



Artificial Intelligence-Driven Green Marketing and Consumer Demand for Ayurvedic Products: An Empirical Investigation

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Abstract

In the given research, the analysis of AI-powered green marketing influence on the Ayurvedic product demand in India will be conducted. As sustainability concerns increase, Indian consumers increasingly seek products that support both health and environmental values. To address this, green marketing initiatives such as sustainable sourcing and sustainable packaging are being integrated into Ayurvedic brands. However, there are very few studies on the effects of AI-powered marketing on consumer perceptions and behavior, especially in the Ayurvedic industry.

The present study is founded on the Theory of Planned Behavior (TPB) (Ajzen, 1991) to investigate the role of AI-based green marketing in influencing online trust and sustainability perceptions, which subsequently affect purchase intentions toward Ayurvedic products. Artificial intelligence-based marketing plans involving targeted advertisements and sustainability information disclosure are expected to enhance consumer trust and the perceived value of sustainable products.

Survey data will be collected from Indian consumers who have purchased or shown interest in Ayurvedic FMCG products. Structural Equation Modeling (SEM) will be applied to examine the direct and indirect influence of AI-based green marketing on purchase intentions. The findings will contribute to the literature on AI in marketing and provide implications for marketers and policymakers to promote sustainable consumption in the expanding Ayurvedic market.

Keywords: AI-Based Green Marketing; Theory of Planned Behavior; Digital Trust; Sustainability Perception; Purchase Intention

1. Introduction

1.1 Artificial Intelligence and the Transformation of Marketing

Today, one of the most impactful technologies impacting business operations and marketing practices in a variety of industries is artificial intelligence (AI). By leveraging AI in marketing, businesses can process vast amounts of customer data, gain insights into purchasing trends, forecast customer preferences, and create targeted marketing messages that are more effective than traditional marketing strategies. As AI technologies including machine learning, predictive analytics, recommendation engines, chatbots, and intelligent decision-support systems are becoming more prevalent, they have revolutionized the way that companies engage with customers. While many organizations are still using mass marketing strategies, the trend has been moving toward using AI to deliver personalized experiences based on consumer interests, past purchase data, demographic data, and online behavior. The advancements in this field have propelled AI into the realm of strategic assets for businesses aiming to enhance customer relationships and maximize marketing ROI (Basappa, 2025; Garg et al., 2025; Baruno & Indrasari, 2025).

1.2 Green Marketing and Sustainable Consumer Behaviour

At the same time, however, sustainability has emerged as a fundamental issue for businesses, governments and consumers worldwide. Increased awareness of the public on ecology, degradation, climate change, natural resources depletion, pollution are spurring organizations to renew their traditional production and marketing. Not only is the quality of the product and its price important to the consumer today, but the social and environmental effects of the product are also considered. The increasing awareness about the environment has prompted companies to implement green marketing strategies that convey their environmentally responsible production, sustainable sourcing, recyclable packaging, carbon footprint reduction and ethical business practices. Green marketing has thus moved away from being just a promotional tactic and become a part of corporate sustainability efforts (Agarwal & Kaushik, 2025; Chaudhary, 2025; Sreeveena, 2021).

1.3 Integration of Artificial Intelligence and Green Marketing

As AI becomes a crucial part of green marketing, businesses can leverage the integration of AI and Green Marketing to convey their sustainability efforts in a more effective manner. The growing intersection of

artificial intelligence and green marketing has ushered in fresh possibilities for companies to communicate their sustainability goals in a more impactful way. With AI-driven marketing, companies can send tailored sustainability messages, segment the audience for their eco-conscious interests, enhance digital marketing strategies, track customer engagement patterns, and ensure clarity on product sustainability by using intelligent digital marketing channels. Consumer preference analysis in real-time via AI helps marketers deliver targeted information about their environment to the right consumer, increasing the effectiveness of the message and enhancing customer interaction. AI-driven personalized sustainability communication can also help alleviate information overload and boost consumers' trust in sustainable products (Basappa, 2025; Garg et al., 2025; Özen, 2025; Baruno & Indrasari, 2025).

