Archives available at journals.mriindia.com

International Journal on Research and Development - A Management Review

ISSN: 2319 - 5479

Volume 15 Issue 01, 2026

Smart Marketing Innovations: The Role of AI-Driven Sustainable Marketing Strategies in Shaping Consumer Awareness, Trust and Purchase Intention

[1]Ms. Swetha C., [2]Dr. K. R. Dhanalakshmi

[1]M.Com., M.Phil.,
Research Scholar, Bhaktavatsalam Memorial College for Women.
[2]M.Com., M.Phil., Ph.D., MBA., Ph.D
Research Supervisor & Principal Bhaktavatsalam Memorial College for Women.
Email: [1]sweethachandrasekar8@gmail.com
Contact No.: 8428847689

Peer Review Information

Submission: 10 Feb 2026

Revision: 22 Feb 2026

Acceptance: 03 March 2026

Keywords

Artificial Intelligence, Sustainable Marketing, Consumer Awareness, Consumer Trust

Abstract

The quick adoption of artificial intelligence (AI) in marketing has opened up new avenues for promoting sustainability and shaping consumer behaviour. This research explores how AI-based sustainable marketing strategies impact consumer awareness, trust to buy eco-friendly products. A quantitative approach was used, collecting primary data from 102 consumers through a structured questionnaire. The analysis involved reliability testing, descriptive statistics, correlation, and regression analysis.

The findings reveal that AI-driven sustainable marketing strategies have a significant positive influence on both consumer awareness and consumer trust. The results further indicate that consumer awareness and trust significantly impact purchase intention, with trust emerging as the stronger predictor of consumers' willingness to purchase sustainable products. The study highlights that transparent and personalized AI-enabled sustainability communication enhances the credibility of green marketing efforts and reduces consumer skepticism.

Overall, the study shows that responsible AI usage in marketing can significantly facilitate sustainable consumer behaviour.

Introduction

In recent years, the marketing environment has experienced a significant shift due to rapid progress in Artificial Intelligence (AI). Technologies like machine learning, predictive analytics, natural language processing, and recommender systems have fundamentally changed how companies understand consumers, develop marketing approaches, and create value in highly competitive sectors. AI-powered marketing allows organizations to analyze large volumes of consumer data in real time, personalize outreach, improve resource use, and make more accurate decisions—enhancing both marketing effectiveness and customer satisfaction.

Alongside this technological progress, sustainability has become a key strategic focus for companies worldwide. Rising environmental damage, climate change, regulatory demands, and increased consumer awareness have driven organizations to implement sustainable marketing strategies that highlight ethical production, eco-friendly consumption, and long-term societal benefits (Peattie & Belz, 2010). Sustainable marketing is more than just selling

green products; it involves responsible communication, transparency, waste reduction, and aligning with environmental and social principles throughout the marketing process.

The merging of AI and sustainable marketing has led to the emergence of AI-powered strategies that redefine modern marketing practices. These approaches utilize AI to advance sustainability goals by delivering tailored green messages, targeting environmentally aware consumers more precisely, forecasting demand to prevent overproduction, and deploying AI tools like chatbots and recommendation engines to effectively share sustainability information (Kumar, Ramachandran, & Kumar, 2021). By reducing resource waste and enhancing the accuracy of sustainability-focused campaigns, AI can serve as a key driver for creating sustainable value.

From a consumer behaviour perspective, trust and awareness are critical to the effectiveness of sustainable marketing initiatives. Although consumers increasingly express concern about environmental issues, skepticism toward green marketing claims—often labeled "greenwashing"—remains a significant barrier to sustainable consumption. AI-driven marketing, when implemented transparently and ethically, can enhance the credibility of sustainability communication by delivering data-backed, consistent, and personalized information, thereby strengthening consumer trust.

Existing research indicates that AI-powered personalization enhances consumer engagement, satisfaction, and purchase intent. Likewise, studies in sustainable marketing show that increased consumer awareness and trust substantially boost green purchasing and positive brand perceptions. Nonetheless, there is limited empirical research combining these two areas—AI marketing and sustainability. Most existing studies focus separately on AI adoption in marketing or sustainable practices, with few exploring how AI-driven sustainable marketing strategies impact consumer awareness, trust, and purchasing behaviour within a comprehensive empirical framework (Kietzmann, Paschen, & Treen, 2018).

This gap becomes especially clear in emerging economies like India, where digital adoption is rising rapidly amid increasing environmental awareness. Indian consumers are more frequently interacting with AI-powered digital platforms, but their views on AI-based sustainability messaging and how it affects their behavior remain unclear (Statista, 2023). Gaining insight into these dynamics is crucial for marketers and policymakers aiming to develop effective, ethical, and impactful sustainable marketing strategies in markets that are continually digitizing.

