Jurnal Bisnis Strategi
Vol. 34, No. 2, 2025, pp. 142-148
Published by Department of Management, Faculty of Economics and Business,
Universitas Diponegoro (p-ISSN: 1410-1246; e-ISSN: 2580-1171)
Published online in https://ejournal.undip.ac.id/index.php/jbs

Artificial Intelligence and Digital Marketing Impact on Purchase Intention Mediated by Perceived Value on Shopee E-commerce

Owen Yehezkiel

Department of Management, University of Riau, Indonesia

Abstract

This study explores the effects of Artificial Intelligence (AI) and Digital Marketing on Purchase Intention, with Perceived Value as a mediator, in Shopee's e-commerce context. Using data from 290 University of Riau students analyzed via SEM-PLS, the study finds that AI positively impacts Perceived Value and Purchase Intention both directly and indirectly. In contrast, Digital Marketing positively influences Perceived Value but negatively affects Purchase Intention, with Perceived Value mitigating this impact. The findings highlight the importance of AI-driven personalization and the risks of overly aggressive Digital Marketing, offering insights for optimizing e-commerce strategies to improve user experience and drive purchases.

Keywords artificial intelligence, digital marketing, perceived value, purchase intention, e-commerce

INTRODUCTION

The rapid development of digital technology has significantly transformed consumer shopping behavior, shifting from traditional to online transactions. This transition has been accelerated by widespread internet access, advancements in mobile technology, and changes in consumer preferences toward convenience and efficiency. E-commerce platforms have capitalized on these changes by integrating advanced technologies like Artificial Intelligence (AI) and Digital Marketing to create more personalized and efficient shopping experiences. These technologies have become critical for platforms like Shopee, enabling them to engage consumers more effectively, streamline operations, and enhance overall satisfaction.

Shopee's success in Indonesia exemplifies the transformative power of AI and Digital Marketing in the e-commerce industry. AI-driven features, such as personalized recommendations, chatbots, and visual search capabilities, help cater to individual consumer needs, improving user experience and fostering loyalty. These features allow Shopee to predict and meet consumer preferences, thereby enhancing perceived value and trust in the platform. Similarly, targeted Digital Marketing strategies, including social media campaigns, influencer collaborations, and personalized advertisements, enhance brand visibility and influence purchasing decisions. However, while these tools offer significant advantages, their implementation requires a delicate balance to avoid potential drawbacks, such as consumer mistrust or perceived intrusiveness.

The shift towards online shopping has been further accelerated by global events like the COVID-19 pandemic, which forced consumers and businesses to adapt to digital platforms. In this context, Shopee's ability to integrate AI technologies, such as automated customer service and personalized product suggestions, has set it apart as a leader in the industry. These features not only simplify the shopping process but also enhance user satisfaction by offering tailored solutions that meet individual preferences. For example, AI-powered chatbots provide instant customer support, addressing queries efficiently and enhancing the overall user experience.

On the other hand, Digital Marketing plays an equally crucial role in driving consumer engagement and purchase intentions. Platforms like Shopee employ a range of strategies, including social media advertisements, email marketing, and influencer partnerships, to maintain a strong market presence. Digital Marketing campaigns on platforms like Instagram, Facebook, and TikTok are designed to capture consumer attention and drive traffic to Shopee's platform. While these methods are effective in capturing consumer interest, their overuse or mismanagement can lead to negative perceptions, such as irritation or distrust, underscoring the importance of balancing marketing intensity with consumer comfort. Studies have shown that overly aggressive advertising or poorly targeted campaigns can

✉Correspondence to : owenyehezkiel1@gmail.com

Received : March, 17th 2025
Revised : October, 1th, 2025
Accepted : October, 1th, 2025

diminish perceived value and erode consumer trust.

