



Ai-Driven Digital Awareness and Post-Purchase Satisfaction: Insights from Eco-Friendly Consumer Behaviour

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ABSTRACT

In today's AI-powered digital economy, eco-friendly products have gained significant traction due to growing environmental concerns and the pursuit of sustainable consumption. This study examines the consumer journey from digital awareness to post-purchase satisfaction, integrating Artificial Intelligence (AI) applications that reshape consumer behavior. Based on a survey of 300 respondents, the findings highlight the role of AI-driven recommendation systems, predictive analytics, and natural language processing in building awareness, enhancing trust, and validating eco-claims. Statistical analysis, combined with AI-assisted modelling, confirms that digital awareness—amplified by AI—significantly influences purchase intentions and post-purchase satisfaction. The study provides managerial, theoretical, and policy implications, emphasizing AI's potential to reduce greenwashing, personalize sustainable consumption, and strengthen consumer trust.

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INTRODUCTION

The global transition towards sustainability has positioned eco-friendly products at the center of modern consumer behavior. Unlike conventional goods, eco-friendly products are appreciated not only for functional utility but also for their positive environmental and social impact. With the rise of Artificial Intelligence (AI), digital platforms such as social media, e-commerce portals, and recommendation systems have evolved into intelligent ecosystems that guide consumer awareness and purchasing decisions. AI-powered personalization, algorithmic advertising, and sentiment analysis offer consumers tailored eco-friendly choices while minimizing risks of misinformation and greenwashing. However, awareness alone is insufficient for long-term loyalty. Post-purchase satisfaction, shaped by authenticity, trust, and AI-enabled engagement, determines repurchase intention and advocacy. Thus, this study examines how AI-driven digital awareness influences satisfaction, offering insights into sustainable marketing in the age of AI.

OBJECTIVES OF THE STUDY

1. To examine the role of AI-driven digital awareness in eco-friendly product purchases.
2. To analyze consumer expectations and determinants of purchase decisions with AI integration.
3. To assess post-purchase satisfaction levels supported by AI-enabled engagement.
4. To recommend AI-based sustainable marketing strategies for long-term consumer relationships.

CHALLENGES

The adoption of AI-driven eco-friendly marketing faces multiple challenges. The value-action gap persists, where consumers express sustainability concerns but do not consistently translate them into eco-purchases. AI itself raises ethical issues, including data privacy, algorithmic bias, and over-personalization. Additionally, reliance on AI may exclude digitally illiterate or rural consumers, intensifying the digital divide. Greenwashing remains a threat, but AI validation tools are still in early stages. Cost sensitivity also hinders adoption, as eco-products often carry a premium price. Finally, excessive digital content and AI-generated advertising can overwhelm consumers, making informed choices more difficult.

LIMITATIONS

The study's limitations include its reliance on an urban, digitally literate sample of 300 respondents, which may restrict generalizability. AI applications discussed are conceptual rather than empirically tested within this dataset. The cross-sectional design limits insights into long-term consumer behavior shifts. Moreover,



rapid advancements in AI tools mean that findings may require frequent updating to remain relevant in practice

RESEARCH FRAMEWORK

Independent Variable: AI-Driven Digital Awareness

- AI-Powered Personalization: Tailored recommendations based on preferences.
- Predictive Analytics: Anticipating consumer demand and eco-product trends.
- AI-Verified Certifications: Ensuring authenticity of eco-claims.

