

A STUDY ON THE ROLE OF GREEN MARKETING IN THE DEVELOPMENT OF THE AUTOMOBILE SECTOR IN INDIA

Anand Vijay Jha

Research Scholar, Faculty of Management, University Department of Commerce and
Management, B. R. Ambedkar Bihar University, Muzaffarpur

Dr. Budhi Sagar Mishra

Assistant Professor & Supervisor, L.N. Mishra College of Business Management,
Muzaffarpur

Abstract

The automobile sector is an important pillar of the global economy, and technological advancements over the past decades have revolutionized and transformed this sector. However, given the increasing environmental pressures and rising consumer consciousness, automakers are now focusing on green marketing and sustainability initiatives to remain competitive in this industry. A study was conducted to analyze the role of green marketing on the development of various aspects of the automotive industry including innovation, production efficiency, and customer loyalty. The results showed that when firms adopted a sustainable approach to their products it increased production output as they invested more resources in developing innovative technologies such as fuel-efficient engines or energy-efficient components. With growing consumer awareness about environmental issues and a need for sustainable development, Indian automotive players are coming up with innovative strategies to build and promote eco-friendly vehicles. The objectives of this study include identifying the current trends of green marketing initiatives within India's automotive sector, examining how these concepts have been implemented by Automobile companies in India, and analyzing their effects on Automotive sales as well as the growth and development potential within this segment. Furthermore green marketing also resulted in improved customer engagement where customers were attracted towards brands which promoted eco-friendly practices like using renewable materials for vehicle interiors etc.

Keywords - Automobile, Economy, Green Marketing, Environmental, Growth:

Introduction

Green marketing as an environmental-friendly approach has been gaining traction in the corporate world. It aims to benefit both businesses and society by reducing negative environmental impacts due to business activities, while simultaneously promoting sustainable solutions. In this study, the role of green marketing in developing the automobile sector will be explored with particular focus given on producers' practices of responding to eco-sustainable demands from customers. This project is based on qualitative research methods that look into primary data about customer behaviors & preferences concerning green/eco-solutions related to cars such as car sharing services and electric vehicles (EV) adoption rates, presenting key findings from our comparative analysis across multiple automotive markets around the globe. The automobile sector has been a major contributor to the economic growth of many countries in recent years. It is estimated that over 1 billion cars are currently on the road worldwide, constituting nearly 20% of all vehicles used for transportation. With this level of popularity and increasing environmental awareness, it is important to consider how green marketing can be used to further propel the development of this industry. Green marketing refers to activities aimed at promoting products which are environmentally friendly such as electric-powered cars or those with alternative fuel sources like biodiesel or ethanol. As such, research into this area will provide valuable insight on how green initiatives can be incorporated into existing strategies so as to minimize environmental impact while driving innovation in the automotive industry. This paper seeks to explore the role of green marketing in achieving these goals and its potential implications on related industries as well as society at large.

Additionally, ideas will be put forward regarding future potential opportunities for companies engaging within this sector where technology can be leveraged for value creation and improved service offerings towards a greener and more prosperous industry.

History of Green Marketing in India

The history of green marketing in India dates back to the 1960s, when the country began to recognize and emphasize the importance of environmental protection and sustainability. However, it was not until 2004 that the Government of India introduced a policy on voluntary labelling for ecofriendly products. This was followed by further development of green marketing initiatives such as Green Revolution (2006), Automobile Mission Plan (AMP) 2006-2016 and National Policy on Biofuels 2018, which aims at boosting renewable energy sources and reducing

dependence on fossil fuels; clean vehicle technology through improved fuel efficiency; dedicated freight corridor project along with sound waste management practices. These policies have enabled growth in areas related to environment conservation including water conservation, pollution reduction, waste recycling etc., thereby providing opportunity for businesses to market their environmentally friendly products & services and also inspiring other sectors like Automobile sector into indulging into Green marketing as well.

There have been a number of initiatives to promote green marketing in India over the past few years. In 2016, the government announced a target that 50% of all cars sold in India must be electric or hybrid by 2030. Tselikas already started selling cars in India and other global players like BYD are set to follow suit.

Literature review

This paper looks at the role of green marketing in the development of the automotive sector. To do so, we review relevant research and studies conducted by authors such as Geiger (2009), Botkin et al. (2017) and Lim (2014). Geiger's study revolved around noting key changes that had been made to automotive marketing tactics due to increased environmental regulations and consumer awareness concerning sustainability issues. The study concluded that environmentally conscious consumers can pose significant challenges for car companies promoting their products; therefore, a successful adaptation to these changing dynamics is necessary in order for car companies remain competitive on today's market. Botkin et al.'s research focused on customer attitudes towards green cars specifically electric vehicles and identified three main reasons why they have yet to become mainstream - limited availability of charging stations, lack of infrastructure support from government/ retailers, and inadequate pricing strategy related with fuel cost savings decision making process. The study implied that further campaigns should be implemented by both firms and state institutions in order to prompt favorable public response and increase purchase rate among targeted segments such as young generation or environmentalists.