This study builds on the work of Febriani (2022), who explored the impact of AI and Digital Marketing on consumer behavior, highlighting the critical role of Perceived Value as a mediating variable. By synthesizing findings from prior research, this study aims to provide a comprehensive understanding of how AI and Digital Marketing influence Purchase Intention through Perceived Value, with a particular focus on Shopee's operations in the Indonesian market. This research contributes to the growing body of knowledge on e-commerce strategies, offering actionable insights for businesses seeking to optimize their technological and marketing approaches. By addressing the interplay between technology and marketing, this study sheds light on effective strategies to enhance consumer trust, satisfaction, and loyalty in a highly competitive digital marketplace.

Moreover, this study highlights the importance of understanding regional consumer behavior. Indonesia's large population and rapid digitalization present unique opportunities and challenges for e-commerce platforms. Shopee's localized approach, which includes culturally relevant promotions and user-friendly mobile applications, demonstrates the importance of aligning global technologies with local market needs. This alignment not only enhances user engagement but also builds long-term loyalty, which is critical for sustaining growth in the competitive e-commerce landscape. Through this research, the role of AI and Digital Marketing in shaping consumer decisions is further elucidated, providing valuable insights for future academic and practical applications.

Artificial Intelligence (AI)

AI enhances personalization by analyzing consumer behavior, offering tailored recommendations, and optimizing customer service. Studies (Yin & Qiu, 2021) indicate that AI significantly increases Perceived Value and Purchase Intention when implemented effectively. However, Febriani (2022) suggests that AI's impact may vary based on user trust and privacy concerns.

Digital Marketing

Digital Marketing engages consumers through social media, targeted advertisements, and content personalization. Novitasari (2022) highlights its positive influence on Perceived Value but warns against the adverse effects of overly aggressive campaigns on Purchase Intention.

Perceived Value

Perceived Value mediates the relationship between AI, Digital Marketing, and Purchase Intention. It reflects the balance of benefits and costs perceived by consumers (Dharma Arya Pamungkas, 2023). Enhanced Perceived Value fosters trust, satisfaction, and loyalty, driving Purchase Intention.

Purchase Intention

Purchase Intention refers to a consumer's likelihood to buy a product or service based on their evaluation of its benefits, quality, and overall value. It serves as a critical indicator of consumer decision-making behavior, influenced by various factors such as perceived trust, brand image, and personalized marketing efforts. According to Wang et al. (2023), Purchase Intention is positively impacted by an enhanced shopping experience, particularly through AI-driven personalization and targeted digital marketing strategies. High perceived value and emotional engagement play vital roles in strengthening consumers' desire to make a purchase. Studies further suggest that trust and convenience significantly moderate the effect of marketing and technological interventions on Purchase Intention.

Types of Research

This study adopts a quantitative research approach, which emphasizes numerical data collection and analysis to test predefined hypotheses. The research design is descriptive and causal-explanatory, aimed at describing the relationships among variables and explaining the causal effects of Artificial Intelligence (AI) and Digital Marketing on Purchase Intention through

Perceived Value. A survey method was employed to collect primary data using structured questionnaires. This approach ensures reliability and validity in measuring the impact of the independent variables (AI and Digital Marketing) on the dependent variable (Purchase Intention), mediated by Perceived Value.

Hypotheses

The following hypotheses are proposed to examine the relationships between the variables in this study. These hypotheses aim to assess the direct and mediated effects of Artificial Intelligence (X1), Digital Marketing (X2), and Perceived Value (Z) on Purchase Intention (Y) :

- H1 : Artificial Intelligence (X1) have a positive impact on Perceived Value (Z).
- H2 : Digital Marketing (X2) have a positive impact on Perceived Value (Z).
- H3 : Perceived Value (Z) have a positive impact on Purchase Intention (Y).
- H4 : Artificial Intelligence (X1) have a positive impact on Purchase Intention (Y).
- H5 : Digital Marketing (X2) have a positive impact on Purchase Intention (Y).
- H6 : Artificial Intelligence (X1) have a positive impact on Purchase Intention (Y) mediated by Perceived Value (Z).
- H7 : Digital Marketing (X2) have a positive impact on Purchase Intention (Y1) mediated by Perceived Value (Z).

