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Selling Green Through Algorithms: How AI Advertising Shapes Eco-Conscious Consumers

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Abstract: *This study examines the influence of AI advertising exposure, green message credibility, and digital engagement on eco-conscious consumer behavior in Indonesia. Using a quantitative approach with a survey design, data were collected from 170 active social media users who had interacted with digital advertisements containing sustainability messages and purchased environmentally friendly products online. Data analysis employed multiple linear regression using SPSS. The findings reveal that AI advertising exposure, green message credibility, and digital engagement each have a significant and positive effect on eco-conscious consumer behavior, both partially and simultaneously. The results indicate that artificial intelligence serves not merely as a promotional instrument but as a bridge connecting ecological awareness with sustainable consumption. Digital engagement emerges as the strongest predictor, demonstrating that consumers who interact more actively with green content tend to exhibit higher levels of sustainable behavioral commitment. The study contributes to the theoretical development of AI driven marketing by integrating technological personalization with ethical and participatory dimensions of sustainability communication. Practically, the findings suggest that marketers must balance algorithmic efficiency with message credibility and ethical transparency to ensure that AI-driven campaigns do not merely promote green products but cultivate long term ecological awareness and consumer trust.*
Keywords: *AI Advertising, Green Message Credibility, Digital Engagement, Eco-Conscious Consumer Behavior*

INTRODUCTION

In the era of digital marketing driven by technological revolution, the implementation of Artificial Intelligence (AI) has become a significant catalyst in transforming promotional practices and brand consumer interactions. Many companies and business actors are leveraging algorithms to automate personalization, predict consumer preferences, and deliver real-time advertisements across social media platforms, marking a major shift from traditional mass marketing strategies to more targeted algorithmic approaches (Acatrinei et al., 2025). This development has accelerated the rapid growth of the AI marketing market across various industrial sectors. AI is not only being applied in the retail sector but is increasingly adopted in media, banking, and telecommunications industries to optimize customer experiences and enhance promotional efficiency. The following

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illustration presents the proportion of AI implementation across end-user industries globally in 2024.

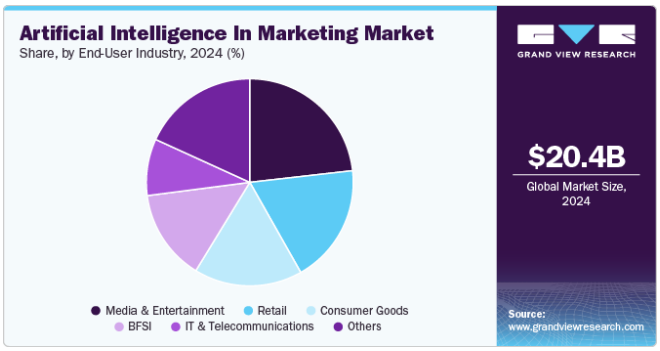

Figure 1. *Artificial Intelligence in Marketing Market*
Source: Grand View Research, 2024

From the figure, it is evident that the application of AI in marketing spans multiple sectors, with the largest share coming from the media and entertainment industry, followed by the retail and consumer goods sectors. This indicates that AI has become a foundational element in brand communication strategies that emphasize consumer experience and data-driven marketing. Meanwhile, consumer awareness of sustainability continues to grow. Today's consumers no longer evaluate products solely based on price and quality but also consider their environmental impact. A recent bibliometric study revealed that the topics of *"green marketing"* and *"digital transformation"* are closely interconnected and have shown significant growth in academic literature since 2020. This trend suggests that green marketing and digital technology are now converging at a critical intersection point (Kumar et al., 2025).

Global trends indicate that sustainable consumers are increasingly adopting diverse shopping channels, including online stores and marketplaces that promote environmentally friendly products. Companies capable of integrating sustainability messages into their digital marketing strategies have a greater opportunity to reach idealistic and environmentally conscious consumer segments, whose growth continues to accelerate worldwide. The following data illustrate the shift in shopping channels preferred by sustainable consumers in 2024.