1.4 Growth of the Ayurvedic Products Industry in India

The Ayurvedic products industry is one of the sectors which is a special case for the study of the interaction between artificial intelligence assisted green marketing and consumers' behaviour. Ayurveda has been a traditional medicine in India from the times immemorial and is known as one of the traditional medicine systems in India, which focuses on the use of natural ingredients, herbal formulations, and emphasis on holistic well-being. The Ayurvedic Fast-Moving Consumer Goods (FMCG) industry has seen exceptional growth in recent years as consumers are becoming more conscious about preventive health, enhancing immunity, opting for natural ingredients and living in an eco-friendly manner. Due to their natural ingredients, and relative low environmental impact, consumers view the use of Ayurvedic products as safer than synthetic products, making the former more popular and appreciated. The trend has prompted companies to make efforts to improve their sustainable sourcing, packaging and production processes (Elango et al., 2022; Gawas, 2022)

1.5 Digital Transformation of Ayurvedic Marketing

With the advent of digital commerce, the marketing of Ayurvedic products is further heightened with online platforms. Online health product reviews, social media, online ads, websites and mobile apps are all places consumers often turn for health product information before making a purchase. This has led organizations to increasingly implement strategies in digital marketing using AI to improve customer engagement and communication effectiveness. Online firms can use AI-powered recommendation systems, customised adverts, automated customer service, clever search algorithms, and predictive consumer analytics to supply consumers with relevant details while fostering eco-friendly buying choices. Such technological developments have increasingly facilitated the use of AI in the promotion of sustainable consumption in the Ayurvedic market (Trivedi & Vij, 2024; Jossy & Reena, n.d.; Basappa, 2025; Baruno & Indrasari, 2025).

1.6 Sustainable Consumption Trends in India

Within the past decade, there has been significant growth in the demand for sustainable and health-conscious products in the Indian market. The higher disposable income, urbanization, the consumer's growing awareness of the value of preventative health, and the growing availability of digital information have all had a major impact on consumer buying habits. Customers are now more and more looking for products that can benefit their well-being as well as their environment. As a result, businesses are moving away from traditional marketing strategies and instead adopting a more transparent, ethical, environmentally-friendly and socially responsible approach. Green marketing has thus emerged as an essential competitive tool for companies to differentiate and adapt to shifting consumer expectations. In order to enhance their sustainability profile and the future customer relationships, businesses are increasingly turning to environmentally friendly manufacturing processes, recyclable packaging materials, renewable resources and responsible supply chain management (Agarwal & Kaushik, 2025; Chaudhary, 2025; Sreeveena, 2021).

1.7 Consumer Behaviour Toward Ayurvedic Products

In relation to the Ayurvedic industry, the context is very suitable in the sense that the Ayurvedic products are naturally connected with natural ingredients, traditional knowledge, and holistic health. In contrast to other consumer products, where most of the competition is based on functional features, Ayurvedic products are usually judged by their health attributes, their authenticity, their safety and their environmental friendliness. As people are becoming more aware of the advantages of using herbal medicines, organic personal care items, natural food supplements and plant-based healthcare solutions, there is a significant opportunity for the growth of Ayurvedic manufacturers. Leading organizations have been broadening their product lines and encouraging sustainable cultivation methods, environmentally-friendly packaging and ethical procurement of medicinal herbs. The efforts have resulted in better integration of Ayurvedic products with the overall goals of sustainable consumption (Gawas, 2022; Elango et al., 2022; "Ayurvedic Products Marketing," 2025).

1.8 AI-Driven Personalisation and Consumer Trust

With the rise of digital platforms, the way consumers engage with Ayurvedic brands has also been revolutionized. These days, users are relying more on websites, social media, ecommerce apps, digital reviews, recommendations from influencers, and online health communities to help them make purchase decisions. Digital information is increasing consumer expectations of product transparency, claims of sustainability, and scientific credibility. As a result, AI tools are playing an increasingly important role in the marketing mix to understand consumer preferences, track social media interaction, tailor marketing communication and suggest

products based on individual healthy needs and environmental values. By leveraging AI personalization, businesses can deliver personalized sustainability messages more effectively, enhance customer experience, and boost marketing productivity (**Kataria et al., 2025; Basappa, 2025; Garg et al., 2025**).