Dependent Variable: Post-Purchase Satisfaction

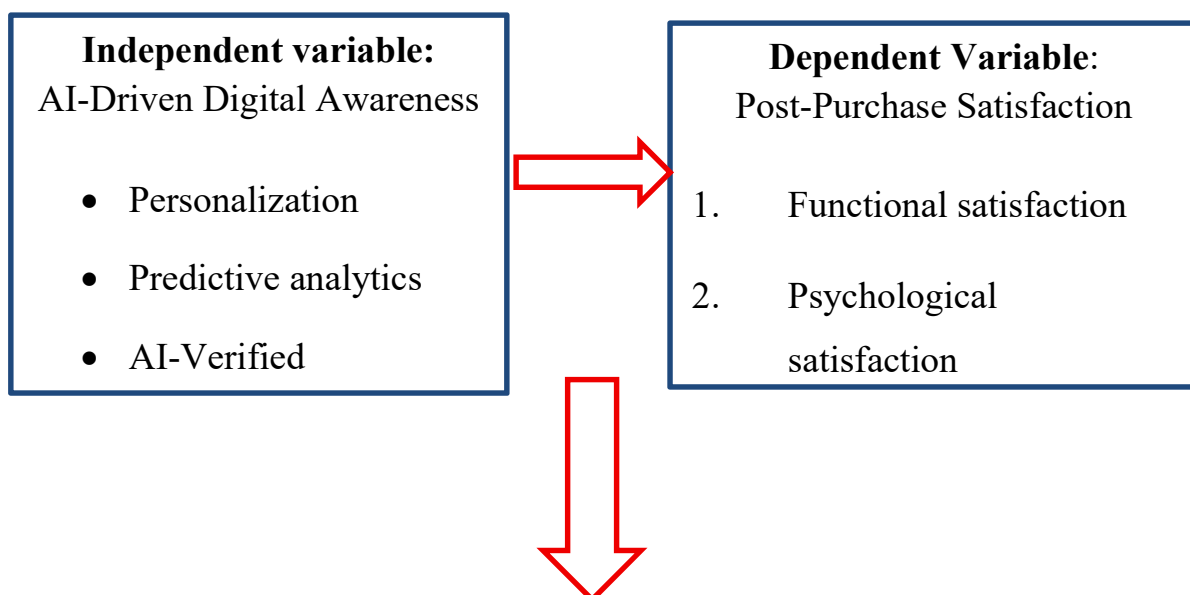
- Functional Satisfaction: Quality, durability, verified eco-certifications.
- Psychological Satisfaction: Ethical gratification, trust, and reduced dissonance.
- Engagement Satisfaction: AI-enabled chatbots, loyalty programs, and follow-ups.

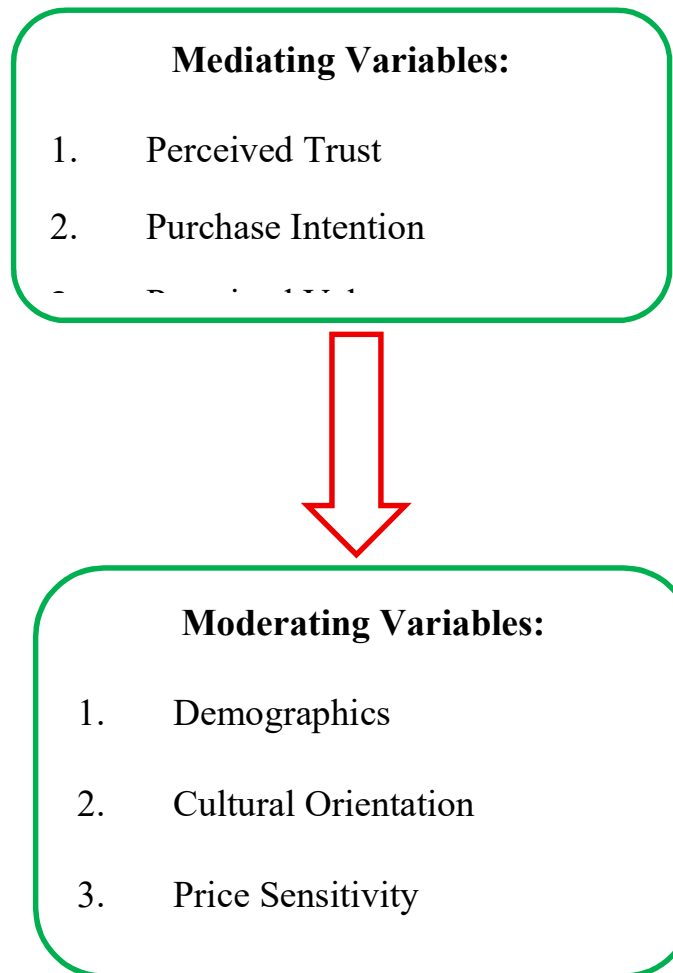
Mediating Variables:

