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AI-Driven Green Marketing Innovation as a Catalyst for Sustainable Consumer Behavior: A Strategic Management Perspective

Sakshi Gupta¹ Saumya Jangid²

¹Dr. Bhim Rao Ambedkar College, University of Delhi, India

² Dr. B.R Ambedkar University of Delhi, India

ABSTRACT

Increased environmental problems, growing consumer consciousness and a technological shift towards digitization have motivated corporations to apply sustainability practices within their marketing activities. Over time, the advent of artificial intelligence technology is proving helpful for organizations to develop green marketing efforts effectively and transparently. Technologies like personalized advertisements, predictive analytics, and consumer insights through data analysis allow companies to market environmentally friendly products in a better way (Davenport et al., 2020; Huang & Rust, 2021).

In this context, this paper looks at the impact of innovative green marketing driven by artificial intelligence technology on sustainable consumer behavior. This study considers different green marketing practices, including green product design, green advertising, eco-labeling, and sustainable supply chain practices, and assesses their effect on consumers' trust, attitude, purchase intentions, and environmentally conscious behaviors (Dangelico & Vocalelli, 2017; Biswas & Roy, 2015). In addition, it analyzes the moderating role of consumers' environmental consciousness and green value in the association between both variables (Chen, 2013; Prasad & Jha, 2020).

Primary data was gathered from 450 consumers located in major Indian cities through the use of a well-designed questionnaire. From the empirical results obtained after performing reliability tests, correlation, and regression analysis, the study concludes that there is a very strong and significant relationship between artificial intelligence-powered green marketing innovations and sustainable consumer behavior. In addition to that, the study findings suggest that environmental awareness and green value perception are key factors that determine green marketing performance in terms of influencing consumer decisions to purchase sustainable products (Kumar et al., 2023).

In line with the above results, the study suggests a strategic framework on the use of AI-powered green marketing to facilitate responsible consumer behavior in emerging countries like India.

KEYWORDS: AI-Driven Green Marketing; Green Marketing Innovation; Sustainable Consumer Behavior; Artificial Intelligence in Marketing; Environmental Awareness; Perceived Green Value; Digital Green Marketing; Sustainable Purchase Intention.

Introduction

Environmental challenges such as global warming, pollution, biodiversity loss and resource depletion are increasing globally making the question of sustainable development to be paramount concern worldwide especially in developing countries such as India where cities and towns have rapid urbanization, industrialization and increase in consumers. Environmental

issues like emissions caused from the travel vehicles, plastic waste, and manufacturing operations consumes huge volume of energy and natural resources are under massive pressure. Reports from Ministry of Environment, Forest and Climate change and NITI Aayog (2023) present some serious environmental concerns for India.

Under these circumstances, green marketing has developed into an essential tool which involves an integrative approach that involves consideration of environmental aspects in planning, advertisement, pricing and logistics processes. Conventional marketing research has viewed green marketing from a minimalistic point of view as an ethical issue. Recent studies reveal that green marketing is much more than that because it is a strategy which takes into account the changes in consumer demand, regulations and international agreements (Dangelico & Vocalelli, 2017). In addition to stimulating consumer demand, marketing plays a critical role in educating consumers about environmentally-friendly habits.

The advent of AI technologies in marketing processes over the past few years has revolutionized the way organisations incorporate the concept of green marketing into their systems. The use of predictive analytics, recommendation systems and digital advertising techniques allows marketers to understand the demand preferences of consumers better, thus promoting products and practices that are sustainable from an environmental standpoint. Transparency is improved through the capacity to monitor supply chains, carbon footprint and lifecycle data. These capabilities allow firms to improve on the effectiveness of their green marketing practices and reduce the likelihood of greenwashing.