In this context, the current study aims to investigate how AI-driven sustainable marketing strategies impact consumer awareness, trust, and purchase intentions. Using a structured survey and statistical methods, it seeks to advance both marketing theory and practice. The research combines insights from AI marketing literature and sustainable consumer behavior to develop and test a conceptual model explaining how AI-supported sustainability efforts influence consumer choices.

Review of Literature

Artificial Intelligence in Marketing

Wedel & Kannan, 2016 Artificial Intelligence has become a transformative force in modern marketing, allowing companies to shift from intuition-based decisions to data-driven and predictive approaches. AI tools like machine learning algorithms, recommendation engines, chatbots, and predictive analytics help marketers analyze vast amounts of consumer data, predict customer needs, and send personalized messages instantly.

Davenport et al., 2020 Research shows that AI-powered marketing boosts operational efficiency, enhances customer engagement, and enables companies to adapt quickly to evolving consumer preferences.

Grewal et al. 2020 contend that AI not only automates marketing tasks but also enhances managerial decision-making through richer consumer insights.

Huang and Rust 2021 view AI in marketing as a strategic asset capable of strengthening customer relationships when used responsibly. However, they warn that too much automation, if not transparent, could harm consumer trust, especially in areas like sustainability and ethics.

Sustainable and Green Marketing Practices

Sustainable marketing has shifted from being niche green promotions to a broad strategic approach that incorporates environmental, social, and economic factors into marketing decisions.

Peattie and Belz 2010 describe sustainable marketing as creating, communicating, and delivering value in ways that protect or improve natural and social assets.

Kotler et al., 2021 Studies indicate that consumers are increasingly choosing brands that show real environmental responsibility, ethical sourcing, and clear communication

Delmas & Burbano, 2011 skepticism about environmental claims persists, mainly owing to greenwashing—when companies overstress or misrepresent their sustainability efforts. This

underscores the importance of credible, data-backed, and transparent methods for communicating sustainability initiatives.

Integration of AI and Sustainable Marketing

Kumar et al., 2021 The combination of AI and sustainable marketing is a relatively new yet quickly expanding research field. AI-enabled sustainable marketing strategies use data analysis and automation to better allocate resources, cut down waste, and promote sustainability efforts more efficiently. For example, predictive analytics can assist companies in estimating demand for eco-friendly products, reducing overproduction and environmental harm.

Kietzmann et al. 2018 argue that AI can foster sustainability by better targeting environmentally conscious consumers and customizing messages based on individual values. Additionally, AI-driven chatbots and recommendation systems can inform consumers about sustainable products, certifications, and environmental advantages, boosting awareness and informed choices. However, issues like algorithmic bias, data privacy, and ethical AI use are still insufficiently examined within sustainability marketing.

Consumer Awareness and Trust in AI-Driven Sustainability Communication

Chen & Chang, 2012 Consumer awareness is a key factor in promoting sustainable consumption habits. Knowledge about environmental concerns, the impacts of product life cycles, and sustainability labels greatly affects consumers' readiness to buy eco-friendly products.

Huang & Rust, 2021 AI-powered marketing technologies can boost awareness by providing personalized, timely, and relevant information on sustainability through digital channels, Trust is crucial, especially when AI facilitates communication between companies and consumers. Research shows that transparent and ethical AI practices can enhance consumer trust by decreasing information gaps and increasing message credibility.

Grewal et al., 2020 hidden algorithms or overly intrusive personalization might cause worries about manipulation and data abuse, which can erode trust. In sustainable marketing, trust serves as a vital link that turns awareness into positive behavioural changes.

AI-Driven Sustainable Marketing and Purchase Intention

Joshi & Rahman, 2015 Purchase intention is generally seen as a key indicator of actual buying behaviour. Previous studies in green marketing show that consumer trust and the perceived credibility of sustainability claims greatly impact green purchase. AI-powered sustainable marketing can boost purchase intention by tailoring sustainability messages to align with each consumer's values and preferences, which enhances their relevance and authenticity.

Kumar et al., 2021 Empirical evidence indicates that personalized green messages delivered via AI-based platforms can positively influence consumer attitudes and their willingness to buy sustainable products.

However, most studies to date tend to focus separately on AI-driven personalization or sustainable consumption. There is a lack of integrated empirical models that explore how AI-driven sustainable marketing simultaneously impacts awareness, trust, and purchase intention, especially in developing economies.