International Journal of Education Management and Religion
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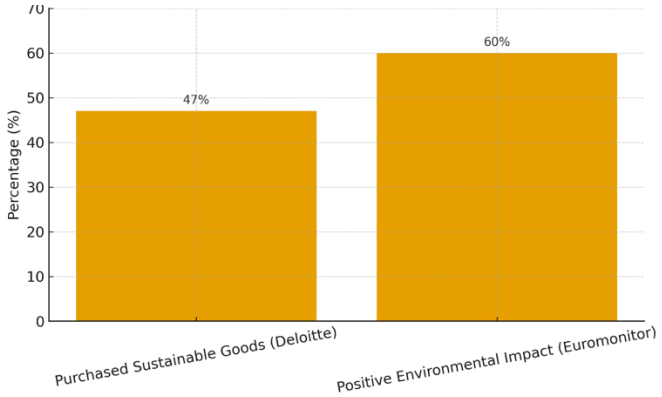

Figure 2. *Global Consumers Engaging in Sustainable Behavior*
Source: NielsenIQ Global Green Divide Report, 2024

The intersection between AI technology and green marketing has given rise to a new and significant phenomenon known as algorithmic green persuasion. AI-driven advertising enables brands to deliver highly personalized and contextually relevant sustainability messages to consumers, thereby influencing their perceptions and pro-environmental behaviors (Rodgers & Nguyen, 2022). The application of AI in green marketing can enhance consumer engagement with environmentally responsible brands (Rodgers & Nguyen, 2022). However, existing research remains limited, as most studies tend to examine generic AI marketing or green consumer behavior separately. Few have investigated the mechanism of algorithm-based advertising that directly links to green attitudes and behaviors, particularly within the context of social commerce or emerging markets (Acatrinei et al., 2025; Gündüzyeli, 2024).

Several studies have emphasized the influence of AI on digital marketing and consumer behavior. For instance, (Acatrinei et al., 2025) found that variables such as social norms and algorithmic transparency play a significant role in strengthening consumer trust toward AI-driven marketing tools. (Gündüzyeli, 2024) examined the integration of AI and sustainability within digital marketing strategies and discovered that algorithmic personalization encourages sustainable consumption among Generation Z. Meanwhile, the study *"*How do consumers react to AI-generated green marketing content?*"* (Zhou & Jiang, 2025) revealed that AI-generated advertising with green narratives can effectively stimulate pro environmental perceptions among consumers. Nevertheless, most of these studies have been conducted in developed countries or within traditional e-commerce platforms, and only a few have explored the dynamics of video-

based or social commerce environments where algorithmic mechanisms play a central role (Kumar et al., 2025).

Although the integration of artificial intelligence into green marketing practices demonstrates significant potential in shaping consumer behavior, the academic literature still reveals both conceptual and contextual gaps. Most previous studies have focused on the effectiveness of AI technology in enhancing personalization and general purchase intention without incorporating the sustainability dimension that has become increasingly relevant in the past decade (Garg et al., 2025). Conversely, research centered on green consumer behavior has predominantly examined environmental values and ethical awareness but has yet to explore how algorithmic persuasion mediates the formation of such behavior (Purba et al., 2025); Gündüzyeli, 2024). In other words, there remains an epistemological divide between the two major domains AI marketing and green marketing which, in the context of the digital economy, are now deeply intertwined.

Furthermore, most previous empirical studies remain concentrated in developed countries such as the United States, the United Kingdom, and China, where digital markets are mature and ecological awareness is relatively high (Rodgers & Nguyen, 2022); Acatrinei et al., 2025). Research conducted in developing countries such as Indonesia is still limited, despite the nation's large digital population and the growing sustainability awareness among urban youth (Statista, 2024; NielsenIQ, 2024). Considering these factors, this study offers novelty in three key aspects. First, conceptually, it integrates two previously separate domains AI driven advertising and eco conscious consumer behavior into a unified analytical framework. Second, contextually, it focuses on an emerging market characterized by digital native consumers, thereby expanding cross cultural understanding of the mechanisms underlying algorithmic green persuasion. Third, practically, this study contributes to the development of AI based sustainable marketing approaches that emphasize not only business efficiency but also long-term ecological responsibility. This research is therefore significant as it addresses both academic and practical needs to understand how digital marketing algorithms can move beyond selling products to selling values namely sustainability and environmental consciousness.