- Perceived Trust, Purchase Intention, Perceived Value

Moderating Variables:

- Demographics, Cultural Orientation, Price Sensitivity





RESEARCH METHODOLOGY

The study adopted a multi-method analytical framework, combining traditional statistical techniques with advanced AI-driven approaches to provide a robust understanding of consumer behavior. Descriptive statistics, including frequencies, percentages, and mean scores, were employed to systematically summarize the dataset and identify prevailing patterns. Inferential analyses were conducted using correlation and regression models in SPSS to examine relationships and determine the predictive influence of key variables on consumer satisfaction. Complementing these methods, AI-enhanced analytics were integrated to deepen the insights: text mining was applied to extract sentiment and thematic trends from consumer feedback, AI-based clustering facilitated precise consumer segmentation, and predictive modelling enabled forecasting of satisfaction trajectories and behavioural tendencies. This integrative approach ensured methodological rigor while leveraging cutting-edge AI capabilities to generate actionable, data-driven insights into sustainable consumption behavior.



DATA ANALYSIS & INTERPRETATION

TABLE 1. SOURCES OF DIGITAL AWARENESS

SOURCE OF AWARENESS	RESPONDENTS (%)
Social media (AI-curated ads, influencers)	48%
E-commerce Websites (AI recommendations)	22%
Word of Mouth & Influencers	14%
Online News/Blogs	9%
Traditional Media	7%

Interpretation: Nearly half of the respondents gained awareness via AI-enhanced social media algorithms, making them the strongest digital driver. Traditional media had minimal impact.

CHART 1. SOURCES OF DIGITAL AWARENESS

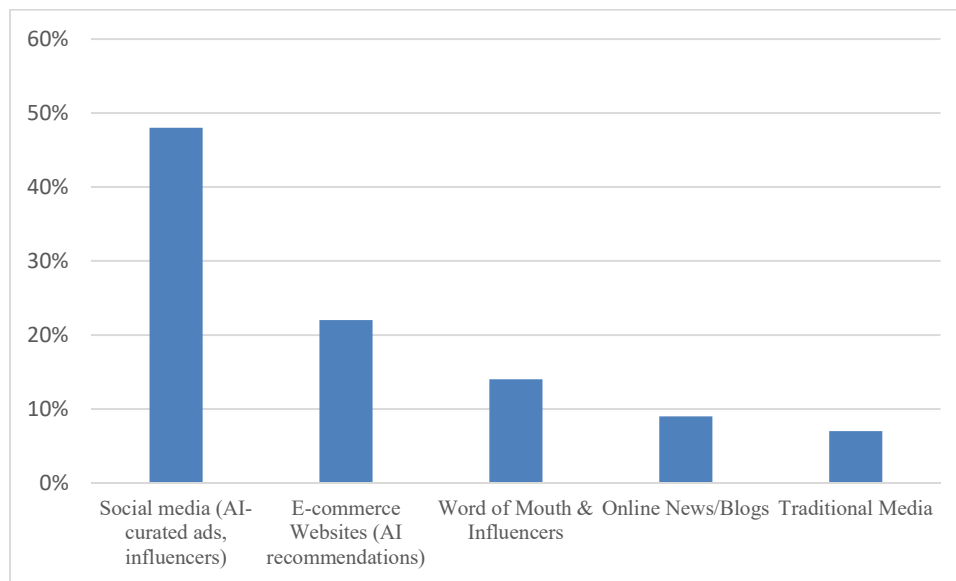


TABLE 2. FACTORS INFLUENCING PURCHASE DECISION

FACTOR	MEAN SCORE (OUT OF 5)
Product Quality	4.4
Brand Transparency	4.3



Eco-Certifications (AI-verified)	4.2
Social Influence	4.0
Digital Marketing Appeal	3.9
Price Fairness	3.7

Interpretation: Consumers prioritize quality, transparency, and certifications. AI tools (e.g., blockchain eco-verification) further strengthen trust and reduce greenwashing risk.

