

Numerical Simulation and Design of Improved Optimized Green Advertising Framework for Sustainability through Eco-Centric Computation

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Abstract: The umbrella concept of sustainability encompasses multi-dimensional philosophies like monetary, eco-centric and resource-oriented philosophies. Keeping in view the alarming eco-concerns across the globe, the eco-centric philosophy of sustainability has taken a centre-stage for both marketers and consumers. Green Advertising as a competitive weapon of marketers reverberates closely with sustainable consumption of goods in consonance with remarkable stewardship towards the ecological environment. This conceptual paper with a novel environment-oriented approach to sustainability attempts to qualitatively justify the nexus between Green Advertising & Sustainability by suggesting a construct post-application of grounded theory embedded conceptual framework analysis. The exploratory research design bases itself on secondary data sources entailing journals from management as well environmental sciences. The interdisciplinary approach of the paper makes it valuable for policy drafters of Sustainability Development Goals (SDGs), environmental strategists, social advocates of Green Advertising and opinion leaders who are willing to transcribe all anthropogenic interventions in the direction of eco-centrism.

Keywords: *Eco-centrism, Eco-concerns, Green Advertising, Sustainability.*

1. Research Objective

To qualitatively establish a nexus between Sustainability and Green Advertising by catapulting eco-centric approaches and subsequently devise a conceptual construct for the same.

2. Introduction

Marketing although considered as a commercial function is always burdened by plethora of expectations from the society. As the society is witnessing progression with respect to industrialization & corporate up-scaling, the detrimental impact it is leaving on the ecological environment in the form of carbon footprints cannot be overlooked. Also, the depleting natural resources are calling for a sustainable form of consumption so that future generations do not become deprived of the

resources we are over-consuming today. In this light, sustainable marketing in the garb of Green Advertising has emerged as a saviour and is attempting to establish the quintessential ecological equilibrium. Green Advertising is being highlighted as the harbinger of sustainability as it fabricates compelling environmental messages that responsible consumers cannot ignore. The level of consumer engagement that can be achieved via sustainability oriented Green Advertising creates a sense of corporate environmental citizenship. Also, the eco-centric approaches of sustainable marketing when routed through Green Advertising gain popularity, credibility and better consumer acceptance. This paper is a candid attempt to establish a vital nexus between Green Advertising & sustainability by following the tenets of eco-centrism as a management philosophy. Since sustainability is a broad umbrella institution comprising myriad of resource-oriented, monetary-based & eco-centric philosophies; it was imperative to extrapolate eco-centrism through Green Advertising by connecting the dots/links. This conceptual paper has neatly attempted to perform this extrapolation by effective nexus building between the two concepts of sustainability & Green Advertising for deriving benefits that all stakeholders can strategically cherish.

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3. Literature Review

3.1 Overview of Sustainable Marketing

The publication of *Silent Spring* by Rachel Carson (1962), the classic article "The Tragedy of the Commons" by Garret Hardin published in 1968, and the inaugural Earth Day observance on April 22, 1970, heightened awareness of environmental issues and the effects that humans, both intentionally and unintentional, have on the ecosystem. This increased awareness in the late 1960s and early 1970s was greatly influenced by all three of these occurrences (Patrick E. Murphy 2005). These outside influences also affected the marketing industry. Given that marketing is a commercial function that is largely focused on the external world, it is not surprising that it would react to environmental issues (Murphy, P. E. 2005). Since environmental problems are mainly caused by manufacturing units, the concept of sustainability was introduced to define the future direction and course of actions expected of business firms and the government (Meler & Magaš, 2014). Unsustainable production-consumption behaviour has been promoted by market-driven business firms and consumption-oriented activities, whether consciously or unconsciously (G. Tomas M. Hult 2018). Governments around the globe have committed to sustainability by establishing objectives, laws, policies and regulations to influence social and economic actions that have an impact on our surroundings the society (Dernbach and Mintz 2011). As stated by Hardison in the year 2010, there are three pillars that support sustainable marketing:

1. Waste reduction-induced sustainable marketing: Sustainable marketing promotes waste reduction by using fewer materials for packaging, promotion and advertising. The recycling of carry-on containers and the creation of more environmentally friendly packaging and advertising solutions.
2. Customer engagement: Sustainable marketing also encourages partnering with customers instead of utilizing social networking platforms. Businesses may rely on lead users to sell to them and highly involved customers for cross-promotion and sharing information.
3. Strategic marketing: Promoting long-term planning to safeguard the environment is an efficient method to use sustainable marketing. Effectively reduce the impact of demand variations on advertising and marketing advertising prices.