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The increasing level of consumer awareness toward sustainability reflects a paradigm shift in purchasing behavior, from price orientation to value-driven consumption. Consumers today assess not only the functional benefits of products but also their social and ecological impacts. This trend provides a strategic opportunity for companies to build competitive advantage through sustainable business practices such as eco-friendly packaging, supply chain transparency, and ethical communication. Accordingly, the 2024 data not only reflect a change in global market preferences but also signify a transition toward an era of more conscious, critical, and responsible consumers. Based on these phenomena, this study aims to examine the influence of AI advertising, green message credibility, and digital engagement on eco-conscious consumer behavior in Indonesia.

METHOD

This study employed a quantitative approach with a descriptive and survey design aimed at examining the influence of AI advertising, green message credibility, and digital engagement on eco-conscious consumer behavior. The population in this research consisted of active social media users in Indonesia, particularly those who have viewed or interacted with digital advertisements containing sustainability messages (*green messages*) and have purchased environmentally friendly products online. Non probability sampling technique with a purposive sampling approach was used to determine the respondents. The sample size was determined using the formula proposed by Hair et al. (2019), which recommends a minimum of 5–10 respondents per indicator. With a total of 17 indicators included in the questionnaire, this study analyzed responses from 170 participants. The data consisted of both primary and secondary sources. Primary data were collected through an online questionnaire (Google Form) using a five point Likert scale, while secondary data were obtained from academic publications, industry reports, and official databases such as Grand View Research (2024) and NielsenIQ (2024). Data analysis was performed using multiple linear regression analysis with the assistance of SPSS software. This analytical technique was employed to examine the extent to which the independent variables AI Advertising Exposure (X1), Green Message Credibility (X2), and Digital Engagement (X3) influence the dependent variable, Eco-Conscious Consumer Behavior (Y).

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RESULT AND DISCUSSION

Reliability Test

The research instrument in this study was declared reliable based on the Cronbach's Alpha value exceeding the threshold of >0.600. This indicates that all measurement items used in the questionnaire were consistent and dependable for data collection. The results of the reliability test are presented in the table below.

Variabel	*Cronbach's Alpha*	Keterangan
AI Advertising Exposure	0.731	Reliable
Green Massage Credibility	0.647	Reliable
Digital Engagement	0.814	Reliable
Eco-Conscious Consumer Behavior	0.704	Reliable

Table 1. *Reliability Test Results*
Source: Primary Data Processed, August 2025

As shown in Table 1, all constructs in this study have Cronbach's Alpha values above 0.600, indicating that each variable meets the minimum reliability standard. Therefore, the research instrument used to measure AI Advertising Exposure, Green Message Credibility, Digital Engagement, and Eco-Conscious Consumer Behavior can be considered consistent and internally reliable.

Multiple Regression Test

This study employed a multiple linear regression analysis to examine the influence between the independent variables AI Advertising Exposure (X1), Green Message Credibility (X2), and Digital Engagement (X3) and the dependent variable, Eco-Conscious Consumer Behavior (Y). The results of the multiple linear regression analysis are presented in Table 2 below.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.447	.202		2.216	.028
	AI Advertising Exposure	.155	.062	.166	2.488	.014
	Green Massage Credibility	.225	.076	.235	2.955	.004

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Digital Engagement	.467	.073	.471	6.383	.000

Table 2. *Regression Coefficient Test Results*
Source: Primary Data Processed, August 2025

Based on Table 2, the constant value obtained is 0.447, while the regression coefficients for AI Advertising Exposure (X1), Green Message Credibility (X2), and Digital Engagement (X3) are 0.155, 0.225, and 0.467, respectively. When these values are inserted into the regression equation, the model can be expressed as follows:

$$Y=0.447+0.155X_1+0.225X_2+0.467X_3+e$$

This equation indicates that:

a. The constant value of 0.447 represents the level of eco-conscious consumer behavior before being influenced by the variables AI Advertising Exposure, Green Message Credibility, and Digital Engagement.