The one thing that stands out as one of the most important benefits of AI-driven marketing is the capability it provides to connect with customers personally. All of this data goes into machine learning algorithms that continually analyze browsing history, purchase behavior, demographic data, and interactions to create personalized recommendations. This personalization creates a more engaging customer experience by providing relevant information to customers based on their interests and buying habits. When it comes to green marketing, AI can help businesses provide personalised sustainability messaging, explain their eco-friendly production and manufacturing processes, share details about eco-certifications, and inform consumers that are more likely to be concerned about responsible sourcing. This contextual communication not only enhances marketing effectiveness, but also fosters the adoption of environmentally friendly purchasing practices (**Basappa, 2025; Garg et al., 2025; Özen, 2025**).

1.9 Digital Trust and Sustainability Perception

However, while the technology has advanced, it's consumer trust that really makes the difference in the success of AI-powered green marketing strategies. Sustainability claims are often communicated via digital channels and consumers are often dubious of the authenticity of environmental advertisements. There is a risk that consumer confidence in digital marketing communications could be affected due to worries about greenwashing, misleading promotional practices, artificial intelligence and transparency. This makes the creation of digital trust a huge challenge for firms adopting AI-driven marketing campaigns. When consumers believe that marketing communication is transparent, credible and backed by evidence of the environment, they are more likely to accept information about sustainability. Digital trust is thus crucial in connecting AI-driven communication with positive customer reactions (**Kataria et al., 2025; Özen, 2025; Basappa, 2025**). Likewise, the perception of sustainability also has a significant impact on consumers' purchasing decisions. Sustainability perception is the consumers' judgment of the environmental responsibility of products in all aspects of their life cycle, such as raw materials, production, packaging, transport, and end-of-pipe treatment. Consumers have positive perceptions of sustainability, which leads to greater positive attitude towards green products and willingness to buy green products. In the Ayurvedic segment, the concept of sustainability perception is very applicable as most society members are inclined to believe that Ayurvedic products are made from natural ingredients, have a balance with the environment and provide long-lasting benefits to health. Marketing communication, backed by AI, can help consolidate these perceptions with personalized and transparent sustainability information, enhancing consumers' knowledge of the products' sustainability (**Agarwal & Kaushik, 2025; Kataria et al., 2025**).

2. Literature Review

The existing literature demonstrates that the integration of artificial intelligence (AI) and green marketing has emerged as a significant area of research, particularly in relation to sustainable consumer behaviour and the growing demand for Ayurvedic products. The reviewed studies collectively indicate that AI technologies enhance marketing effectiveness by improving customer engagement, enabling personalized communication, supporting sustainable business practices, and influencing environmentally responsible purchasing decisions. At the same time, research on Ayurvedic products highlights the increasing consumer preference for natural, herbal, and eco-friendly alternatives, thereby creating opportunities for AI-driven green marketing strategies.

2.1 Artificial Intelligence in Green Marketing

Artificial intelligence has transformed conventional marketing practices by enabling organizations to analyse consumer behaviour, predict purchase intentions, and develop personalized marketing strategies. **Basappa (2025)** explained that AI serves as a strategic enabler of sustainable marketing innovation by supporting green consumerism through predictive analytics, customer segmentation, and intelligent decision-making. The study emphasized that AI enhances organizational capability to design environmentally responsible marketing campaigns while simultaneously improving customer satisfaction and business performance.

Similarly, **Garg et al. (2025)** investigated AI-driven sustainability marketing and found that AI significantly influences consumers' perception of eco-friendly brands by delivering personalized sustainability messages and improving digital customer experiences. Their findings suggest that AI strengthens the relationship between environmental responsibility and consumer trust, thereby increasing consumers' willingness to purchase sustainable products.

Supporting these findings, **Baruno and Indrasari (2025)** demonstrated that AI technologies improve green marketing strategies through automated customer interaction, data-driven promotional activities, and intelligent market analysis. The authors concluded that organizations adopting AI-based marketing are better positioned to communicate sustainability initiatives and strengthen their competitive advantage.