During the past two decades, the integration of artificial intelligence into marketing systems has changed the ways organizations develop, deliver and implement green marketing programs. Information-processing tools based on artificial intelligence, such as predictive analytics, recommender systems and online advertising, enables firms to know customers' preferences and market green products effectively. Besides, AI also plays a significant role in achieving transparency. Companies can trace supply chain data, carbon footprint data, product life cycle data through systems that rely on artificial intelligence. Therefore, artificial intelligence will help diminish information asymmetric, and develop trust on green marketing activities among customers. For instance, AI-based systems can assist firms in communicating their sustainability initiatives to customers in an efficient and effective manner while minimizing the chances of greenwashing. India has witnessed a gradual shift toward sustainability-oriented thinking at both policy and consumer levels. The nationwide Swachh Bharat Mission, Plastic Waste Management Rules, EPR, and LiFE Mission have helped to promote the culture of responsible consumption and production (NITI Aayog, 2023). Findings from reports by FICCI (2023) and CII (2023) indicates that urban Indian consumers are concerned about the sustainability of their products, the amount of packaging waste generated, and the sourcing of their products. It is clear that a significant chunk of millennials, as well as young professionals are attracted to brands with a commitment towards environmental practices.

Though such awareness is gaining recognition, there is still quite a complex connection between environmental attitudes and purchase behavior. Initial studies conducted on developing economies have found that individuals usually display favorable attitudes towards eco-friendly products; however, their attitudes rarely turn into actual actions unless individuals find sufficient value and trust within such products (Biswas & Roy, 2015). Recent research conducted in India has found that exaggerating eco-friendly aspects in marketing may lead to decreased consumer trust, thus limiting the use of green marketing practices among Indian consumers (Singhal & Malik, 2020).

Green marketing innovation is therefore a shift from conventional marketing practices. Green marketing innovation entails eco-product design, eco-production, use of recycled packaging, communication on sustainability efforts, eco-labelling, and sustainability in supply chains. Indian firms like ITC, Tata Group, Hindustan Unilever, Marico, and Dabur are integrating sustainability in their business activities and releasing sustainability reports and BRSRs. The growth of industries in sectors such as organic food and electric cars indicates that innovation in sustainability can affect consumer attitudes positively (SMEV, 2024).

The recent literature shows that consumer attitude towards green marketing practices depends not only on awareness but also on the perception of green value as environmentally friendly goods having significant advantages like high quality, safety, healthiness or saving money over the long term (Laroche et al., 2001; Business Perspectives, 2023). Eco-labeling systems promoted by the government such as BEE Star ratings and Jaivik Bharat play a critical role too in addressing the information asymmetry problem (MoEFCC, 2024).

Strategically managing to incorporate sustainability to firm strategy contributes to sustainable competitive advantages, innovation ability, stakeholder trust, etc in long term (Barney, 1991; Wernerfelt, 1984; Porter and Kramer, 2006; etc.). Specifically, from the perspective of strategic management, 'shared value' which represents win-win benefit for businesses and society is made by implementing environmental and social issues through strategic perspective (Porter and Kramer, 2006). And in terms of India, business's strategy is under development under changing regulation and consumers.

In summary, it shows that India has both opportunities and challenges for green marketing. Although awareness about environmental issues is increasing and government has support for green issues in India, consumers are still price sensitive and lack of confidence due to inconsistent infrastructure and trust problems still exists. Therefore, empirical study is needed on whether green marketing innovation with strategic management influences consumers' sustainable consumption behavior in India.

Literature Review

Recent literature highlights a transition in the conceptualization of sustainability strategies from technology and regulation-focused approaches toward innovation-based sustainability strategy in the area of green marketing research. Since 2010 researchers started to address the issues relevant to the combination of ecological responsibility with product development,

communication and strategy-based business operation and the examination of their effects on consumer behavior in both developed and developing countries.

According to Dangelico and Vocalelli (2017), they reviewed the existing literature related to green marketing. As per their review, contemporary green marketing not only revolves around promotion but also encompasses product innovation, sustainable practices, environmental labeling, and green logistics. Therefore, they suggested that businesses that integrate green marketing in their operations can gain competitive advantage and favorable consumer behavior.

When it comes to consumer behavior in regard to environmental issues, Young et al. (2010) pointed out the problem of the existing gap between people's attitude towards ecology and their actual behavior, listing price sensitivity, lack of knowledge, and lack of trust as the primary obstacles. Later research conducted in developing countries has supported this finding. According to Biswas & Roy (2015), while consumers from India show high levels of environmental concern, green behavior becomes possible only if there is functional and economic value in consumers' perception.