Research Gap

Existing studies highlight several significant gaps.

- Firstly, although AI and sustainable marketing are individually well-researched, few empirical studies combine these topics into a single framework.
- Secondly, there is a shortage of quantitative research exploring how consumer awareness and trust mediate the link between AI-powered sustainable marketing strategies and purchase intent.
- Lastly, evidence from emerging markets like India is still limited, despite the quick rise in digital adoption and increasing awareness of sustainability issues.

Objectives of the Study

1. To examine the influence of AI-driven sustainable marketing strategies on consumer awareness of sustainability.
2. To analyze the impact of AI-driven sustainable marketing strategies on consumer trust.
3. To assess the effect of consumer awareness and trust on purchase intention toward sustainable products.

Hypotheses of the Study

H1: AI-driven sustainable marketing strategies have a significant positive influence on consumer awareness of sustainability.

H2: AI-driven sustainable marketing strategies have a significant positive influence on consumer trust.

H3: Consumer awareness and trust have a significant positive influence on purchase intention toward sustainable products.

Research Methodology

This study uses a quantitative research method to investigate how AI-driven sustainable

marketing strategies influence consumer awareness, trust, and purchase intention. Primary data were gathered through a structured questionnaire

The study focused on consumers who regularly use digital platforms and have experience with online marketing communications. Data were gathered through convenience sampling. Out of 110 questionnaires, 102 valid responses were collected.

The questionnaire was designed using established scales adapted from previous studies, with minor modifications to suit the context of AI-driven sustainable marketing. All measurement items were assessed on a five-point Likert scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (5). The instrument consisted of sections measuring AI-driven sustainable marketing strategies, consumer awareness, consumer trust, and purchase intention. A pilot test was conducted to ensure the items' clarity and reliability.

Data analysis was performed using statistical software. Cronbach's alpha was used to assess the reliability of the constructs and confirm internal consistency. Descriptive statistics helped characterize respondents and the distribution of variables. Inferential methods, including correlation and regression analyses, tested the hypotheses and explored relationships among variables. This methodological approach ensured the validity and reliability of the results, supporting their use for empirical interpretation and academic contribution.

Conceptual Framework

The conceptual framework of this study is built on a thorough review of literature related to artificial intelligence in marketing and sustainable consumer behaviour. It delineates the connections between AI-based sustainable marketing strategies and crucial consumer outcomes, including consumer awareness, trust, and purchase intention. In this framework, AI-driven sustainable marketing strategies are considered the independent variable, with consumer awareness and trust serving as intermediary variables that affect purchase intention.

The framework suggests that implementing AI technologies in sustainable marketing, like personalized messages, data-driven targeting, smart digital interactions, and transparent AI communication, increases consumers' awareness of sustainability-related information. This heightened awareness helps consumers better understand environmental benefits, ethical considerations, and the long-term value of sustainable products. Consequently, consumers tend to trust brands more when they see responsible use of AI in promoting sustainability initiatives.

The framework also indicates that consumer awareness and trust are essential in influencing purchase intentions toward sustainable products. Well-informed consumers who trust the credibility of AI-powered sustainability messages tend to have more positive purchase intentions. Therefore, awareness and trust serve as key mechanisms through which AI-driven sustainable marketing strategies shape consumer decisions.

Overall, the conceptual framework provides a logical and theoretically grounded structure for examining the direct and indirect effects of AI-driven sustainable marketing strategies on purchase intention. It also serves as the foundation for the hypotheses tested in the study and guides the empirical analysis presented in the subsequent sections.

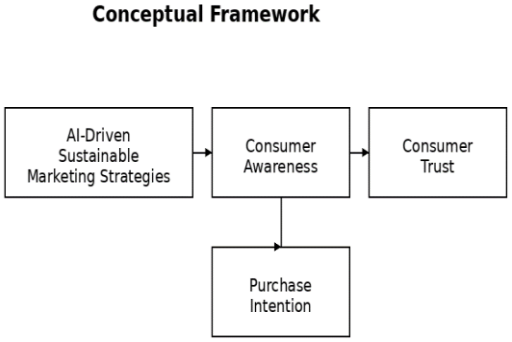

Figure 1. Conceptual Framework of AI-Driven Sustainable Marketing Strategies and Consumer Purchase Intention

Data Analysis and Interpretation

This section provides the statistical analysis and interpretation of data from 102 respondents, focusing on the impact of AI-driven sustainable marketing strategies on consumer awareness, trust, and purchase intentions. The data were processed using SPSS to guarantee accuracy and reliability. Both descriptive and inferential statistical methods were used according to the study's objectives and hypotheses. The analysis encompasses reliability testing, descriptive statistics, correlation analysis, and regression analysis to evaluate the proposed relationships among the variables.