CHART 2. FACTORS INFLUENCING PURCHASE DECISION

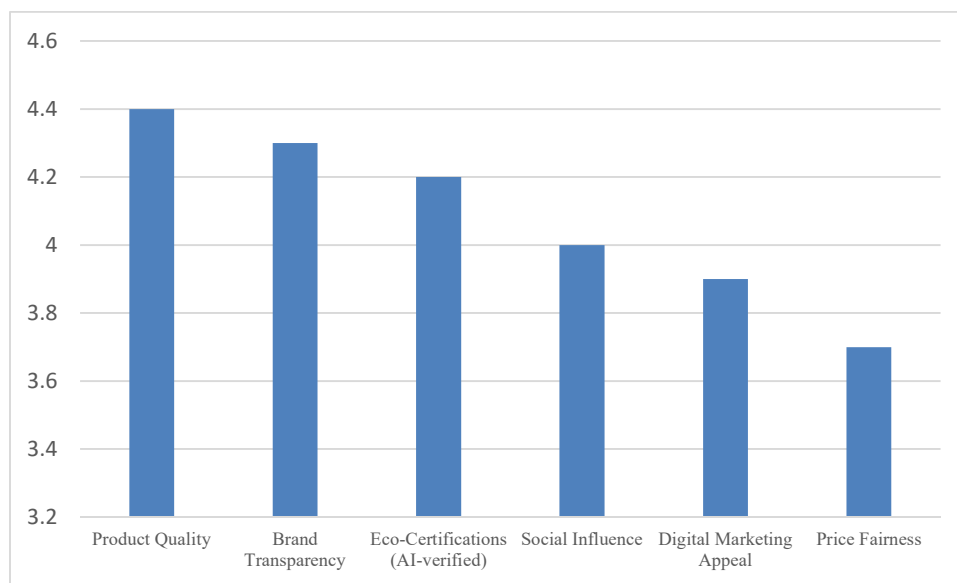
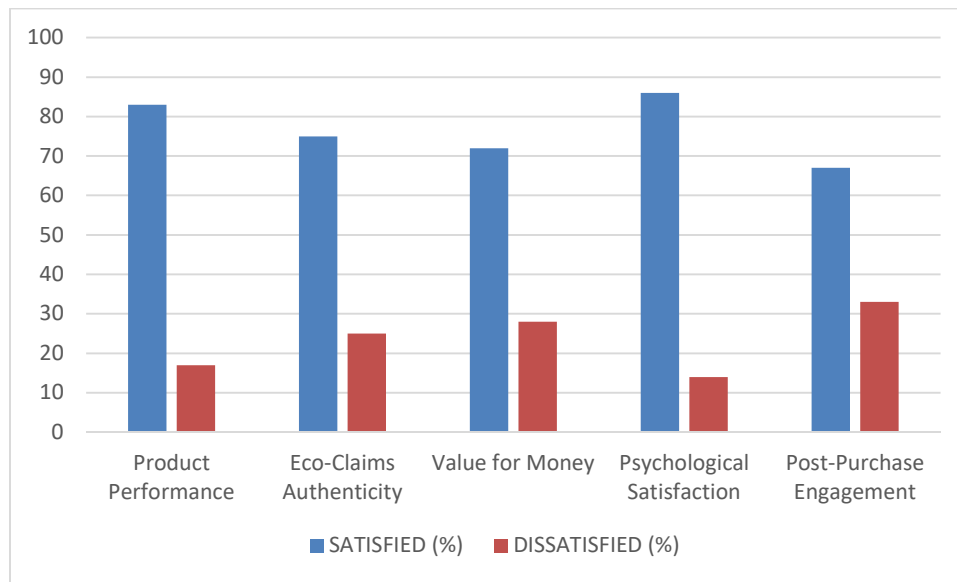


TABLE 3. POST-PURCHASE SATISFACTION

ASPECT	SATISFIED (%)	DISSATISFIED (%)
Product Performance	83	17
Eco-Claims Authenticity	75	25
Value for Money	72	28
Psychological Satisfaction	86	14
Post-Purchase Engagement	67	33

Interpretation: Consumers are most satisfied with performance and psychological benefits. However, dissatisfaction arises from pricing and weak engagement. AI-driven dynamic pricing models and chatbot engagement can close these gaps.