Sustainable marketing is more than just making efforts to appear more socially and ecologically concerned and

telling customers about it. It has more depth and significance. In addition to standard marketing techniques, sustainable marketing calls for the following:

1. Understanding the values, feelings and purchasing habits of consumers about sustainability
2. Understanding the changing sustainability market
3. Organisational dedication to sustainability and healthy connections with its clients, communities, and the environment (Marek Seretny & Aleksandra Serenty, 2012).

3.2 Nexus creation between Green Advertising and Sustainability

Consumer's willingness to buy environmentally friendly products has frequently been attributed to their self-identified level of enthusiasm for the environment (Leonidou et al., 2011). Green Advertising assists in disseminating the most important characteristics and information regarding products that are environmentally safe in one way or another in order to put a positive spin on the impact of the product that is favourable to the consumer's intentions to make purchases. It is imperative for businesses to transition to environmentally friendly advertising strategies so that they can more easily attract their ideal customers and keep a healthy, long-term relationship with them (Komal Ahuja, 2015). As stated by Laroche et al. in the year 1996, people's knowledge about ecology that provides a compass point for marketers to follow while promoting their products is known as Eco literacy.

There are three components that make up Green Advertising for companies which are narrated as follows:

1. Green Advertising begins with a statement expressing the company's concern for the surrounding natural environment.
2. Green Advertising provides an explanation of the process in order to convey its care and commitment to the improvement of the environment.
3. Green Advertising highlights specific eco-friendly accomplishments that the company has been a part of it (Davis, 1994).

Ottman (1998) proposed several Green Advertising strategies to close the information gap on environmental issues. As a result, green businesses should:

- a) Inform consumers about the environmental issues that a green product addresses.

- b) Provide solutions to consumers by demonstrating how environmentally friendly products can be purchased and services can assist consumers in protecting their health and preserving the environment for future generations.
- c) Provide green-based product performance assurance, as many consumers believe they are inferior to standard products
- d) Consider a suitable media mix. Environmental consumers, for example, are more receptive to messages. Examples: direct marketing, community programmes, public relations, packaging, etc.
- e) Appeal to consumer self-interest by emphasising the benefits of green products to both actual and potential customers.

Modifying one's consumption habits and making better use of resources are central. It also entails balancing the needs of present generations with those of future ones and distributing wealth equitably (McCann-Erickson, 2007). Many people consider businesses to be important actors on the societal stage, a path leading to environmental sustainability. It requires the actual implementation of operations extending far beyond the scope of the mission statement. It is essential to come up with practical solutions to ways that businesses are approaching sustainable development on the inside themselves, in addition to matters concerning their supply chains (Koplin, 2007). Because the firm's technological distinctiveness competencies and other capabilities are the sources of its sustainable competitive advantage, a manager's primary focus should be on the organization's capacity for learning and innovation in order to ensure that the company is able to take advantage of these competencies and capabilities in order to improve its overall performance (Bolivar Ramos et al., 2012). The emphasis is placed on the early adoption of environmentally friendly initiatives, which results in a competitive advantage and can contribute to the performance of the company (Zhu and Sarkis, 2004). In the process of creating and preserving an ecologically sound environment. The dissemination of environmental messaging to consumers and the creation of an awareness among consumers to use environmentally friendly items rather than non-environmentally friendly ones are both vitally important roles that green advertising plays (M.K Mahato & S. Seth, 2022).

