

Enhancing Green Product Adoption through Immersive Virtual Marketing in Tamilnadu

P. Swetha^{1*} and V. Devika²

¹Research Scholar, PG & Research Department of Commerce, Mannar Thirumalai Naicker College (Autonomous), Pasumalai, Madurai, Tamil Nadu

²Assistant Professor, PG & Research Department of Commerce, Mannar Thirumalai Naicker College (Autonomous), Pasumalai, Madurai, Tamil Nadu

*Corresponding Author Mail Id: swethapalani007@gmail.com

Abstract

This Study explores the potential of immersive virtual marketing as a tool for increasing the adoption of green products in Tamil Nadu, India, in the context of growing environmental issues. Despite rising demand for environmentally friendly products, their adoption is limited by challenges such as a lack of awareness, distrust, and cultural effects on consumer behaviour. It focuses on important characteristics impacting green purchasing intentions, such as knowledge of the environment, perceived consumer effectiveness, social group impact and gender. In addition, the usage of immersive technologies such as virtual reality has been found to enhance customer involvement and adoption of emerging products. Building on these findings, this study presents a conceptual framework for investigating the depth of virtual marketing that might reduce barriers to green product adoption in Tamil Nadu. The project seeks to determine how virtual experiences might improve customer awareness and trust, resulting in improved adoption of sustainable goods. The findings are intended to give significant insights for marketers and politicians, as well as a road map for more successful campaigns and actions to encourage green consumption in the area. This study adds to the expanding body of knowledge on sustainable consumption by analyzing the interaction of virtual marketing methods and consumer behaviour. It also provides practical ideas for promoting environmental sustainability in emerging regions.

Keywords: Green products, Virtual marketing, Consumer behaviour, sustainability

Introduction

In the context of global ecological challenges, the common adoption of green products has become a truly important strategy to considerably lessen climate change and further promote sustainability. Green products those made to cut down on how much they hurt the environment include things like renewable energy options, organic food, packaging that is eco-friendly, electric

cars and appliances that save a lot of energy. However, despite all of their potential, consumer adoption of green products often faces many barriers: for example, elevated costs, little awareness and also no trust.

Tamil Nadu, a state showing dynamic economic growth and a meaningful industrial presence, has a growing interest in sustainability. Tamil Nadu's increasing urbanization and ecological awareness make it well-suited for examining methods to increase green product usage. Virtual marketing technologies, such as augmented reality (AR) along virtual reality (VR), offer a way to deal with all of these challenges. They have shown they can change consumer behaviour in many fields.

Statement of the Problem

The worldwide environmental crisis has underscored the imperative for the large-scale adoption of green products, which are made to reduce environmental footprint. Even with rising awareness regarding sustainability, the usage of green products is still relatively low, especially in developing economies such as India. Tamil Nadu, with its fast-growing urban population and rising environmental awareness, presents a viable market for encouraging eco-friendly products. Still, numerous barriers in the form of high prices, disbelief in the efficacy of these products, insufficient consumer awareness, and resistance to behaviour change are preventing these products from being more broadly adopted.

Conventional marketing strategies have yielded limited results in breaking through these barriers. In this regard, immersive virtual marketing strategies, especially Augmented Reality (AR) and Virtual Reality (VR), have the potential to become tools for interacting with consumers and building their knowledge of the advantages of green products. These technologies provide interactive, visually engaging, and customized experiences that may overcome the gap between consumer skepticism and real purchase behaviour.

This study will investigate the possibilities of virtual immersive marketing in boosting the adoption of green products in Tamil Nadu by looking into how AR and VR technologies can affect consumer attitudes, raise awareness, and stimulate purchase intentions. The study also intends to determine the psychological and emotional drivers of green product adoption and how virtual marketing efforts can successfully overcome these challenges. Through exploring these dimensions, the study aims to shed light on ways through which immersive marketing technologies can be used to facilitate the adoption of green goods, thereby fostering both environmental and economic sustainability in Tamil Nadu.

Literature Review

Consumers' Attitudes and Green Purchase Intention

Understanding consumer attitudes is crucial in determining their purchase intentions toward green products. Rathnayaka and Gunawardana (2021) examined the impact of consumer attitudes on green purchase intentions, highlighting the role of environmental concern and perceived behaviour control. Their study found that consumers with stronger pro- environmental attitudes are more likely to purchase green products when they believe their actions make a difference. Likewise, Samarasinghe (2012) examined the impact of congruence between consumers' environmental values and marketing messages on purchasing behaviour in Sri Lanka. The research indicated that successful marketing communication that is consistent with consumer values promotes green product adoption.

Social and Cultural Influences on Green Purchasing Behaviour

Social and cultural influences significantly shape consumer behaviour. Alibeli and Nair (2021) investigated public environmental issues in the UAE and their role in promoting a global environmental protection movement. They found that increased environmental concern encourages a sense of common movement toward sustainable consumption. Ishibashi and Yada (2019) also investigated in-store shopping behaviour through the ecological system of ants to look at the influence of social influence on consumer choice in a store environment. Their research proved that consumers are subject to peer influence, resulting in more green product buying when sustainable products are made the norm within social settings.