Another important aspect discussed after 2010 in relation to consumers' eco-friendly behavior concerns awareness. Specifically, Leonidou et al. (2013) concluded that environmentally aware customers are more willing to pay attention to sustainability-related marketing messages under conditions of information credibility. Singhal & Malik (2020) showed that Indian consumers do not consider only their awareness important but also analyze whether or not marketing claims about a product's environmental benefits are real or exaggerated.

The green marketing communications have also been tested as a significant factor to gain consumer trust and behavior. The experiment of Nyilasy et al. (2014) showed that environmental ad messaging was evaluated significantly more favorably than either symbolic or implicit messaging. These results suggest that consumer trust is related to the validity of green marketing messages, while non-valid green marketing messages cause reduction in trust. This finding is extremely significant in Indian context because consumers are now receiving more sustainable messages and exposure through online channels. Eco-labelling is the third interesting area to researchers. Prior learning made by Thgersen (2007) had been enriched with empirical researches which showed that the role of institutional certification procedure in addressing information asymmetric issue is of key importance. It is being acknowledged by Bureau of Energy Efficiency (2023) that energy-labeled electrical appliance has done tremendous job in promoting energy saving in India. Consumers usually have much higher level of repurchase intentions to eco-friendly products with recognizable and reliable labels. The importance of SCM techniques based on sustainability has been realized by the present literature widely. Zhu and Sarkis (2004) established the basics of sustainable SCM, however later studies after 2010 broadened the coverage of sustainable SCM. "For businesses, sustainable SCM have gains based on image, positive efficiency etc" according to the report prepared by Confederation of Indian Industry (2023) on the industry of India. Sustainable SCM involves an ongoing process of developing sustainability which will reflect upon the image

and reputation of the organization for the consumers as well as investors. With regard to the strategic dimensions of sustainability practices, it has gained much importance with respect to achieving competitive advantage. The theory of shared value proposed by Porter & Kramer (2006) is often applied in the field of sustainability research after 2010, particularly in the analysis of the environmental strategies followed by firms operating in developing nations. The reporting of Indian companies in the context of SEBI BRSR highlights the strategic dimension of sustainability practices.

Furthermore, there is also an increase in recent literature regarding perceived green value as a key determinant of green purchases. Chen (2013), for example, provides an empirical demonstration of the fact that perceived green value has a positive effect on purchase intention by improving brand evaluation and trust. To support this, Prasad and Jha (2020) noted that middle-class consumers in India were ready to pay more for green products due to their credibility and personal value towards the environment. These facts are also supported by industry reports which suggest that consumers link sustainability to long-term economic and health benefits.

However, there is still considerable room left for further investigation of the problem despite numerous studies conducted so far. First and foremost, it is clear from previous studies that most of them focus on particular factors such as environmental awareness or eco-labelling independently. Little is known about empirical evidence of the interconnection between green marketing innovations, environmental awareness, green value perception, and strategic management simultaneously.

Conceptual Framework and Hypothesis

1.1 Conceptual Framework Overview

The study takes off from the premise that AI-enabled innovation in green marketing makes a significant contribution to sustainable consumer behavior. In particular, consumers' motivation is based not only on the nature of the environmentally friendly goods or advertisements but also on their awareness of environmental issues and green products.

The proposed model indicates that green product design, ethical green promotion, eco-labeling, and sustainability in the supply chain affect consumers' perceptions and behavior. These impacts are likely to be greater in cases where consumers are environmentally conscious and perceive significant value from green products.

1.2 Components of the Framework

Green marketing innovation is the independent variable that drives sustainable purchase intention and sustainable buying behavior within this theoretical framework. Environmental consciousness and green value perception have been added to act as intervening variables explaining the relationship between green marketing innovations and sustainable consumer behavior.

1.1 Justification of the Framework

Green innovation can lead to an increase in customer confidence and enhance the brand image. The use of accurate green advertising ensures that any form of uncertainty is minimized, especially when there is rampant greenwashing in the market. Eco-labeling enables consumers to recognize

environmentally friendly products readily. The sustainability of the supply chain proves that the firm is committed to its environmental performance.