Likewise, **Özen (2025)** discussed the strategic role of AI in green marketing and highlighted that machine learning, predictive analytics, and intelligent automation contribute to sustainable marketing by improving

communication efficiency, resource optimization, and consumer engagement. The study suggested that AI enables organizations to align environmental objectives with marketing performance more effectively. Furthermore, **"Leveraging Artificial Intelligence to Drive Sustainable Marketing Practices: Can AI Make Marketing Green?" (2025)** emphasized that AI facilitates sustainable marketing by improving resource utilization, reducing unnecessary promotional activities, enhancing supply chain efficiency, and providing accurate consumer insights that support environmentally responsible business decisions.

2.2 Green Marketing and Sustainable Consumer Behaviour

Green marketing has become an important determinant of consumer purchase decisions as environmental awareness continues to increase. **Agarwal and Kaushik (2025)** reported that green marketing positively influences consumer demand for Ayurvedic products because consumers increasingly associate herbal products with environmental sustainability, personal health, and social responsibility. Their findings demonstrated that sustainable marketing practices strengthen consumer confidence and positively affect purchase intentions.

Similarly, **Chaudhary (2025)** examined the impact of green marketing on consumer behaviour and sustainable development goals in India. The study concluded that environmentally responsible marketing practices encourage consumers to adopt sustainable purchasing behaviour while simultaneously contributing to national sustainability objectives.

Earlier research by **Sreeveena (2021)** also confirmed that growing environmental awareness has substantially increased consumer acceptance of green products. The study highlighted that consumers are becoming more willing to support organizations demonstrating environmental commitment through sustainable production and ethical marketing practices.

The findings are further supported by **"An Empirical Study on Green Products and Green Marketing" (2025)**, which reported that green marketing significantly influences consumer awareness, product preference, and purchase decisions by increasing consumers' confidence in environmentally friendly products.

2.3 Consumer Behaviour Towards Ayurvedic Products

Several researchers have examined factors influencing consumer demand for Ayurvedic products. **Elango et al. (2022)** investigated consumer perception following the COVID-19 pandemic and found that increasing health awareness has significantly improved consumer preference for Ayurvedic medicines. The study concluded that consumers increasingly perceive Ayurvedic products as safer, more natural, and more effective in promoting preventive healthcare.

Similarly, **Gawas (2022)** studied green buying behaviour associated with Ayurvedic cosmetic products and reported that environmental concern, health consciousness, and preference for herbal ingredients positively influence purchasing decisions. The findings suggested that consumers increasingly associate Ayurvedic cosmetics with sustainability and environmental responsibility.

Research by **Kataria et al. (2025)** further demonstrated that integrating AI with traditional Ayurvedic marketing improves consumer perception by combining technological innovation with traditional healthcare knowledge. The study concluded that AI enhances product visibility, customer engagement, and trust, thereby increasing purchase intention toward Ayurvedic products.

Likewise, **"A Study on the Impact of Green Marketing on Consumer Behaviour with Reference to Ayurvedic Products" (2024)** found that green marketing practices significantly influence consumer attitudes toward Ayurvedic products by strengthening perceptions of environmental responsibility, product authenticity, and long-term health benefits.

Finally, **"Ayurvedic Products Marketing" (2025)** emphasized that effective marketing strategies integrating sustainability, digital communication, and consumer education are essential for expanding the Ayurvedic products market and improving long-term customer loyalty.

2.4 Digital Marketing and Consumer Engagement in the Ayurvedic Industry

Digital marketing has become an important platform for promoting Ayurvedic products and strengthening consumer relationships. **Trivedi and Vij (2024)** examined the digital transformation of Patanjali Ayurvedic products and concluded that digital marketing has significantly enhanced brand visibility, customer engagement, and market expansion. The study highlighted that social media platforms, online advertising, and digital communication have enabled Ayurvedic brands to reach a broader consumer base while maintaining their traditional identity.

Similarly, **Davé (2025)** demonstrated that AI analytics provides valuable insights into consumer demand for Ayurvedic products by analysing proprietary market data. The study found that AI-based demand forecasting improves marketing planning, inventory management, and customer targeting, enabling organizations to make evidence-based strategic decisions.