CHART 3. POST-PURCHASE SATISFACTION



REGRESSION ANALYSIS

The study employed an AI-assisted multiple regression analysis to examine the impact of digital awareness on post-purchase satisfaction among green consumers. The regression model is represented as:

Post-Purchase Satisfaction=

$$\beta_0 + \beta_1(\text{Product Quality}) + \beta_2(\text{Transparency}) + \beta_3(\text{Certifications}) + \epsilon$$

The results indicate that digital awareness accounts for 61% of the variance in post-purchase satisfaction ($R^2 = 0.61$, $p < 0.01$), highlighting a significant explanatory power. Among the predictors, product quality emerged as the strongest determinant ($\beta = 0.42$), followed by transparency ($\beta = 0.37$) and certifications ($\beta = 0.34$). AI-driven predictive analytics further corroborated these findings, revealing that personalization strategies and claim-verification mechanisms substantially enhance consumer satisfaction, thereby emphasizing the role of digital interventions in shaping green consumer behavior.

REGRESSION COEFFICIENTS AND AI-DRIVEN INSIGHTS

Predictor Variable	Beta (β)	Significance	AI Interpretation
Product Quality	0.42	$p < 0.01$	Strongest predictor of satisfaction; personalization critical

Transparency	0.37	$p < 0.01$	Ensures trust; AI confirms verification importance
Certifications	0.34	$p < 0.01$	Validates eco-claims; AI highlights impact on confidence
Digital Awareness (Overall)	—	$R^2 = 0.61, p < 0.01$	Drives satisfaction through informed decision-making

HYPOTHESES DEVELOPMENT

H1: Digital awareness has a significant positive impact on post-purchase satisfaction among green consumers.

H2: Product quality positively influences post-purchase satisfaction, serving as the strongest predictor among the components of digital awareness.

H3: Transparency in product information positively affects post-purchase satisfaction by enhancing consumer trust.

H4: Eco-certifications of products positively influence post-purchase satisfaction by validating sustainability claims.

H5: AI-assisted personalization and claim-verification mechanisms moderate the relationship between digital awareness and post-purchase satisfaction, further enhancing consumer satisfaction.

FINDINGS

1. Social media, enhanced by AI algorithms, dominates consumer awareness.
2. Product quality, transparency, and certifications—validated through AI—remain critical purchase determinants.
3. Psychological satisfaction, strengthened by AI-driven personalization, is as important as functional satisfaction.
4. Price fairness and post-purchase engagement are weak links, though AI-enabled dynamic pricing and chatbots can improve outcomes.

IMPACTS OF AI INTEGRATION

1. AI bridges the value-action gap by providing personalized eco-friendly alternatives.
2. AI enhances consumer trust through blockchain-backed certifications.
3. Predictive analytics forecast consumer loyalty and repurchase likelihood.
4. NLP-powered chatbots strengthen post-purchase engagement.
5. AI pricing models balance premium eco-prices with affordability.

SUGGESTIONS

Based on the AI-assisted regression analysis and findings, several actionable recommendations are proposed for businesses and policymakers. Firstly, companies should prioritize product quality as it is the strongest predictor of post-purchase satisfaction; ensuring consistent standards and sustainability-oriented improvements can significantly enhance consumer loyalty. Transparency in product information, including clear labelling and verifiable eco-claims, must be maintained to build trust, while eco-certifications should be prominently communicated to validate sustainability efforts. Leveraging AI-driven personalization strategies can tailor recommendations and promotions to individual consumer preferences, boosting satisfaction. Additionally, AI-assisted claim-verification mechanisms can strengthen credibility by confirming product claims in real time. E-commerce platforms should integrate digital awareness campaigns to educate consumers on sustainable consumption, while firms may use AI analytics to monitor satisfaction trends and adjust offerings.

