretical frameworks, linking them to prior studies, and exploring their broader implications for e-commerce platforms, consumers, and the digital economy at large.

a. The Role of Information Systems in Shaping Online Shopping Behavior

The regression analysis revealed that the Information System variable (X_1) has the strongest impact on online shopping behavior, with a coefficient of 0.470 and a significance value below 0.05. This underscores the pivotal role of technological infrastructure in determining consumer trust, satisfaction, and engagement with e-commerce platforms such as Shopee. From a theoretical perspective, this finding resonates with the Technology Acceptance Model (TAM) developed by Davis (1989), which posits that perceived ease of use and perceived usefulness are primary determinants of user adoption of information technology. In the context of online shopping, when students perceive the Shopee application as easy to navigate, fast in processing transactions, and secure in managing payment information, they are more likely to integrate the platform into their regular consumption habits.

Several practical dimensions of information system quality can be highlighted here:

- 1) Speed and reliability: Students, as digital natives, expect instant responses and minimal downtime. A slow or frequently crashing application leads to frustration and reduces purchase intention.
- 2) Usability and navigation: A simple, intuitive interface reduces cognitive load and encourages repeat usage.

- 3) Security of payments: Given the increasing awareness of cyber fraud, the assurance of secure payment gateways enhances consumer trust.
- 4) Transparency of product information: Providing accurate descriptions, high-quality images, and authentic reviews helps students make informed decisions.

These findings align with earlier studies such who demonstrated that information system reliability significantly boosts consumer trust and repurchase intention in Indonesian e-commerce platforms. Similarly, Putra and Sari (2022) emphasized that usability and security features are critical predictors of consumer loyalty. (Rahmawati, 2023). For students, information system quality is not merely a technical matter but a factor that directly impacts academic-life balance. University students often juggle studies, part-time jobs, and extracurricular activities, making time efficiency essential. A system that enables fast and seamless shopping allows them to acquire needed goods without sacrificing study time. Thus, information systems indirectly contribute to students' lifestyle convenience.

b. The Influence of Digital Marketing Strategies

The second significant finding relates to the impact of Digital Marketing Strategies (X2) on consumer behavior, with a coefficient of 0.243 and a p-value of 0.035. Although the effect is smaller compared to the Information System variable, it remains significant and noteworthy. Shopee's marketing strategies are multifaceted and aggressive, targeting students through multiple channels:

- 1) Discount campaigns and flash sales: Events like "12.12 Birthday Sale" or "11.11 Big Sale" create urgency and stimulate impulse buying.
- 2) Free shipping programs: These eliminate one of the biggest barriers for students—additional costs beyond the product price.
- 3) Loyalty programs: Coins, cashback, and membership levels encourage repeat purchases.
- 4) Social media campaigns: Collaborations with TikTok influencers, Instagram reels, and YouTube advertisements ensure constant exposure.

The significance of these strategies can be understood through the lens of consumer behavior theory. Kotler and Keller (2016) suggest that consumer purchase decisions are influenced not only by rational evaluations of product attributes but also by psychological triggers and marketing stimuli. Digital marketing creates an environment of scarcity (limited-time offers), social proof (influencer endorsements), and personalization (targeted ads), all of which powerfully shape student decisions. In addition, digital marketing taps into the social identity of university students. Social media platforms are central to student life, and marketing campaigns that leverage these platforms create a sense of belonging and trend-following. Students are more likely to purchase products that are endorsed by peers or influencers they admire. This finding is consistent with Pratama (2024), who found that social media marketing significantly influences purchase intention among Generation Z in Indonesia. It also echoes international studies such as those by Alalwan et al. (2017), who observed that interactive marketing campaigns on Facebook and Instagram enhance consumer engagement and loyalty. Thus, while information system quality ensures the functional reliability of Shopee as a platform, digital marketing strategies drive the emotional and social motivations behind student shopping behavior. The combination of these two factors creates a holistic ecosystem where students not only trust the platform but also feel compelled to engage with it regularly.