b. The regression coefficient of 0.155 indicates that AI Advertising Exposure has a positive effect on eco-conscious consumer behavior. This means that if AI advertising exposure increases by one unit, eco-conscious consumer behavior will also increase by 0.155 units, assuming other variables remain constant.

c. The regression coefficient of 0.225 shows that Green Message Credibility positively influences eco-conscious consumer behavior. An increase of one unit in green message credibility will result in an increase of 0.225 units in eco-conscious consumer behavior, with other variables held constant.

d. The regression coefficient of 0.467 demonstrates that Digital Engagement has a positive and the most substantial effect on eco-conscious consumer behavior. If digital engagement increases by one unit, eco-conscious consumer behavior will also rise by 0.467 units, assuming other variables remain unchanged.

Coefficient of Determination (R^2) Test

Model Summary

Model	R	R Square	Adjusted R Square
1	.788[a]	.621	.614

Table 3. *Results of the Coefficient of Determination Test*
Source: Primary Data Processed, August 2025

International Journal of Education Management and Religion
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The value of the R Square (R^2) obtained in this study is 0.621, as shown in Table 3. This indicates that 62.1% of the variation in eco-conscious consumer behavior can be explained by the variables AI Advertising Exposure, Green Message Credibility, and Digital Engagement. Meanwhile, the remaining 37.9% is influenced by other factors outside the scope of this study.

t Test Results

The t test was conducted to determine the partial effect of each independent variable AI Advertising Exposure (X1), Green Message Credibility (X2), and Digital Engagement (X3) on the dependent variable, Eco-Conscious Consumer Behavior (Y). Referring to Table 2 and using a significance level (α) of 5%, the results are as follows:

1. For the variable AI Advertising Exposure, the significance value (Sig.) is 0.014 < 0.050, indicating that AI Advertising Exposure has a significant positive influence on Eco-Conscious Consumer Behavior.
2. For the variable Green Message Credibility, the significance value (Sig.) is 0.004 < 0.050, indicating that Green Message Credibility significantly affects Eco-Conscious Consumer Behavior.
3. For the variable Digital Engagement, the significance value (Sig.) is 0.000 < 0.050, showing that Digital Engagement has a significant and dominant effect on Eco-Conscious Consumer Behavior.

Thus, all three independent variables are found to have significant positive effects on eco-conscious consumer behavior.

F-Test Results (Simultaneous Test)

The F-test was conducted to determine whether all independent variables simultaneously have a significant effect on the dependent variable. The results of the F-test can be seen in the following table.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.596	3	5.199	10.537	.001[b]
	Residual	49.833	101	.493		
	Total	65.429	104			

***Table 4**. F Test Results*
Source: Primary Data Processed, August 2025

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Based on Table 4, the significance value of 0.001 is smaller than the 5% significance level (α = 0.05). This indicates that the independent variables AI Advertising Exposure, Green Message Credibility, and Digital Engagement simultaneously have a significant influence on Eco-Conscious Consumer Behavior in Indonesia.

DISCUSSION

AI Advertising and Eco-Conscious Consumer Behavior

The findings of this study indicate that exposure to artificial intelligence base advertising (AI advertising exposure) has a positive relationship with eco-conscious consumer behavior. This means that the more frequently consumers are exposed to advertisements generated or curated by AI algorithms, the stronger their tendency to adopt sustainability-oriented consumption patterns. These results reinforce the idea that AI now functions not only as a promotional tool but also as a form of social persuasion agent capable of shaping consumers' value orientations. According to Petty and Cacioppo's Elaboration Likelihood Model (ELM) (1986), messages aligned with an individual's personal values are more likely to be processed through the central route, resulting in deeper and more enduring attitude change. Within the context of AI-driven digital marketing, algorithms tailor advertising messages to fit consumers' ecological values, preferences, and lifestyles, thereby producing a more effective and lasting persuasive effect.