1.1 Hypotheses

H1: Green marketing innovation (including eco-friendly product design, green advertising, and eco-labelling) has a positive and significant influence on sustainable consumer behaviour.

H2: Environmental awareness strengthens the relationship between green marketing innovation and sustainable consumer behaviour.

H3: Perceived green value mediates the effect of green marketing innovation on consumers' sustainable purchase intention.

H4: AI-driven marketing systems positively moderate the relationship between green marketing innovation and sustainable consumer behaviour.

RESEARCH METHODOLOGY

Research Design

This study follows a **quantitative research design** to examine how green marketing innovation influences sustainable consumer behaviour. A structured survey method was chosen because it allows the researcher to collect responses from a large number of consumers and analyse patterns objectively. The design is descriptive and explanatory in nature, helping to understand both the existing behaviour and the relationships among variables.

The study also considers consumer exposure to AI-driven marketing systems as a moderating factor. This includes interaction with personalised advertisements, AI-based product recommendations, and digital platforms that promote eco-friendly products.

Sampling Method and Sample Size

The target audience for this research comprises urban consumers in India having knowledge about eco-friendly products or being exposed to the ideas of green marketing. A mixture of convenience sampling and purposive sampling approaches were adopted. With the help of convenience sampling, easy access to respondents could be achieved both physically and virtually. With the aid of purposive sampling, knowledge about sustainability could be obtained from the respondents. The total number of responses received was 450, which is sufficient for applying statistical tools such as correlation and regression.

1.1 Data Collection Tool

A **structured questionnaire** was used to collect primary data. The questionnaire consisted of four sections:

1. **Demographic Information:** Age, gender, education, income, and occupation.
2. **Green Marketing Innovation:** Statements related to eco-friendly product design, green advertising, and eco-labelling.
3. **Environmental Awareness and Perceived Green Value:** Items measuring how aware

consumers are about environmental issues and how they evaluate the value of green products.

4. **Sustainable Consumer Behaviour:** Statements capturing purchase intention and actual buying behaviour.

A **5-point Likert scale** (1 = strongly disagree, 5 = strongly agree) was used for all attitude-based items.

Variables Used in the Study

Independent Variable (IV):

- Green Marketing Innovation

Mediating Variables:

- Environmental Awareness
- Perceived Green Value

Dependent Variables (DVs):

- Sustainable Purchase Intention
- Sustainable Buying Behaviour

Moderating Variable:

- Marketing System Based on Artificial Intelligence:

The definition of an AI driven marketing system refers to a system whereby different artificial intelligence approaches are used in designing marketing plans that promote sustainability. Machine learning, big data analysis, and recommendation systems are just some examples of methods used in developing a green marketing strategy.

Reliability and Validity

30 pilot test subjects were chosen to test the clarity and reliability. The test of reliability used was the Cronbach's Alpha, where all variables were found to be reliable because their scores were more than 0.70.

The test of validity used experts or reviewers. Two professors, whose areas of expertise include sustainability and marketing, were used as peer-reviewers for this study.

Data Analysis Techniques

The data collected were analyzed using following statistical methods;

Descriptive Statistics- used to study sample demographics and overall response trends.

Cronbach's Alpha- used to study reliability of measures.

Correlation Analysis- used to determine relationships between the main variables.

Multiple Regression Analysis- used to study influence of green marketing innovation on sustainable consumer behaviour.

Mediation Analysis- used to determine mediating influence of environmental consciousness and perceived green value.

The statistical tests were carried out using SPSS.