RESULTS AND DISCUSSION

Outer Model

The outer model testing focused on ensuring the validity and reliability of the measurement model.

1. Validity Test

	X1	X2	Y	Z
X1.1	**0.942**	0.743	0.837	0.813
X1.2	**0.952**	0.718	0.789	0.820
X1.3	**0.951**	0.758	0.760	0.839
X2.1	0.673	**0.907**	0.507	0.666
X2.2	0.667	**0.893**	0.517	0.655
X2.3	0.711	**0.910**	0.577	0.716
X2.4	0.751	**0.919**	0.580	0.734
X2.5	0.717	**0.913**	0.547	0.702
X2.6	0.731	**0.914**	0.604	0.771
Y.1	0.771	0.547	**0.924**	0.732
Y.2	0.711	0.526	**0.908**	0.693
Y.3	0.821	0.602	**0.923**	0.747
Y.4	0.770	0.570	**0.913**	0.763
Z.1	0.819	0.751	0.752	**0.933**
Z.2	0.785	0.696	0.702	**0.930**
Z.3	0.754	0.676	0.693	**0.909**
Z.4	0.855	0.759	0.809	**0.931**

	X1	X2	Y	Z
X1	**0.948**			
X2	0.780	**0.909**		
Y	0.839	0.613	**0.917**	
Z	0.869	0.780	0.801	**0.926**

- All constructs demonstrated good convergent validity, with factor loadings exceeding the threshold of 0.70, and Average Variance Extracted (AVE) values above 0.50.

- The discriminant validity analysis using the Fornell-Larcker Criterion shows that each variable's square root of AVE exceeds its correlations with other variables. For example, the Artificial Intelligence (X1) variable has a square root AVE of 0.948, higher than its correlations with Digital Marketing (X2) at 0.780, Perceived Value (Y) at 0.839, and Purchase Intention (Z) at 0.869.

2. Reliability Test

	Cronbach's Alpha	Composite Reliability
X1	0.944	0.964
X2	0.958	0.966
Y	0.937	0.955
Z	0.945	0.960

- Composite Reliability (CR) values for all constructs ranged from 0.937 to 0.966, well above the threshold of 0.70.

Therefore, it can be determined that the variables meet validity and reliability criteria, making them suitable for analyzing the structural model.

Inner Model

The inner model represents the second step in evaluating the measurement model. It focuses on analyzing and identifying the relationships between independent and dependent variables within a study. Key aspects assessed in the inner model include path coefficient results, model fit, and significance levels in hypothesis testing.

1. R-Square

	R Square	R Square Adjusted
Y	0.740	0.737
Z	0.782	0.780

- **Variable Y (Purchase Intention):** The R-Square value of 0.740 indicates that 74% of the variation in purchase intention is explained by the independent variables in the model. This is categorized as a high value, indicating a strong model fit and that the independent variables are effective in predicting purchase intention.
- **Variable Z (Perceived Value):** The R-Square value of 0.782 indicates that 78.2% of the variation in perceived value is explained by the independent variables in the model. This also reflects a strong model fit.

Hypothesis Testing Using Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
X1 -> Y	0.672	0.672	0.063	10.710	0.000
X1 -> Z	0.666	0.659	0.060	11.106	0.000
X2 -> Y	-0.205	-0.206	0.042	4.836	0.000
X2 -> Z	0.260	0.267	0.062	4.222	0.000
Z -> Y	0.376	0.378	0.065	5.831	0.000

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
X1 -> Z -> Y	0.251	0.249	0.048	5.198	0.000
X2 -> Z -> Y	0.098	0.101	0.029	3.348	0.001

Hypothesis testing determines whether a hypothesis is accepted or rejected using three methods: Path Coefficients, T-Statistics, and p-values. A positive path coefficient indicates a direct relationship, where an increase in an exogenous variable leads to an increase in the endogenous variable, while a negative value indicates an inverse relationship.

T – table = n – k – 1 : α/2
= 290 – 2 – 1 : 0.05/2
= 287 : 0.025
= 1.969 (See the T-table with df = 287 at a significance level of 0.025).