3.3 Green Advertising as a Promoter of Sustainability

Engagement of Consumers in Environmental Sustainability via Green advertising

Engagement is crucial in determining how effective Green Advertising is since it has been found that when customers are more engaged with sustainable concerns, commercials are viewed as more credible and trustworthy (Tucker et al., 2012). Companies are also finding this to be true in terms of the efficiency of their environmentally friendly ads. Therefore, consumers' intentions to engage in environmentally beneficial behaviours are significantly impacted by a company's level of environmental commitment (Thieme et al., 2015). Not only that, but it has been discovered that environmental marketing is one of the primary instruments in fostering a desire for greener consumption among customers (Chekima et al., 2015). As stated by Tucker et al., in the year 2012, consumers who are concerned about the environment have better responsiveness to commercials with an environmental theme. This is true independent of the percentage of environmentally friendly products that are included in the campaign. Green advertising includes both general and specific promises in addition to information on the product's sustainability, rating and life cycle. Consumers are intrigued by the ecological assistance they can provide as consumers by the sustainability information and eco-claims. This would encourage him to become aware of the ecological environment (S. Seth & M.K Mahato, 2022).

The Influence of Environmental Messages on Brand Loyalty

Previous studies have investigated whether commercials have an effect on the degree of brand loyalty displayed by customers of this age bracket, specifically young people (Shukla, 2009). In spite of these findings, another investigation discovered enhancements and new features to the existing product packaging and product attributes to be significant determinants of consumer brand loyalty. However, it is not possible to draw the conclusion that green promotional messages had no effect on brand loyalty because this study was conducted utilising commercials in general rather than especially green advertisements. Newer studies, however, show that customers' opinions, choices, and intentions to buy are all influenced by Green Advertising and how well it resonates with their own values and beliefs (Chekima et al., 2015).

3.4 Eco-Centric Approaches of Sustainable Marketing

Responsible and proactive business strategies that influence the market in favor of sustainable goods and services are essential for sustainable marketing. Although the road to sustainable development might seem long and tough, businesses can successfully create a plan for using sustainable marketing via 3 distinct actions:

1. Rethinking goods and services & subsequently encouraging consumption in a rational way
2. Rethinking marketing mix and
3. Restructuring the marketing activity (Sheth and Parvatiyar, 2021).

Organizations like 3M that have produced a trinity of progress, sustainability and invention have been successful in bringing a number of ground-breaking sustainable products to market placing them continuously as sustainable leaders (Winston, 2012). Consumer awareness of ecological problems does not usually result in purchasing decisions. Eco-conscious consumers are frequently illusive; although people desire sustainable items, they prefer not to purchase them (White, Hardisty, and Habib, 2019). Market researchers and consumer analysts should first determine the available consumption alternatives, customer selection criteria, their relative weights and the information sources that influence these metrics (Kotler, 2011). Research on customer attitudes will aid in creating effective communication strategies for sustainability marketing (Kilbourne, McDonagh, and Prothero, 1997). Only then will marketers be able to take action and influence customer decision-making parameters in a way that promotes eco-centric consumption (Geiger, Fischer, and Schrader, 2018). Social influence can be used for encouraging ecologically responsible customer behaviors. Consumers are frequently affected by other people's presence, actions, and expectations. In terms of changing consumer behavior in a sustainable way, social variables rank among the most important ones (Abrahamse and Steg, 2013). Reducing superfluous packaging can be used as an eco-centric approach to sustainable marketing as:

- (a) For a variety of reasons, packaging has turned into an environmental concern for marketing.
- (b) Packaging makes up a sizable portion of household waste, which contributes significantly to landfill waste.
- (c) Packaging that has been discarded is clearly litter.
- (d) Initiatives to decrease packaging can lower a product's environmental effect while simultaneously saving businesses money.

Retailers can also help reduce packaging waste by urging vendors to use less packaging or by providing consumers with "shopping bags for life" to use fewer plastic bags (P.B Singh and Kamal K. Pandey, 2012). Commitment to sustainable marketing should be translated into strategy and action plans. Many internal corporate procedures and systems may need to be reorganised, restructured and