Reliability Analysis

A reliability analysis was performed to evaluate the internal consistency of the measurement scales employed in the study, using Cronbach's alpha as the reliability coefficient.

Table 1: Reliability Statistics of the Study Variables

Variable	No. of Items	Cronbach's Alpha
AI-Driven Sustainable Marketing Strategies	6	0.84
Consumer Awareness	5	0.81
Consumer Trust	5	0.83
Purchase Intention	4	0.86

All constructs have Cronbach's alpha values exceeding the recommended 0.70 threshold, demonstrating strong internal consistency and reliability of the measurement tools. This verifies that the items assessing AI-driven sustainable marketing strategies, consumer awareness, consumer trust, and purchase intention are consistent and appropriate for additional statistical analysis.

Descriptive Statistics

Descriptive statistics were used to understand respondents' general perceptions of the study variables.

Table 2: Descriptive Statistics of Key Variables (N = 102)

Variable	Mean	Standard Deviation
AI-Driven Sustainable Marketing Strategies	3.94	0.61
Consumer Awareness	4.02	0.58
Consumer Trust	3.88	0.63
Purchase Intention	4.06	0.56

All variables have mean scores above 3, showing respondents generally perceive positively. Purchase intention has the highest mean at 4.06, indicating a strong willingness to buy sustainable products. Consumer awareness also has a high mean, suggesting AI-driven marketing effectively boosts awareness of sustainability. Low standard deviation values reflect consistent opinions among respondents.

Correlation Analysis

Correlation analysis was conducted to examine the direction and strength of relationships among the study variables.

Table 3: Correlation Matrix

Variables	AI-SM	Awareness	Trust	Purchase Intention
AI-SM Strategies	1			
Consumer Awareness	0.62**	1		
Consumer Trust	0.59**	0.65**	1	
Purchase Intention	0.54**	0.68**	0.71**	1

Note: Correlation is significant at the 0.01 level (2-tailed)

The results show a strong, significant positive link between AI-driven sustainable marketing strategies and both consumer awareness (r = 0.62) and consumer trust (r = 0.59). This implies that AI-based sustainability communication effectively boosts both awareness and trust. Additionally, consumer awareness and trust are strongly positively correlated with purchase intention, with trust showing the strongest connection (r = 0.71). These findings highlight the vital role of trust in influencing consumers' willingness to purchase sustainable products.

Regression Analysis

Regression analysis was used to test the hypotheses and evaluate the predictive power of the independent variables.

Table 4: Regression Analysis: AI-Driven Sustainable Marketing → Consumer Awareness

Model	R	R^2	F Value	Sig.
1	0.62	0.38	61.45	0.000

The regression analysis shows that AI-driven sustainable marketing strategies are a significant predictor of consumer awareness, with an R^2 of 0.38. This indicates that these strategies account for 38% of the variability in consumer awareness. The model's significance ($p < 0.01$) confirms support for Hypothesis 1.

Table 5: Regression Analysis: AI-Driven Sustainable Marketing → Consumer Trust

Model	R	R^2	F Value	Sig.
1	0.59	0.35	54.12	0.000

The regression results demonstrate that AI-driven sustainable marketing strategies

significantly boost consumer trust, with an R^2 of 0.35. This means 35% of the variation in consumer trust is attributable to AI-based sustainable marketing efforts. The model's significance supports the acceptance of Hypothesi's 2.

Table 6: Regression Analysis: Consumer Awareness & Trust → Purchase Intention

Predictor	Beta	t Value	Sig.
Consumer Awareness	0.41	5.82	0.000
Consumer Trust	0.49	6.74	0.000

Model R	R^2	F Value	Sig.
0.74	0.55	61.28	0.000

The findings show that both consumer awareness and trust significantly affect purchase intention. Consumer trust has a higher standardized beta (β = 0.49) than awareness (β = 0.41), suggesting trust is the primary predictor. The model accounts for 55% of the variance in purchase intention, supporting Hypothesis 3.

The analysis clearly demonstrates that AI-driven sustainable marketing strategies play a vital role in enhancing consumer awareness and trust, which, in turn, significantly influence purchase intention. The findings empirically validate the proposed conceptual framework and provide strong statistical support for all the study's hypotheses.

Findings of the Study

The empirical analysis highlights key insights about how AI-driven sustainable marketing strategies influence consumer behaviour. Firstly, it shows that these strategies significantly boost consumer awareness, with respondents noting that AI features like personalized sustainability messages, smart product recommendations, and data-based digital communication improve their understanding of eco-friendly products and practices. This indicates that AI tools effectively convey sustainability information in a clear and targeted way.