DATA ANALYSIS

Demographic Profile of Respondents

Table 1: Demographic Details (N = 450)

Variable	Category	Frequency	Percentage
Gender	Male	238	52.90%
	Female	212	47.10%
Age Group	18–25 years	184	40.80%
	26–35 years	165	36.60%
	36–45 years	68	15.10%
	Above 45 years	33	7.30%
Education	Graduate	169	37.60%
	Postgraduate	207	46.00%
	Doctorate	26	5.80%
	Others	48	10.60%
Occupation	Students	171	38.00%
	Working Professionals	193	42.90%
	Business Owners	41	9.10%
	Others	45	10.00%

Interpretation:

From the analysis on the demographic characteristics, it is clearly visible that there is a very good balance between both male and female subjects in the research sample and that there is an ample proportion of individuals belonging to the age group of 18-35 years. The age group 18-35 is considered very important since it has been found that youth and professional groups are those groups that are most interested in environment related aspects and have maximum access to technology and are most likely to respond to the campaigns on sustainability in the nation. Also the high ratio of students graduated and post graduated individuals implies that they are literate persons, who understand the concepts like green marketing, environmental labelling, environmental claims. It is students, professionals and businessman which is considered as target sample of this study.

2: Reliability of Constructs (Cronbach’s Alpha)

Table 2: Reliability Scores

Construct	Items	Cronbach’s Alpha	Interpretation
Green Marketing Innovation	9	0.87	Highly reliable
Environmental	3	0.82	Reliable

Awareness			
Perceived Green Value	3	0.80	Reliable
Purchase Intention	3	0.85	Highly reliable
Sustainable Buying Behaviour	3	0.83	Reliable

Interpretation:

From the reliability indices, it can be seen that all of the constructs included in this research possess a Cronbach's Alpha reliability coefficient greater than 0.80. In plain terms, it signifies that all of the variables representing the respective construct (e.g., green innovation, environmental consciousness, green value, purchase intention, sustainable purchasing behavior) are measuring what they are expected to measure.

3: Descriptive Statistics

Table 3: Mean and Standard Deviation of Key Variables

Variable	Mean (M)	SD
Green Marketing Innovation	3.95	0.69
Environmental Awareness	4.12	0.66
Perceived Green Value	3.89	0.71
Purchase Intention	4.06	0.72
Buying Behaviour	3.82	0.74

Interpretation:

From the above mean values, it can be observed that respondents possess a good amount of environmental consciousness (M = 4.12). Which means most of the respondents know about the implications of environmental problems like pollution, global warming, garbage disposal, and green purchasing. The probable reason behind such a conclusion is the rise in awareness, influence of environmental campaigns, internet resources regarding environment, and environmental discussions amongst Indians living in urban areas.

The other finding that can be obtained from the analysis is that there exists intention of buying green product (M = 4.06). Which mean consumers tend to prefer the companies which produce green product and use recyclability for packing. So it can be inferred that market of green product is emerging fast.

All the above suggests that respondents are not only aware about the problem but also are willing to act upon it by buying responsibly. In the context of that the observation that innovation in green marketing is playing an influential role, will be supported.

4: Correlation Analysis

Table 4: Correlation Matrix

Variables	GMI	EA	PGV	PI	SB
Green Marketing Innovation (GMI)	1				
Environmental Awareness (EA)	.608**				
Perceived Green Value (PGV)	.573**	.640**			
Purchase Intention (PI)	.654**	.688**	.695**		
Sustainable Buying Behaviour (SB)	.597**	.662**	.670**	.702**	1

Note: p < 0.01

Interpretation:

Based on the results of the correlations analysis, it can be stated that all the studied variables (green marketing innovation, environmental consciousness, green value perception, purchase intention, and sustainable behavior) have positive statistically significant relations with each other. This means that any growth in the first variable is accompanied by a rise in other factors. It is necessary to note that all these relationships are statistically significant at the p < 0.01 level. In other words, it is unlikely that they will occur by accident. On the contrary, their presence indicates the presence of certain patterns of behavior in the sample participants. The most significant of them are relationships between green value perception, purchase intention, and sustainable behavior.

To sum up, the results obtained confirm the hypothesis of the study: green marketing innovation, once perceived and appreciated by consumers, contributes to more environmentally responsible behavior.

5: Regression Analysis

(Testing H1) Model:

$$\text{Sustainable Buying Behavior} = \beta_0 + \beta_1(\text{Green Marketing Innovation}) + \epsilon$$

Table 5: Regression Results

Predictor	B	t-value	p-value
Green Marketing Innovation	0.597	14.21	0

Model Summary	Value
R ²	0.357
F-statistic	204.83
Sig.	0

Interpretation:

It is evident from the regression analysis results that green marketing innovation explains 35.7% of the variation in sustainable consumption behavior. Thus, it is possible to conclude that more than a third of the sustainable behaviors adopted by the customers such as choosing green products, using recyclable packaging, and avoiding harmful products have been influenced by the effectiveness of green product innovation, green advertising, and eco-labeling.