The importance of modern technology in traditional wellness was further emphasized by **J. F. C. and G. V. P. (2025)**, who reported that AI applications positively influence consumer perception of Ayurvedic products by improving access to product information, enhancing customer interaction, and increasing confidence in digital

purchasing platforms. Their findings indicate that technological innovation supports the modernization of traditional healthcare marketing without compromising its authenticity.

In addition, **Jossy and Reena** reported that digital marketing strategies, including social media marketing, online advertising, influencer promotion, and digital customer engagement, significantly influence online purchase decisions. Although their research focused on cosmetic brands, the findings demonstrate the growing importance of digital communication in shaping consumer buying behaviour, which is equally relevant to Ayurvedic product marketing.

2.5 Sustainable Consumption and Consumer Switching Behaviour

Growing environmental awareness has encouraged consumers to shift from conventional products toward environmentally friendly alternatives. **Luthra, Kushwah, and Gokarn (2025)** investigated consumer switching behaviour toward organic personal care products using the Push-Pull-Mooring framework. Their study revealed that environmental concern, health consciousness, product quality, and sustainability significantly encourage consumers to switch from conventional products to organic alternatives. These findings provide important insights into the increasing acceptance of Ayurvedic products, which are commonly perceived as natural and environmentally sustainable.

Similarly, **Nassi et al. (2023)** found that green marketing positively influences corporate brand image by enhancing consumers' perceptions of environmental responsibility and organizational credibility. A stronger brand image subsequently contributes to higher consumer trust and greater purchase intention toward sustainable products.

Furthermore, **R. R. N. et al. (2025)** discussed the broader role of sustainable technologies in supporting environmental responsibility and long-term business sustainability. The authors argued that technological innovation, responsible resource utilization, and sustainable marketing practices collectively contribute to achieving future sustainability goals while improving organizational competitiveness.

2.6 Research Gap

The reviewed literature demonstrates considerable progress in understanding AI, green marketing, sustainable consumer behaviour, and Ayurvedic product marketing. However, several research gaps remain. Most studies have examined AI adoption, green marketing, or consumer behaviour independently, while relatively few have investigated the integrated relationship between AI-driven green marketing and consumer demand for Ayurvedic products.

Existing studies primarily focus on consumer perception, digital marketing, environmental awareness, or sustainability practices individually. Limited empirical evidence explains how AI-enabled marketing strategies simultaneously influence sustainability perception, consumer trust, and purchase intention within the Ayurvedic products sector. Furthermore, research examining the combined influence of AI, green marketing, and traditional healthcare products remains scarce, particularly in emerging markets such as India.

These gaps indicate the need for comprehensive empirical studies that integrate artificial intelligence, green marketing, consumer behaviour, and Ayurvedic product demand into a unified conceptual framework. Such research would contribute to both academic literature and managerial practice by providing deeper insights into sustainable marketing strategies for the rapidly expanding Ayurvedic industry.

In short The reviewed literature indicates that artificial intelligence has become an important enabler of sustainable marketing by improving customer engagement, market intelligence, personalized communication, and decision-making capabilities. Studies consistently demonstrate that AI technologies strengthen green marketing initiatives by enabling organizations to deliver targeted sustainability messages, enhance customer experiences, and improve operational efficiency (**Basappa, 2025; Garg et al., 2025; Baruno & Indrasari, 2025; Özen, 2025**).

The literature also confirms that green marketing significantly influences consumer attitudes toward environmentally responsible products. Growing awareness of environmental sustainability, ethical consumption, and personal health has encouraged consumers to prefer products that are perceived as natural, safe, and environmentally friendly (**Agarwal & Kaushik, 2025; Chaudhary, 2025; Sreeveena, 2021**). These changing consumer preferences have created favourable market conditions for the continued expansion of the Ayurvedic products industry.

Research focusing specifically on Ayurvedic products demonstrates that consumers increasingly associate these products with holistic health, natural ingredients, environmental sustainability, and preventive healthcare. Digital marketing, AI-based analytics, and personalized communication have further strengthened consumer engagement by improving product accessibility, information availability, and trust in Ayurvedic brands (**Trivedi & Vij, 2024; Davé, 2025; Kataria et al., 2025; Elango et al., 2022; Gawas, 2022**).