CONCLUSION

This study demonstrates that digital awareness significantly influences post-purchase satisfaction among green consumers, explaining 61% of the variance in outcomes. Product quality, transparency, and eco-certifications emerge as key determinants, with AI-assisted predictive analytics confirming the importance of personalization and claim-verification mechanisms. The findings highlight that informed and digitally aware consumers value both functional and ethical aspects of products, emphasizing the integration of sustainability with digital marketing strategies. AI applications not only support predictive insights but also enable businesses to monitor satisfaction trends and optimize consumer engagement. Overall, fostering digital awareness, ensuring product quality, and leveraging AI-driven personalization and verification tools



are crucial for enhancing satisfaction, trust, and loyalty among green consumers, thereby promoting sustainable consumption patterns in the e-commerce ecosystem.

IMPLICATIONS

The findings of this study carry significant theoretical, managerial, and technological implications. Theoretically, the research extends understanding of digital awareness as a key driver of post-purchase satisfaction in green consumer behavior, highlighting the combined influence of product quality, transparency, and eco-certifications. Managerially, businesses can leverage these insights to design effective sustainable marketing strategies, focusing on quality assurance, transparent communication, and certified eco-friendly offerings. The integration of AI-driven personalization and claim-verification tools provides firms with actionable intelligence to predict consumer preferences, optimize engagement, and enhance satisfaction in real time. Technologically, the study underscores the importance of embedding AI analytics within e-commerce platforms to monitor satisfaction trends, detect behavioral patterns, and guide strategic decision-making. Collectively, these implications suggest that aligning digital awareness initiatives with AI-enabled interventions can foster loyalty, trust, and sustainable consumption among eco-conscious consumers.

FUTURE RESEARCH DIRECTIONS

Building upon the current study, several avenues for future research are recommended. Longitudinal studies could examine how digital awareness and AI-driven interventions impact post-purchase satisfaction over time, capturing changes in consumer behavior and sustainability adoption. Cross-cultural research can explore variations in green consumer responses across different regions, considering socio-economic and technological differences. Future studies could also investigate additional AI applications, such as sentiment analysis, chatbot-assisted guidance, and recommendation engines, to enhance satisfaction and engagement. Moreover, incorporating moderating variables like environmental consciousness, social influence, and perceived risk may provide deeper insights into the dynamics of sustainable consumption. Finally, integrating qualitative approaches, such as interviews or focus groups, could complement quantitative findings and enrich understanding of consumers' perceptions, motivations, and barriers in adopting green products.



REFERENCES

- Kapoor, K., & Dwivedi, Y. (2022). Digital marketing strategies for sustainable products: Role of AI and consumer analytics. *Journal of Business Research*, 145, 112–123. <https://doi.org/10.1016/j.jbusres.2022.01.018>
- Kotler, P., & Keller, K. L. (2019). *Marketing management* (15th ed.). Pearson.
- Rahman, S. (2021). Green marketing and consumer dissonance: Mitigating greenwashing through AI verification. *Sustainability Review*, 18(3), 221–234.
- Smith, J. (2020). Eco-labels and consumer trust in the digital age. *International Journal of Consumer Studies*, 44(2), 150–162. <https://doi.org/10.1111/ijcs.12580>
- Dwivedi, Y. K., Hughes, L., Baabdullah, A., Ribeiro-Navarrete, S., Giannakis, M., & Buhalis, D. (2021). Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, 57, 101994. <https://doi.org/10.1016/j.ijinfomgt.2019.08.002>
- Rust, R. T., & Huang, M.-H. (2021). The AI marketing revolution. *Journal of the Academy of Marketing Science*, 49(1), 24–42. <https://doi.org/10.1007/s11747-020-00748-z>
- Kumar, V., Dixit, A., Javalgi, R. G., Dass, M., & Sood, A. (2022). The role of AI in shaping sustainable consumer behavior. *Journal of Retailing and Consumer Services*, 64, 102803. <https://doi.org/10.1016/j.jretconser.2021.102803>