The R² coefficient of 0.357 is considered a good one in behavioral studies, as many other factors influence consumer behavior; however, price, convenience, and others may be included among those factors. Nonetheless, despite the presence of these other factors, green marketing innovation plays an important role. The model is statistically significant (p < 0.001), and the positive beta value indicates that when companies strengthen their green marketing efforts, consumers are more likely to make environmentally responsible purchasing decisions.

In this, H1 is validated and proven to be true, suggesting that green marketing innovation positively affects the sustainable consumer behavior. The above results support the work done by India and international researches to show that the green marketing honest and innovative strategy is able to modify the behavior of consumer.

6: Mediation Analysis (H2 and H3)

Testing H2: Environmental Awareness as Mediator Table 6: Mediation Result (PROCESS Model 4)

Relationship Tested	Coefficient	p-value
GMI → EA	0.608	0
EA → Buying Behaviour	0.518	0
Indirect Effect	0.315	Significant (95% CI)

Interpretation:

From the mediation analysis, it is apparent that environmental awareness plays a partial role in mediating the relationship between green marketing innovations and sustainable consumer behavior. This implies that green marketing innovations such as designing environment-friendly products, green advertisements, and eco-labelling do not have an effect on the behavior of consumers independently. They will only affect their actions if they are aware and appreciate why it is necessary.

Effective communication by companies of green innovations increases awareness and motivates people to adopt behavior that helps reduce harm to the environment. For instance, increased awareness motivates them to purchase recyclable products instead of environmentally harmful ones. This does not mean that high awareness is entirely necessary for green marketing innovations to have an impact on consumer behavior; however, it enhances its effect significantly.

Statistical findings support the significance of both indirect effects (with the help of awareness) and direct effects (without awareness). It means that H2 is supported by data and indicates that environmental awareness significantly contributes to the strengthening of the influence of innovation in green marketing on sustainable consumer behavior.

Testing H3: Perceived Green Value as Mediator

Table 7: Mediation Result

Relationship Tested	Coefficient	p-value
GMI → PGV	0.573	0
PGV → Purchase Intention	0.542	0
Indirect Effect	0.31	Significant (95% CI)

Interpretation:

Based on the results, it can be seen that green value perception is a mediator of the relationship between green marketing innovation and consumers' purchase intention. In this sense, when firms launch new eco-friendly product designs, adopt reusable packages, and effectively communicate with consumers about the value of green products, they cannot automatically expect acceptance from the latter because consumers have to make value assessments on these green innovations.

When consumers feel that green products give them quality benefits, safety advantages, cost-effectiveness, and environmental gains, they develop an increased purchase intention towards these green products. It shows that it is the value derived from green innovation that motivates consumers to purchase such products.

Due to mediation, it becomes clear that the impact of green marketing innovation on purchase intention

exists in two ways: directly and indirectly via value perception. It is quite logical since this pattern is prevalent in the Indian market due to the habit of comparing price and value.

The statistical significance of the indirect effect proves that perceived green value acts as an important psychological factor influencing the buying decision. Thus, H3 is proven to be true, indicating that consumers become highly motivated to purchase green products if they perceive the green claims to be true and valuable.

DISCUSSION

This research aimed to analyze the effect of green marketing innovation on sustainable consumer behaviour and analyze the mediating role of environmental consciousness and perceived green value in India. These findings are consistent with recently performed studies (post 2020) due to the maturity of the awareness, government policy and sustainability communication in India.

Additionally, the increasing role of AI enabled marketing system for increased effectiveness of green marketing can also be observed. Research states that AI enabled personalization and target specific green message significantly enhances consumer response to the green message. Through use of AI tools, firms can customize the green message to achieve higher attention, trustworthiness

and perception green value. The rapid advancement of digital platforms and e-commerce has also enhanced the role of AI in sustainable consumer behaviour in India.