Despite these contributions, the literature reveals limited empirical research integrating artificial intelligence, green marketing, and consumer demand for Ayurvedic products within a single comprehensive framework. Most previous studies have examined these constructs independently, leaving significant opportunities for future research to investigate their combined influence on consumer purchase behaviour. Therefore, the present study seeks to bridge this gap by examining how AI-enabled green marketing strategies influence

consumer demand for Ayurvedic products, thereby contributing to both sustainable marketing theory and managerial practice.

3. Conceptual Framework

The conceptual framework of the current study is largely based on the Theory of Planned Behavior (TPB) that can be used to explore the effects AI-based green marketing will have on consumer demand in Ayurvedic products. TPB states that the attitudes, subjective norms, and perceived behavioral control influence consumer behavior. In this paper, AI-focused green marketing will have an impact on consumer demand by creating digital trust and sustainability perception.

Framework Overview:

Independent Variable: Green Marketing that is AI-driven.

The green marketing strategies developed with AI involve:

AI-driven customized advertisements: Advertisements that are made based on the preferences of the consumers and artificial intelligence.

Eco-certifications: the application of eco-friendly certifications and labels as a tool to support the claims of sustainability.

Sustainable sourcing: Promotional messages about the importance of sourcing Ayurvedic and being environmentally responsible.

Sustainability messaging: Sharing the ecological and health advantages of Ayurvedic products with the use of AI.

Mediators:

Digital Trust: This is the level of trust that consumers have in the authenticity of AI-based green marketing communications. Sustainability claims become more effective when the consumers believe in the authenticity of marketing and that it is transparent (Huang and Rust, 2021).

Sustainability Perception: How much consumers believe Ayurvedic products to be sustainable, both in terms of environmental impact and health advantages. This image affects the maximization of the positive attitude of consumers to the products, increasing the desire to buy them.

Dependent Variable:

Purchase Intentions: How well the consumers are likely to purchase Ayurvedic products according to AI-supported green marketing initiatives. TPB is based on the fact that one attitudes about a behavior (in this instance, purchasing Ayurvedic products) directly affect behavioral intentions, which in turn affect actual behavior (Ajzen, 1991).

Moderators:

Health Consciousness: Greener Consumers are more inclined to use the Ayurvedic products because of perceived health benefits that are capable of modifying the relationship between green marketing and purchase intentions.

Environmental Concern: The extent to which consumers are concerned with the sustainability of the environment can positively influence how consumers respond to AI-based green marketing on their purchasing intentions. Individuals who are more concerned about the environment will react better towards marketing messages that are sustainability oriented.

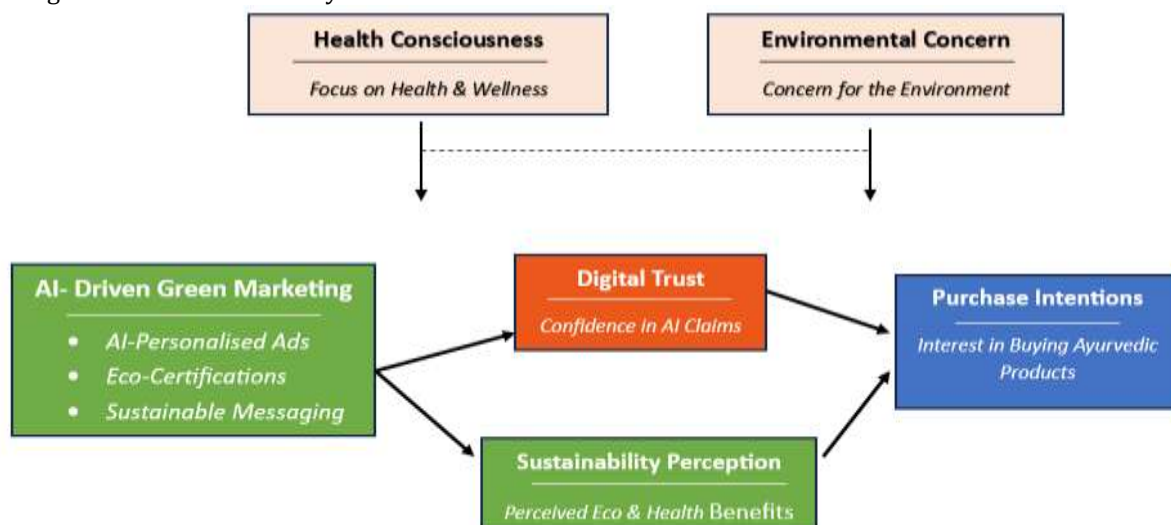


Figure 1: Conceptual Framework.