This finding is consistent with (Rodgers & Nguyen, 2022), who emphasized that algorithmic personalization enhances message relevance and strengthens purchase intentions toward green products. Similarly, (Garg et al., 2025) explained that AI fosters a micro-targeting ecosystem that enables the delivery of sustainability messages to audience segments most responsive to environmental issues. Such personalization fosters stronger emotional engagement because the messages feel authentic and aligned with consumers' aspirations for sustainable living.

Empirically, (Acatrinei et al., 2025) asserted that trust in AI systems and ethical perceptions of algorithms play critical roles in shaping positive attitudes toward eco-friendly products. When consumers perceive algorithmic processes as transparent and non-manipulative, they are more receptive to green messages disseminated through digital platforms. This aligns with the NielsenIQ (2024) report, which revealed that younger consumers particularly digital-native generations in Southeast Asia demonstrate increasing preference for brands committed to sustainability.

International Journal of Education Management and Religion
Volume 3 No 1 January 2026
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https://journal.as-salafiyah.id/index.php/ijemr/index
editoriemr@gmail.com

Continuous algorithmic exposure reinforces the perception that environmentally responsible behavior forms part of modern identity and social belonging.

Overall, these findings confirm that AI advertising exposure contributes significantly to enhancing ecological awareness among consumers. Through its ability to interpret behavioral patterns, preferences, and value orientations, AI advertising serves as a catalyst for transforming consumption behaviors toward sustainability. In other words, AI does not merely sell products it "sells awareness", creating a digital ecosystem where sustainability emerges as a dominant narrative in contemporary consumer culture.

Green Message Credibility and Eco-Conscious Consumer Behavior

The results of this study indicate that the credibility of green messages has a positive influence on eco-conscious consumer behavior. This finding suggests that the more consumers trust the authenticity, honesty, and consistency of environmentally friendly messages delivered through digital advertisements, the stronger their tendency to act in accordance with sustainability values. Message credibility serves as a crucial bridge in shaping both emotional and cognitive connections between brands and consumers. According to Ohanian (1990), communication credibility consists of three dimensions expertise, trustworthiness, and attractiveness. Within the context of digital green marketing, trustworthiness emerges as the most dominant factor, as consumers have become increasingly sensitive to greenwashing, or deceptive attempts by companies to portray an environmentally responsible image without substantial action. When messages are perceived as dishonest or unsupported by evidence, consumers lose trust and disengage from the brand narrative.

This study supports the findings of (Purba et al., 2025), who revealed that perceived green message credibility plays a significant role in shaping green purchase intention. Consumers who perceive a brand's sustainability communication as consistent and reliable are more likely to shift their purchase preferences toward eco-friendly products. Similarly, (Gündüzyeli, 2024) argued that message credibility mediates the relationship between environmental awareness and sustainable purchase intention when messages are communicated transparently, consumers perceive value congruence, which fosters emotional resonance and deeper behavioral alignment with sustainability goals.

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In the domain of digital marketing, trust in sustainability messaging is built not only through textual or verbal claims but also through visual storytelling and user generated content (UGC) that demonstrate genuine sustainable practices. (Alhomaid, 2025) found that consumers place greater trust in environmental claims communicated through user experiences or visual testimonials than in corporate statements alone. This aligns with the dynamics of contemporary social media platforms such as Instagram, TikTok, and YouTube, where consumers actively validate green message credibility through comments, reviews, and participation in digital campaigns. Furthermore, (Teepapal, 2025) emphasized that high green message credibility fosters perceived authenticity the belief that a brand genuinely integrates sustainability principles into its core identity. This perceived authenticity strengthens the eco-conscious identity of consumers, making purchase decisions driven not merely by product benefits but also by moral and social alignment with the brand's values.