c. Interplay Between Information Systems and Digital Marketing

An important dimension of the findings is the simultaneous influence of information systems and digital marketing strategies. The F-test results demonstrated that both variables together significantly impact consumer behavior. This interplay suggests that neither factor alone is sufficient for sustaining long-term behavioral changes in online shopping. For example, even the most attractive marketing campaign will fail if the platform's system is unreliable. Students may initially be drawn by promotions, but will abandon the

platform if transactions are cumbersome or insecure. Conversely, a technically flawless system without engaging marketing campaigns might not attract enough attention in a highly competitive e-commerce environment. This synergy is well illustrated in Shopee's approach: the platform not only invests heavily in its technological infrastructure but also sustains consumer interest through high-frequency promotional events.

d. Explanatory Power of the Model

The Adjusted R^2 value of 0.556 indicates that 55.6% of the variation in online shopping behavior can be explained by the two independent variables. While this represents a moderately strong model, it also reveals that 44.4% of the variance is influenced by other factors not captured in this study. Possible additional influences include:

- 1) Product quality: Poor product quality, even with strong systems and marketing, leads to dissatisfaction.
- 2) Pricing strategies: Students are highly price-sensitive, often comparing multiple platforms before purchasing.
- 3) Customer service and after-sales support: Resolution of complaints and refund processes can significantly affect trust.
- 4) Peer influence and social norms: Students may adopt shopping habits based on recommendations from friends or prevailing campus trends.
- 5) Macroeconomic conditions: Inflation, income levels, and digital payment adoption rates also shape shopping behavior.

The acknowledgment of these external factors highlights the complexity of consumer behavior. Online shopping is not determined by isolated variables but by a multifaceted interplay of personal, social, technological, and economic dimensions. Future research could expand the model to incorporate these additional variables, thereby offering a more comprehensive understanding.

e. Implications for E-Commerce Platforms

The findings carry several practical implications for Shopee and other e-commerce platforms operating in Indonesia.

1) Investing in Information System Quality

- 1) Continuous system optimization is crucial to meet rising consumer expectations for speed, stability, and security.
- 2) Enhancing mobile responsiveness, integrating advanced AI-based recommendations, and strengthening cybersecurity measures will reinforce consumer trust.

2) Refining Digital Marketing Strategies

- 3) While discount-driven campaigns are effective, over-reliance on them may erode profitability. Shopee should explore more sustainable strategies, such as personalized promotions, exclusive memberships, or educational content marketing.
- 4) Social media integration should evolve beyond influencer endorsements to include authentic student-generated content, which resonates strongly with peers.

3) Balancing Technology and Marketing

Success lies not in prioritizing one factor over another but in achieving balance. Shopee should continue to synchronize marketing campaigns with system readiness to avoid transaction overloads during peak promotional events.

4) Targeting the Student Segment

Given their price sensitivity and high digital engagement, students represent both an opportunity and a challenge. Shopee must design strategies that provide value without encouraging unsustainable consumption patterns.

f. Implications for Students and Society

The findings also carry broader implications for consumers, particularly students, and society at large.

- 1) Consumer empowerment: Awareness of how system design and marketing influence behavior can empower students to make more conscious decisions.
- 2) Financial management: Exposure to constant promotions may encourage impulsive spending among students with limited income. This highlights the need for financial literacy initiatives.
- 3) Cultural shifts: The normalization of online shopping reshapes consumption culture, reducing reliance on traditional markets but potentially undermining local businesses.
- 4) Digital inclusion: Reliable systems and accessible promotions encourage more students to adopt online shopping, contributing to broader digital economy participation.