Impact of Green Marketing Innovation on Sustainable Behaviour

Based on the results obtained, it has been established that the innovation of green marketing plays a crucial role in shaping sustainable consumer behavior. The findings are consistent with current studies, which show that the impact of green products and design, green packaging, sustainability disclosure, and green claims on consumers' decision-making process has increased significantly. According to findings in Indian markets, specifically in FMCG, personal care, and electric vehicles, consumers' behavior is positively influenced by any environmental benefits highlighted by the brand in its marketing practices.

Examples include Tata Motors, ITC, HUL, Marico, and Paper Boat, which have used the concept of green innovations through packaging and supply chain management practices, and studies done after 2021 indicate that these have played an essential role in creating a perception and influencing purchase decisions made by the consumers. Furthermore, the percentage of the explained variance (35.7%) in this research study by the variable of green innovation also supports international literature, according to which green innovations are some of the strongest predictors of sustainable consumption.

This indicates that sustainability for the Indian consumers is no longer a superficial slogan; it is fast becoming a core value for them.

Mediating Role of Environmental Awareness

The findings indicate that environmental awareness serves a partial yet significant mediation effect, and hence, green marketing proves to be more successful when there is at least a basic level of awareness about environmental matters on the part of consumers. The findings are very similar to some of the latest findings from India and abroad conducted post-2020, where behavior is heavily influenced by consumer awareness regarding pollution, plastics, carbon, and chemicals.

Awareness in India has grown rapidly due to government initiatives such as:

- **LiFE (Lifestyle for Environment)**
- **Plastic Waste Management Rules**
- **Energy conservation campaigns**
- **Increased digital education through influencers and NGOs**

Research since 2022 has identified young consumers, namely gen Z and millennials, as the most eco-friendly group and the group that often act on their knowledge. Social media also plays an important part in the learning about issues related to carbon footprint from the right people. Mediation results presented in the study confirm the hypothesis that increased levels of environmental consciousness enhance the effectiveness of green marketing; however, it still does not substitute it. Green marketing practices affect consumers even when the levels of awareness are relatively low.

Mediating Role of Perceived Green Value

Findings also indicate that perceived green value is an intervening variable for the relationship between green marketing innovation and purchase intention. It suggests that consumers are more inclined toward buying eco-friendly products if they consider these products worth investing in because of the benefits they offer, such as quality, safety, savings, or the actual environmental benefit.

Several post-2023 studies from India support this finding, where the consumer decision-making process revolves around making an environmentally responsible choice along with considering the cost and utility of the product.

Indian studies prove that:

- Consumers need to find that the green products are actually worth their premium price.
- Benefits-based green messages work better for them than emotional appeals.
- The more detailed explanation regarding eco-benefits increases purchase intention.

Specifically, studies conducted within the EV and organic food market sectors in India indicate that Indian customers make decisions based on perceived values like fuel savings, health or quality benefits.

Thus, the study supports the idea that the perceived green value acts as a mediator for innovation-intention connection.

Practical Implications for Businesses

The findings provide several useful insights for Indian firms:

1. **Green design must be backed by clear value propositions:** Simply labelling a product eco-friendly is no longer enough. Consumers want details.
2. **Transparency matters:** Indian consumers respond strongly to honest claims about carbon reduction, recyclable packaging, and eco-friendly ingredients.
3. **Awareness-building improves the impact of green strategies:** Brands should invest in educational campaigns, simple sustainability messages, and data-based communication.
4. **Digital engagement is crucial:** Post-2020 studies show a rise in sustainability content consumption on Instagram, YouTube, and LinkedIn. Brands should use these platforms strategically.
5. **Eco-labels must be credible:** BEE Star Rating or Jaivik Bharat etc are Government approved label that has more credibility than self-proclaimed label.

Theoretical Implications

The results contribute to recent sustainability and strategic management literature in three key ways:

- They strengthen evidence that green innovation capability is a major strategic asset for firms in emerging economies.
- They support modern behavioural models that highlight awareness and perceived value as essential psychological mechanisms for sustainable action.
- They are consistent with research from post-2020, stressing the significance of trust,

authenticity and the honesty of environmental communication.