Secondly, the findings reveal a strong positive link between AI-driven sustainable marketing and consumer trust. Respondents see AI-based sustainability communication as more credible and consistent when it is transparent and relevant. This suggests that ethical use of AI can mitigate skepticism around green marketing, fostering greater trust in brands advocating sustainability.

Third, the results confirm that both consumer awareness and trust significantly impact the intention to purchase sustainable products. Of these, trust is the stronger predictor. This means that while awareness is important for informing consumers, trust is more crucial for translating awareness into actual purchases. Overall, the study's hypotheses are fully supported by the data.

Overall Implication of the Findings

The findings clearly indicate that AI-driven sustainable marketing strategies are a powerful means of enhancing consumer awareness, building trust, and ultimately driving purchase intention for sustainable products. The study highlights trust as the most critical factor in this process, underscoring the need for responsible, consumer-centric AI implementation in sustainable marketing initiatives.

Conclusion

The current research explored how AI-driven sustainable marketing strategies influence consumer awareness, trust, and purchase intentions related to eco-friendly products. Combining insights from AI marketing and sustainable consumer behaviours, the study offers empirical proof that AI-enabled marketing fosters sustainability-conscious decision-making. Results show that these strategies notably boost consumer awareness and trust, which then positively impact purchase intent. The study finds that AI-based personalization, data-focused sustainability messaging, and intelligent digital interactions improve understanding of green initiatives and increase confidence in eco-claims. Among various factors, consumer trust was identified as the most crucial for purchase decisions, highlighting the need for transparency and ethical AI use in sustainable marketing. This indicates that while awareness educates consumers, trust is key to converting that awareness into actual purchases. Academically, the study validates a framework connecting AI-driven sustainable marketing with key consumer outcomes—awareness and trust—and fills a research gap by providing evidence from a developing market. For managers, the findings stress the importance of aligning AI and sustainability goals to develop credible, consumer-focused marketing strategies. Overall, the research concludes that responsible use of AI in sustainable marketing can significantly promote sustainable consumption by increasing awareness and trust, thereby supporting both marketing success and long-term environmental and social objectives.

References

Chen, Y. S., & Chang, C. H. (2012). Enhance green purchase intentions: The roles of green perceived

value, green perceived risk, and green trust. *Management Decision, 50*(3), 502–520. https://doi.org/10.1108/00251741211216250

Davenport, T. H., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science, 48*(1), 24–42. https://doi.org/10.1007/s11747-019-00696-0

Delmas, M. A., & Burbano, V. C. (2011). The drivers of greenwashing. *California Management Review, 54*(1), 64–87. https://doi.org/10.1525/cmr.2011.54.1.64

Grewal, D., Hulland, J., Kopalle, P. K., & Karahanna, E. (2020). The future of technology and marketing: A multidisciplinary perspective. *Journal of the Academy of Marketing Science, 48*(1), 1–8. https://doi.org/10.1007/s11747-019-00711-4

Huang, M. H., & Rust, R. T. (2021). A strategic framework for artificial intelligence in marketing. *Journal of the Academy of Marketing Science, 49*(1), 30–50. https://doi.org/10.1007/s11747-020-00749-9

Joshi, Y., & Rahman, Z. (2015). Factors affecting green purchase behaviour and future research directions. *International Strategic Management Review, 3*(1–2), 128–143. https://doi.org/10.1016/j.ism.2015.04.001

Kietzmann, J., Paschen, J., & Treen, E. (2018). Artificial intelligence in advertising: How marketers can leverage AI along the consumer journey. *Journal of Advertising Research, 58*(3), 263–267. https://doi.org/10.2501/JAR-2018-035

Kotler, P., Kartajaya, H., & Setiawan, I. (2021). *Marketing 5.0: Technology for humanity*. Wiley.

Kumar, V., Ramachandran, D., & Kumar, B. (2021). Influence of new-age technologies on marketing: A research agenda. *Journal of Business Research, 125*, 864–877. https://doi.org/10.1016/j.jbusres.2020.01.007

Peattie, K., & Belz, F. M. (2010). Sustainability marketing—An innovative conception of marketing. *Marketing Review St. Gallen, 27*(5), 8–15. https://doi.org/10.1007/s11621-010-0085-7

Wedel, M., & Kannan, P. K. (2016). Marketing analytics for data-rich environments. *Journal of Marketing, 80*(6), 97–121. https://doi.org/10.1509/jm.15.0413