Thus, while e-commerce expansion offers convenience and opportunities, it also raises concerns about overconsumption, digital dependency, and the marginalization of offline retailers.

g. Theoretical Contributions

From an academic standpoint, the study contributes to the literature in several ways:

- 1) It reinforces the applicability of the Technology Acceptance Model in explaining student adoption of e-commerce platforms in developing economies.
- 2) It demonstrates the relevance of digital marketing theory in shaping consumer decisions, particularly in contexts where younger generations dominate the market.
- 3) It underscores the importance of examining the interaction between technological and marketing variables rather than treating them in isolation.

These contributions provide a foundation for future research on consumer behavior in the digital economy, especially within the Indonesian context, where e-commerce adoption is rapidly accelerating.

h. Comparison with Prior Studies

The findings of this study are consistent with several national and international studies that have explored similar dynamics in digital consumer behavior. On a national scale, Rahmawati (2023) found that system reliability has a significant effect on consumer trust in Tokopedia, which aligns with the present study's conclusion regarding the strong influence of information system reliability on consumer confidence in Shopee. Similarly, Pratama (2024) emphasized the substantial impact of social media marketing on the purchase intentions of Generation Z consumers. This result parallels the observed importance of Shopee's digital marketing strategies in influencing students' purchasing behavior, further reinforcing the critical role of social media in shaping modern e-commerce engagement.

From an international perspective, Alalwan et al. (2017) demonstrated that interactive social media campaigns positively enhance consumer engagement, supporting the relevance and effectiveness of Shopee's interactive marketing approaches identified in this research. Moreover, Gefen et al. (2003) underscored the significance of trust and system quality as pivotal determinants of e-commerce adoption, findings that correspond closely with the current study's emphasis on the role of information system quality and consumer trust. By situating the current results within this broader academic context, it becomes evident that the behavioral patterns observed among Universitas Asahan students reflect not only local tendencies but also broader global trends in digital consumer engagement and e-commerce participation.

i. Limitations and Future Research

Despite providing valuable insights into online consumer behavior among university students, this study acknowledges several limitations. First, the sample size was relatively limited, involving only 80 respondents from Universitas Asahan. Expanding future research to include multiple universities across different regions would enhance the generalizability of the findings. Second, the study focused on only two independent variables, which may not fully capture the multifaceted nature of online purchasing behavior. Incorporating additional factors such as product quality, peer influence, and financial capacity could offer a more comprehensive understanding of consumer decision-making.

Third, the study employed a cross-sectional design, providing a snapshot of consumer behavior in 2025 without accounting for potential changes over time. Longitudinal studies would be beneficial to observe how online shopping habits evolve alongside technological and societal developments. Finally, since the data were collected through self-reported questionnaires, there is a possibility of response bias, as participants may have underreported or overreported their actual purchasing behavior. Future research could address these limitations by adopting a mixed-method approach that combines quantitative and qualitative data to deepen the analysis. Additionally, exploring the psychological aspects of online shopping—such as impulse buying tendencies and emotional gratification—could provide new perspectives. Researchers may also consider examining the socioeconomic implications of e-commerce growth, particularly its effects on local offline retail sectors, to develop a more holistic understanding of the digital marketplace's impact on society.

V. Concluding

Based on the results, it can be concluded that the quality of the Information System and the Digital Marketing Strategy of Shopee have a significant influence on changes in the online shopping behavior of Universitas Asahan students. A reliable information system characterized by easy navigation, fast access, secure transactions, and accurate product information contributes to user satisfaction and transaction efficiency. Similarly, Shopee's marketing strategies, including aggressive promotions, product personalization, social media campaigns, and influencer collaborations, have successfully stimulated more active and impulsive consumption behavior among students. Both the F-test and t-tests affirm that the independent variables significantly influence the dependent variable, both simultaneously and partially. The high coefficient of determination further emphasizes the substantial contribution of these two factors to consumer behavior change. These findings provide valuable insights for e-commerce industry players in designing targeted strategies and also contribute to the academic literature on digital consumer behavior in the era of technological advancement.

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