The T-Statistics value signifies significance if it is equal to or greater than the critical T-value (1.969 at a 5% significance level). Similarly, a p-value of 0.05 or less confirms a significant relationship. For mediation analysis, the indirect effect is examined, and a variable is considered to mediate if its T-value is ≥ 1.969 or its p-value is ≤ 0.05.

Based on the table above, the following is the explanation of each variable:

1. H1: Artificial Intelligence (X1) has a strong positive impact on Perceived Value (Z), as indicated by a path coefficient of 0.666, a T-statistics value of 11.106, and a P-value of 0.000, confirming the hypothesis.
2. H2: Digital Marketing (X2) positively influences Perceived Value (Z) with a path coefficient of 0.260, a T-statistics value of 4.222, and a P-value of 0.000, though the effect is smaller compared to Artificial Intelligence, supporting the hypothesis.
3. H3: Perceived Value (Z) significantly affects Purchase Intention (Y) in a positive way, as shown by a path coefficient of 0.376, a T-statistics value of 5.831, and a P-value of 0.000, validating the hypothesis.
4. H4: Artificial Intelligence (X1) strongly impacts Purchase Intention (Y) positively, with a path coefficient of 0.672, a T-statistics value of 10.710, and a P-value of 0.000, confirming the hypothesis.
5. H5: Digital Marketing (X2) has a negative impact on Purchase Intention (Y), as reflected by a path coefficient of -0.205, a T-statistics value of 4.836, and a P-value of 0.000, leading to the rejection of the hypothesis.

6. H6: Artificial Intelligence (X1) positively affects Purchase Intention (Y) indirectly through Perceived Value (Z), with an indirect effect of 0.251, a T-statistics value of 5.198, and a P-value of 0.000, supporting the hypothesis.
7. H7: Digital Marketing (X2) positively impacts Purchase Intention (Y) indirectly through Perceived Value (Z), with an indirect effect of 0.098, a T-statistics value of 3.348, and a P-value of 0.001, though the effect is weaker compared to Artificial Intelligence, confirming the hypothesis.

CONCLUSION

This study highlights the significant impact of Artificial Intelligence (AI) and Digital Marketing on Purchase Intention, with Perceived Value playing a crucial mediating role. The findings demonstrate that AI contributes positively to both Perceived Value and Purchase Intention, directly and indirectly, emphasizing the importance of AI-driven personalization in enhancing consumer experiences. AI's ability to analyze consumer behavior, provide tailored recommendations, and facilitate seamless interactions fosters trust and satisfaction, ultimately increasing the likelihood of purchases.

In contrast, Digital Marketing presents a dual effect. While it positively influences Perceived Value, the direct relationship with Purchase Intention is negative, highlighting potential risks associated with overly aggressive marketing strategies. These negative impacts, however, can be mitigated when Digital Marketing is perceived as valuable by consumers, underscoring the need for balanced and targeted marketing approaches that align with consumer preferences.

Perceived Value emerges as a pivotal factor, mediating the effects of both AI and Digital Marketing on Purchase Intention. This indicates that consumers are more inclined to make purchases when they perceive high value in their interactions with e-commerce platforms. The high R-squared values in this study underscore the robustness of the

model, suggesting that the independent variables account for a significant proportion of the variance in both Perceived Value and Purchase Intention.

These findings align with prior research, reinforcing the strategic importance of leveraging AI technologies to deliver personalized and efficient shopping experiences. At the same time, e-commerce platforms must carefully design their Digital Marketing strategies to enhance value perception without alienating consumers through excessive or intrusive campaigns.

Future research could further explore the moderating effects of trust, consumer demographics, or cultural factors on these relationships. Additionally, incorporating emerging technologies such as augmented reality or advanced analytics could provide deeper insights into consumer behavior in evolving e-commerce ecosystems.

By integrating AI and Digital Marketing in a manner that prioritizes consumer value, e-commerce platforms can build trust, enhance satisfaction, and drive sustainable growth in an increasingly competitive digital marketplace.

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