redesigned in order to improve the company's dynamic capacities for sustainable practices (Teece, 2007). For instance, a few of these modifications might be (a) design and promote environmentally friendly manufacturing and consumption ideal to all the stakeholders by appointing a sustainability leadership head to manage the firm's sustainability programme (Stoughton and Ludema, 2012) (b) Build simple action teams, similar to Kaizen, that result in significant changes by utilising corporate sustainability to promote economic and social value (Bhattacharya, 2020) and (c) Make middle management a part of a learning organisation that constantly re-examines and relearns the principles of every element of business (Hurley and Hult, 1998). In order to sell green products and act responsibly toward the environment, distribution is a crucial issue. To locate areas where your logistics operations could have the least adverse effect on the environment, carefully examine the physical distribution of your items. This could involve storing more localized inventory or using eco-efficient transportation for delivery to cut down on the distance travelled (P.B.Singh and Kamal K.Pandey, 2012). To achieve sustainability goals, collaborations between the government, business, and civil society are crucial. The foundation of sustainable development is collaborations and interdependence, and cross-sectoral partnership networks have the capacity to reconcile transnational standards and local action by enlisting a variety of actors from the public sphere, the legislature, and business (Backstrand, 2006).

4. Research Methodology

- Research Design: Exploratory
- Research Method: Qualitative
- Paper Category: Conceptual
- Research tool: Application of the Conceptual framework analysis embedded in grounded theory (By categorising the screened literature into four fundamental frames based on points of parity/commonality)
- Data mining approach: Methodical investigation taking into account relevant search terms.
- Approach for research outcome deduction: Inductive

5. Findings

Based on the vast literature review carried by the researcher and the technique of applied qualitative research methodology, the following deductions may be drawn:

- Green Advertising contributes to the development of a sense of personal responsibility among individuals with regard to the ecological environment.

- Green Advertising raises people's consciousness about issues pertaining to the natural world and instructs customers on how to make environmentally responsible use of the advertised product.
- If the right message is crafted and communicated by the advertiser, the purchasing decision may be swayed in the direction of environmentally friendly products.

- Green Advertising serves as a practical guide that illustrates the significance of preserving the environment and rehabilitating its natural habitat.

Subject to the qualitative treatment of literature as specified in the research methodology, the following construct (Fig.1) has been proposed:

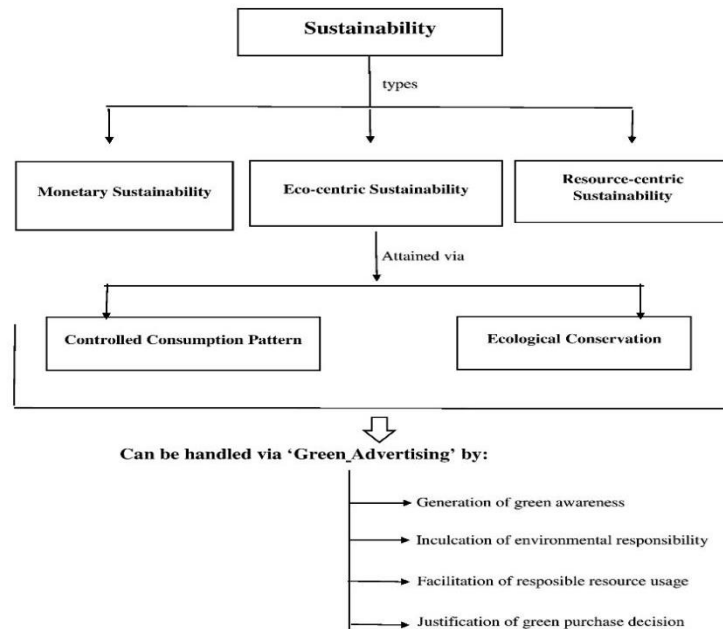


Fig. 1: Construct representing the nexus between Sustainability and Green Advertising by extrapolating eco-centric approaches.

[Source: Authors conceptualization]

6. Conclusion

Green Advertising promotes the idea that companies should demonstrate that they care for the well-being of their customers and the planet at the same time. Even though this latter worry has been disregarded for the vast majority of human history, that doesn't mean it won't matter in the not-too-distant future. There are strong indicators that environmental issues will become increasingly important in the coming years, necessitating creative and innovative design and redesign of many company's current marketing strategies. Protecting the environment for future generations can be aided by green advertising. The importance of protecting the environment, a new market, the green market, has emerged, positively affecting environmental safety. Businesses that want to make it in today's market must adopt eco-friendly policies across the board. Consumers are eager to associate themselves with environmentally responsible businesses and are prepared to pay more for a greener way of life. Therefore, Green Advertising is both a marketing strategy and a tool for protecting the environment.

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