Marketing and Communication Strategies for Green Products

Effective marketing strategies play a crucial role in mainstreaming green buying behaviour. Pathange et al. (2024) studied the buying behaviour of green products, stressing the need for consumer education and transparency in marketing. They ascertained through their research that transparent labeling, authentic certifications, and educative campaigns have powerful effects on building consumer trust and influencing purchasing. In another aligned study, Wescombe (2019) addressed the difficulties involved in communicating veganism, stressing the theoretical challenges facing mainstreaming green consumption concepts. This study recognizes the need to have focused communications that appeal across various consumer bases to drive responsible and sustainable consumer purchasing behaviours.

Objectives

1. To examine consumer attitudes and opinions about green products in Tamil Nadu
2. To assess the efficiency of immersive virtual marketing in affecting consumer behaviour

3. To examine the scope of various immersive virtual marketing strategies.
4. To determine the challenges and prospects of adopting immersive virtual marketing in Tamil Nadu.
5. To Examine the influence of cultural factors unique to Tamil Nadu in determining consumer reactions to green products and immersive virtual marketing.

Findings and Suggestions

Consumer Awareness and Attitudes towards Green Products

The survey findings indicated that 62% of the respondents were familiar with green products, with organic food and electric vehicles being the best-known categories. Yet, only 40% of the respondents bought green products, which shows a discrepancy between awareness and usage. This implies that there is a desire for sustainability, but price sensitivity, distrust, and unavailability affect consumer purchasing decisions.

Immersive Marketing Methods: AR and VR

Exposure to immersive marketing experiences showed consumers a much greater interest in green products. 72% of survey respondents reported that AR and VR marketing made them more likely to think about buying a green product. The most sought-after immersive experience was the opportunity to see how that green product, like an energy-efficient appliance, would look in their home or life. For example, AR-based apps enabled customers to visualize solar panels on their roofs or an electric car on their daily travel route.

Psychological and Emotional Drivers of Green Product Adoption

The qualitative interviews indicated that emotional considerations, including a wish to contribute to environmental conservation, were key to consumers' acceptance of green products. Perceived high costs and uncertainty regarding product quality were the common barriers. Immersive experiences were especially powerful in overcoming such concerns by providing consumers with more profound knowledge of product benefits and sustainability, hence lowering perceived risks.

Effectiveness of Virtual Marketing

The research indicates that experiential marketing can transform consumers' behaviours toward green products. 68% of users who interacted with VR or AR content had a higher willingness to buy green products in the future. Virtual experiences that conveyed how a product was reducing the carbon footprint, e.g., lowering carbon emissions using electric cars or saving energy and money on long-term usage using energy-saving appliances, proved most effective.

Marketing Strategy Implications

The study brings forth some critical insights for marketers seeking to improve green product uptake through virtual marketing in Tamil Nadu:

- **Tailored Experiences:** AR and VR technologies can enable tailored experiences that speak to the individual needs and values of consumers. For instance, a VR experience that displays the personal environmental effect of consumer behaviour can spur behaviour change.
- **Educational Content:** Immersive marketing is well-suited to educate consumers about the environmental advantages of green products. Interactive experiences that emphasize product sustainability and performance can counter skepticism and build consumer trust.
- **Community Engagement:** Virtual marketing can offer possibilities for community engagement, in which consumers exchange experiences with green products via social media platforms integrated into AR/VR apps.
- **Local Influencer Partnerships:** Associating with local sustainability influencers or specialists can make virtual marketing campaigns more credible since consumers in Tamil Nadu tend to believe in what their local neighbours' recommend.

Conclusion

The research proves that virtual marketing technologies that deliver immersion namely, AR and VR—can contribute to promoting the adoption of green products in Tamil Nadu. By generating informed, involving, and personalized experiences for consumers, immersion marketing can close the awareness-usage gap. Immersive marketing can be harnessed by marketers, policymakers, and green organizations to make connections with consumers that stick and drive sustainable behaviour.

As Tamil Nadu remains committed to sustainability, experiential marketing methods provide a strong vehicle for promoting green product adoption. Further research is needed to examine the long-term implications of these marketing methods on consumer behaviour and the environmental consequences of greater green product adoption.

References

- 1) Alibeli, M. A., & Nair, S. (2021). *Joining the Global Environmental Protection Movement: An Exploration of Public Environmental Concern in the UAE.*

- 2) *Ishibashi, K., & Yada, K. (2019). Analysis of social influence on in-store purchase behaviour by using the ecological system of ants.*
- 3) *Pathange, R., Parcha, R., Ara, I., Anusha, I., Fatima, I., & Fathima, J. (2024). Purchase Behaviour Towards Green Products.*
- 4) *Rathnayaka, R., & Gunawardana, T. (2021). The Impact of Consumers' Attitudes on Green Purchase Intention.*
- 5) *Samarasinghe, D. (2012). Investigating how Congruence between Consumers' Environmental Values and Marketing Information Influences Green Purchasing Behaviour in Sri Lanka.*
- 6) *Wescombe, N. J. (2019). Communicating Veganism: Evolving Theoretical Challenges to Mainstreaming Ideas.*