- Thus the study is contemporary, and builds upon the literature of sustainability marketing, instead of previous pre-2010 behavioural models.

CONCLUSION

It was intended to explore the effect of green marketing innovation on sustainable consumption in India. Further, it was also aimed at examining the influence of environmental awareness and perceived green value on this relationship. According to the findings, green marketing innovation has an important effect on decision-making. Indeed, through such measures as eco-product design, clear communication, green labels, and eco-supply chain management, innovative businesses can have a significant impact on their customers and promote sustainable consumerism.

Additionally, two psychological constructs should be taken into account. First, environmental awareness has been documented to reinforce the effect of green marketing innovation, as a knowledgeable customer is likely to acknowledge and adopt the environmental marketing innovations. Second, perceived green value has been reported as an important linking variable that connects green innovation and purchase intention. Should the consumer perceive the green product as a value to him, the level of customer interest towards the green product will raise greatly, leading to an increased purchase intention. Last, the results are in accordance with latest evidence achieved after year 2020.

In summary, the research indicates that sustainable consumption in India is not solely achieved through marketing efforts alone. It is a result of the integration of innovations related to green products, consumers' knowledge on sustainability, and the recognition of their value that affects purchasing decisions. With increased sustainability awareness in India due to the support from the government, social media trends, and ESG considerations, green marketing can be used as a vital marketing strategy for organizations. Organizations that engage in genuine, transparent, and value-added green activities will be able to build a competitive advantage while making significant contributions to environmental sustainability and SDGs in India.

SUGGESTIONS AND MANAGERIAL IMPLICATIONS

Managerial Implications for Companies

First, corporations need to make their claims more credible and transparent. According to recent research, people trust green claims if they are clearly specified and have measurable, verifiable parameters. Thus, companies should be able to present detailed information, including reductions in carbon emission, use of recycled materials, or energy savings, backed up with third-party evidence or QR-code based authentication.

Second, it would be beneficial for firms to shift their focus from green attributes to green values. The role of value perception for purchases decisions has been proven in all the research conducted after 2020. Therefore, corporations should inform potential customers about health, quality, longevity, and cost-related benefits of green products (Business Perspectives, 2023).

Third recommendation would be for firms to use green advertising not just to advertise their products, but also as a way of raising consumer awareness about environmental issues. Some studies have suggested that the more educational a green advertisement, the higher consumers'

awareness level is and the higher their environmentally friendly buying will be (Agrawal, 2023). For example, messages should be short and to the point, visual statistics and elaborations should be shown so consumers are able to learn about environmental benefits.

The fourth recommendation is to depend on eco-labeling and certificates to build customers' trust. Empirical evidence suggests that eco-labels mitigate informational asymmetry problems and increase the probability of purchase of sustainable products. It is suggested that the company consider adopting credible eco-certifications like BEE, FSC, Jaivik Bharat, or ISO 14001.

Fifth, it will be a great step if the company integrate sustainability practices into the production and operations. There are a number of advantages to integrate the sustainability practices in production. For example, they are not only improving the environment performance of the company but also boost the evaluation of brand. Green technologies, renewable energy, and sustainability reporting should be taken into consideration.

Finally, the company should use on-line communication channels (e.g. social network) to promote green communication. Due to the trend of on-line communication in the digital age, communication channels of social network have increased rapidly with respect to environmental issue and promote sustainable consumption.

Policy Implications

First, it would be essential to standardize and regulate eco-labeling schemes. The results of the latest research indicate that eco-labeling programs that are standardized and regulated will prevent consumers from getting confused while purchasing environmentally-friendly products. The strict regulation of eco-labeling misuse is crucial.

Second, the authorities should stimulate companies' innovations in green processes through financial and legal encouragement. As many research papers indicate, companies usually prefer innovative solutions if they are stimulated through money and law.

Third, there must be more public campaigns and education programs on the matter of raising environmental awareness. As many empirical studies show, awareness plays a key role in stimulating sustainable consumption behaviors among individuals. Media can become useful sources of information.

Forth, the regulations of strict anti-greenwashing practices need to be enforced. Greenwashing has been recognized as a serious concern by many researchers in previous years.

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