Boundary Conditions of AI-Based Green Marketing

To avoid conceptual ambiguity, AI-based green marketing in the present study is operationally restricted to digital marketing activities where artificial intelligence is used to communicate sustainability-related information about Ayurvedic products. The construct excludes general digital marketing, traditional advertising, influencer marketing, and non-environmental promotional activities.

For the purpose of this study,

AI-based green marketing consists of four dimensions:

AI-driven personalized sustainability advertisements.

AI-enabled recommendation systems promoting eco-friendly Ayurvedic products.

AI-supported sustainability messaging and environmental disclosures.

AI-assisted communication of eco-certifications, sustainable sourcing, and environmentally responsible packaging.

The study is limited to Indian consumers who have prior awareness, purchase experience, or purchase intention toward Ayurvedic FMCG products. Therefore, the findings may not be generalized to non-Ayurvedic products, pharmaceutical products, or international consumer markets.

Objectives of the Study

1. To examine the effect of AI-based green marketing on purchase intention toward Ayurvedic products.
2. To assess the mediating role of digital trust and sustainability perception.
3. To evaluate the moderating effects of health consciousness and environmental concern.

4. Hypotheses Development

H1: AI-based green marketing has a positive and significant effect on digital trust among consumers of Ayurvedic products.

H2: AI-based green marketing has a positive and significant effect on sustainability perception among consumers of Ayurvedic products.

H3: Digital trust has a positive and significant effect on consumers' purchase intention toward Ayurvedic products.

H4: Sustainability perception has a positive and significant effect on consumers' purchase intention toward Ayurvedic products.

5. Methodology

Data Collection:

Sample and Respondent Profile

The target population consists of Indian consumers residing in urban and semi-urban areas of Meerut and Ghaziabad districts of the National Capital Region (NCR) who have previously purchased, currently use, or intend to purchase Ayurvedic FMCG products. A minimum sample size of 250 respondents will be collected using convenience and purposive sampling techniques. Respondents must be above 18 years of age, familiar with Ayurvedic products, exposed to online marketing platforms, and aware of sustainability-related product information. Demographic information including age, gender, education level, occupation, monthly income, and frequency of Ayurvedic product purchases will be collected to describe the sample characteristics.

Survey Design: A questionnaire will be a structured questionnaire to gather information on AI-based marketing, digital trust, sustainability perception and purchase intentions.

Data Analysis Methods:

The survey data will be analyzed by the standard methods of statistics that will guarantee the validity and reliability of the constructs, relations among the variables. The methods to be used will include:

Convergent Validity Assessment

Convergent validity will be assessed using standardized factor loadings, Composite Reliability (CR), and Average Variance Extracted (AVE). Factor loadings greater than 0.70, CR values exceeding 0.70, and AVE values above 0.50 will be considered indicative of satisfactory convergent validity. These criteria will ensure that the measurement items adequately represent their respective latent constructs, including AI-based green marketing, digital trust, sustainability perception, health consciousness, environmental concern, and purchase intention.

Discriminant Validity Assessment

Discriminant validity will be evaluated using the Fornell–Larcker Criterion and the Heterotrait–Monotrait Ratio (HTMT). The square root of the AVE for each construct should exceed its correlations with other constructs, while HTMT values should remain below the recommended threshold of 0.85. These measures will confirm that each construct is empirically distinct and captures a unique conceptual domain.

Measurement Model Evaluation (CFA)

Confirmatory Factor Analysis (CFA) will be conducted prior to hypothesis testing to evaluate the adequacy of the measurement model. Model fit will be assessed using established fit indices, including Comparative Fit Index (CFI > 0.90), Tucker–Lewis Index (TLI > 0.90), Root Mean Square Error of Approximation (RMSEA < 0.08), and Standardized Root Mean Square Residual (SRMR < 0.08). The measurement model evaluation will establish construct reliability, convergent validity, and discriminant validity before proceeding to structural model assessment.