In the context of AI driven marketing, message credibility becomes even more critical. While algorithms can tailor content to match audience preferences, trust must be maintained through transparency and consistency. If personalization is not accompanied by authenticity, consumers may interpret the message as a form of digital manipulation. Thus, the balance between technological innovation and message integrity is a key determinant of success in green marketing campaigns powered by artificial intelligence. Overall, this study highlights that green message credibility serves as a moral foundation of digital marketing aimed at ecological consciousness. A credible message has the power to transform consumers from being merely aware of environmental issues to being committed to sustainable action. In the era of AI enabled green marketing, credibility is not just a communication attribute it represents a long term sustainability strategy for brands seeking to build trust and enduring consumer relationships.

Digital Engagement and Eco-Conscious Consumer Behavior

The findings of this study demonstrate that digital engagement plays a significant role in shaping eco-conscious consumer behavior. In the context of AI-driven and social media–based marketing, engagement is not merely reflected in physical actions such as "likes" or comments, but also encompasses emotional, cognitive, and social involvement with messages that carry sustainability values. Digital engagement represents a process of co-creation of meaning between

consumers and brands, where consumers are no longer passive recipients of advertising messages but active participants in constructing and disseminating sustainability narratives(Hollebeek et al., 2019), and Alhomaid, 2025) define digital engagement as a form of psychological involvement that drives consumers to actively participate in content perceived as relevant to their personal and social identities. When this content focuses on environmental issues, such engagement enhances ecological awareness and motivates concrete pro-environmental actions, such as purchasing eco-friendly products or advocating for sustainable lifestyles.

Empirical findings from (Lim et al., 2013) revealed that higher levels of digital engagement such as sharing green content, following sustainable brand accounts, and participating in online environmental campaigns are directly associated with stronger sustainable purchase intentions. Digitally active consumers tend to perceive consumption as a moral and social expression, rather than merely an economic activity. Within this framework, digital engagement functions as a bridge between environmental awareness and pro-environmental behavior. (Leong et al., 2022) further emphasize that digital media expand the space of interaction between consumers and brands through algorithmic personalization. In the era of AI, digital engagement becomes increasingly personalized and emotional, as each interaction is guided by systems capable of interpreting users' behavioral patterns and value orientations. However, this personalization also introduces an ethical responsibility for companies to ensure that sustainability messages do more than attract attention they must build trust, authenticity, and genuine social value.

From the perspective of sustainable consumer behavior, digital engagement can also be understood as a social learning process. (Nabivi, 2025) found that when individuals observe others within their social networks supporting green products or sharing environmental messages, they are more likely to emulate such behaviors a phenomenon known as digital contagion effect. This effect demonstrates how social interactions in virtual spaces act as catalysts for real-world adoption of eco friendly behaviors. Moreover, digital engagement fosters a sense of symbolic ownership over sustainability values. When consumers participate in green digital campaigns, they not only strengthen brand image but also construct their own identities as part of a morally driven community. (Hollebeek et al., 2019) describe this as value based engagement, where participation is driven by alignment between personal values and brand values.

Overall, this study highlights that digital engagement is not merely an interactive activity on social media but a psychological and social mechanism shaping sustainable consumption behavior. When consumers actively engage with content aligned with their ecological values, this engagement evolves into behavioral commitment. In the age of algorithmic marketing, digital engagement thus becomes a transformative force that strengthens the emotional bond between brands and consumers while fostering a broader cultural shift toward environmentally responsible lifestyles.

AI Advertising, Green Message Credibility, Digital Engagement dan Eco-consicous Consumer Behavior

The overall findings of this study reveal that AI advertising exposure, green message credibility, and digital engagement collectively form a significant and interrelated framework influencing eco-conscious consumer behavior. These three variables interact within a complementary digital marketing ecosystem, where technology, trust, and participation serve as the foundational pillars of sustainable behavior formation in the age of artificial intelligence. This simultaneous relationship indicates that the development of eco-conscious behavior is no longer linear but rather interactive and adaptive. (Rodgers & Nguyen, 2022) highlight that AI advertising creates a hyper-personalized communication environment, allowing sustainability messages to be tailored to the emotional needs and social values of individuals. However, for such persuasion to be effective, message credibility must accompany personalization this is where the role of green message credibility becomes critical. When personalized messages are supported by concrete evidence and transparent communication, consumers not only receive information but also build trust toward brands that genuinely uphold sustainability principles.