Hypothesis Testing

The proposed hypotheses will be tested using Structural Equation Modeling (SEM) with AMOS or SmartPLS. The structural model will examine the direct relationships among AI-based green marketing, digital trust, sustainability perception, and purchase intention. The significance of each hypothesis will be evaluated using standardized path coefficients (β), t-values, p-values, and bootstrapping. A hypothesis will be accepted if the path coefficient is positive and statistically significant at $p < 0.05$. The overall model fit will be assessed using Chi-square/df, Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR).

Descriptive Statistics:

The demographic characteristic of the respondents will be summarized using descriptive statistics such as age, gender, education and purchasing habits towards Ayurvedic products. This will give a sample profile and will assist in making sure that the data is representative.

Reliability Analysis (Cronbach Alpha):

Cronbach's alpha will be calculated to assess the internal consistency of the measurement scales used for digital trust, sustainability perception, and purchase intention. This test will determine whether the items included in the survey represent the same underlying concept and the scales used in the survey are reliable to be further used in analysis.

Structural Equation Modeling (SEM)

Structural Equation Modeling (SEM) using AMOS or SmartPLS will be employed to test the proposed conceptual framework and hypotheses. SEM is suitable for the present study because it enables simultaneous assessment of both the measurement model and the structural relationships among latent constructs. The analysis will examine the direct influence of AI-based green marketing on purchase intention, as well as the mediating effects of digital trust and sustainability perception. Furthermore, the moderating effects of health consciousness and environmental concern will be evaluated. The adequacy of the structural model will be assessed using model fit indices such as Chi-square/df, Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). The significance of the hypothesized relationships will be determined through path coefficients, t-values, p-values, and coefficient of determination (R^2).

6.Relevance to the Policymaking Process and Society.**Policymakers**

The suggested study will prove immensely beneficial regarding the manner in which AI-based green marketing can be enlisted to achieve sustainable consumption in India. As the need to replace products with those that are more environmental-friendly grows it is even the more important that the policymakers should work out the model that would ensure the claims of sustainability in the real sense. The findings of the ongoing study can be applied in informing the impending policy of greenwashing by shedding light on the policy guidelines that deter deceitful advertisement and encourage sincerity in advertisement. The research will also provide data on the concept of eco-labelling and how it is applied in building the aspect of consumer confidence in the sustainability statements to make sure that the consumers are granted the authority to make informed decisions.

Society

The research findings will also be useful in ensuring the Indian consumers adopt healthier and more sustainable buying habits. The more the information available on environmental issues, the more customers are looking to find a brand that suits their values. The study will provide the Ayurvedic industry marketers with practical indications concerning how they can come up with marketing approaches that are transparent and which are capable of fostering trust. These strategies will be capable of capturing the growing number of environmental friendly consumers who will be influenced to buy Ayurvedic products because of the health benefits and the fact that they are environmentally friendly. This study will provide to the sustainable consumption practice by increasing consumer trust and making Ayurvedic products environmental and general social sustainable.

Future Research and Conclusion

The proposed research will play an important role in the existing research on AI-driven green marketing, and its contribution to the demand of Ayurvedic products among consumers. The study will introduce the light to

the methods of using AI to facilitate the creation of environmentally conscious consumption by providing the empirical data relating the AI marketing tactics and the consumer confidence and sustainability perception. Not only will the results further improve our understanding of the role of AI in green marketing but will also offer practical recommendations to the marketers and policy makers to instill more sustainable consumption habits.

To eliminate the repetition of this research, the future researches can expand the topic of this research work and conduct cross-cultural studies on consumer responses towards AI-informed green marketing. It can also investigate the impact of AI marketing on brand loyalty in Ayurvedic FMCG industry on long term basis to get an insight on how AI practices influence consumer brand relationship. These areas will provide a better understanding of how AI-based green marketing can be used in the long term to develop a sustainable consumer behavior in the world.

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