Within this framework, digital engagement acts as a reinforcing mechanism linking AI advertising exposure and sustainable consumer behavior. (Lim et al., 2013) observed that active digital interaction enhances the persuasive effect of advertisements by fostering a sense of ownership over the communicated values. When consumers interact with, comment on, or share sustainability-related content, they strengthen their emotional and social attachment to environmental causes. Thus, digital engagement functions as a mediating mechanism that transforms advertising exposure and message credibility into behavioral commitment.

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https://journal.as-salafiyah.id/index.php/ijemr/index
editoriemr@gmail.com

The combination of these three factors also reflects a new dynamic in consumer behavior models within the AI driven marketing ecosystem, as described by (Garg et al., 2025). They argue that the success of digital marketing strategies depends not only on technological sophistication but also on the brand's ability to create social value through authentic messaging and interactive relationships. In this sense, AI serves not merely as an automation tool but as a mediator between ecological awareness and responsible consumption behavior.

This conclusion aligns with the findings of (Nabivi, 2025), who noted that the interaction among exposure, trust, and digital participation produces a synergistic effect on green behavioral intention. Consumers who are frequently exposed to credible green advertisements and who feel emotionally engaged are more likely to internalize environmentally friendly behavior as part of their personal identity. This process reflects the internalization of green values, wherein ecological awareness evolves from a reactive trend into a deeply embedded social meaning. Cultural and social contexts also play a crucial role in reinforcing this simultaneous relationship. In digital societies such as Indonesia where social media functions as the primary arena for identity expression the interaction between AI generated green messages and community-based digital engagement generates a powerful social validation effect. Consumers are motivated not only by the content of the message itself but also by the social recognition gained from performing sustainable behaviors. This observation reinforces Bandura's (1986) social cognitive theory, which posits that individual behavior is shaped by observation and social interaction now amplified and mediated by digital algorithms.

In summary, the simultaneous interaction among AI advertising exposure, green message credibility, and digital engagement forms a mutually reinforcing communication ecosystem. Each component operates through distinct yet convergent mechanisms AI enables personalization and efficiency, message credibility instills trust and moral legitimacy, while digital engagement fosters participation and collective identity. These findings underscore that sustainability in the era of artificial intelligence is not merely a technological issue but also a matter of trust and social engagement. Consequently, effective green marketing strategies must balance technological innovation with ethical communication and participatory consumer involvement. By integrating

International Journal of Education Management and Religion
Volume 3 No 1 January 2026
E-ISSN: 3090-3145
https://journal.as-salafiyah.id/index.php/ijemr/index
editoriemr@gmail.com

these three dimensions, companies can cultivate long term relationships with consumers who are not only loyal to brands but also committed to sustainability values.

CONCLUSION

This study concludes that AI advertising exposure, green message credibility, and digital engagement collectively shape eco-conscious consumer behavior. The results reveal that artificial intelligence functions not merely as a promotional tool but as a bridge between ecological awareness and sustainable consumption behavior. A key insight from this research lies in the synergistic interaction among the three variables: AI advertising creates personalized and relevant sustainability messages, green message credibility fosters brand trust, and digital engagement strengthens emotional and social connections between consumers and sustainability values. Together, these factors form a digital marketing ecosystem capable of encouraging behavioral change toward more responsible and environmentally conscious consumption.

The study contributes theoretically by expanding the understanding of consumer behavior in the age of artificial intelligence, emphasizing that AI based personalization can serve as an effective instrument for fostering ecological awareness. From a practical standpoint, the findings suggest that marketers must balance technological innovation with ethical transparency, ensuring that AI driven marketing not only sells products but also cultivates sustainable values. Future research is encouraged to explore cross cultural comparisons or examine the long term effects of AI generated advertising exposure on consumer behavioral transformation. Such inquiries would deepen understanding of how technology, ethics, and human participation interact in shaping sustainable behavior. In summary, AI does not merely sell green products it cultivates green awareness, positioning technology as a catalyst for integrating sustainability, trust, and consumer action in the modern marketplace.

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