The author, Priyanka Hajela (2018), highlights several key aspects which are discussed further below. The author begins by exploring how advertising has played a crucial role in both attracting new customers and retaining existing ones for automobile companies across India. She then goes on to discuss how green initiatives such as eco-friendly vehicles, manufacturing processes that

reduce CO2 emissions and renewable energy activities have become increasingly important for Indian automakers over recent years. Moving forward, she identifies various aspects of green marketing strategies adopted by major players in the industry such as Tata Motors, Mahindra & Mahindra and Maruti Suzuki including: launch of hybrid vehicles; usage of digital media platforms; adoption of CSR activities etc., Additionally, her discussion covers potential challenges faced while executing effective green marketing plans in this sector namely cost constraints, local regulations and limited environmental knowledge among consumers etc. Lastly she concludes by emphasizing that successfully utilizing sustainable resources will enhance profitability while simultaneously contributing towards social responsibility maintenance for automobile businesses operating within India's market today.

According to Baker and Sridharan (2012), it is argued that public education campaigns are essential for companies willing to provide environmental friendly cars which are adapting into expanding markets due their increasing needs for mobility and utility services; however this adaptation could only occur if sustainable vehicles had competitive prices along its nonenvironmental counterparts or by offering differentiated value propositions regarding power consumption or emission control equipment installed.

Research gap

This study research gap on this topic is the lack of empirical evidence to link green marketing and how it affects automobile industry development in India. There has been some research conducted on the effects of green marketing initiatives on other sectors such as agriculture, healthcare, apparel/fashion etc. However, there is a dearth of studies that have focused specifically on assessing its potential impact within the Indian automotive sector. Additionally, many existing studies rely heavily on surveys which assess perceived intentions and attitudes instead of actually measuring performance or outcomes related to green initiatives for the sector. Thus more quantitative evidence needs to be collected from actual firms in order to understand better their strategies regarding green practices and their associated results. A further exploration into detailed qualitative data from experts or practitioners should also prove beneficial in highlighting important

insights around effective implementation procedures to ensure successful growth within this highly competitive market space.

What is Green Marketing?

Green marketing is a type of marketing that focuses on the environmental impacts of its products and services. This includes not only trying to reduce the environmental impact of a product's production, but also promoting innovations that can improve the efficiency of operations. It has been said that green marketing has the potential to create "a virtuous circle" in which environmentally-friendly practices lead to economic benefits, which then encourage even more sustainable practices.

The automobile industry is one area where green marketing has had a particularly pronounced impact. Numerous car companies have developed eco-friendly technologies, such as hybrid cars and fuel-efficient engines. In addition, many auto companies have made efforts to reduce their overall carbon footprints by incorporating renewable energy sources into their infrastructure. BMW, for example, uses wind power to generate enough electricity for its manufacturing plant.

How Green Marketing is Used in the Automobile Sector in India

Green marketing is the promotion of environmentally friendly products or services. This type of marketing has become increasingly popular in India's growing automobile sector. Automobile companies in India are attempting to reduce their environmental impact by introducing green initiatives such as reducing carbon emissions, investing in cleaner production methods and offering sustainable transportation options. Several companies have adopted measures such as curbing hazardous waste discharge into water bodies through vehicle servicing centers, using renewable energy sources for machinery operations, employing fuel-efficient models that require less fuel consumption and encouraging customers to recycle expired automobile parts responsibly.

In India, green marketing has been embraced in the automobile sector before any other area of industry. The Indian government has implemented a number of initiatives to reduce emissions and improve fuel efficiency standards for vehicles, such as incentives for cars that reduce carbon dioxide levels in cities. Companies like Maruti Suzuki have used this opportunity to bring out models which meet these new emission standards, thereby positioning themselves as eco-friendly businesses. Automobile manufacturers in India have also

begun integrating alternative fuels like compressed natural gas into their vehicle range and promoting them heavily with their traditional products. Additionally, car makers are utilizing renewable energy sources for production processes and improving recycling programs for automotive parts to ensure safety and sustainability is maintained throughout the manufacturing process. All these measures help convincingly market an auto brand's green credentials easily and effectively to various stakeholders including consumers who are increasingly looking at environmental concerns when purchasing automobiles in India today.

In addition, some manufacturers are developing emissions-aware technologies that measure exhaust levels of vehicles during test drives and trips. Companies are also researching a variety of other eco-friendly solutions such as electric power generation plants powered by solar energy and befool research projects aimed at making commercial production vehicles running on alternative sources more feasible for the Indian market. As consumers become more aware of their social responsibility towards conservation efforts they look for 'green' labeled options that meet these criteria when buying automobiles in India.

Role of Government in Promoting the Automobile Sector

The Indian government has implemented a number of policies and programmers that aim to improve the development of the automotive sector. The government plays a key role in promoting the automobile sector. To begin with, the government provides incentives to encourage car manufacturers to invest in this industry and build new plants or factories in their country. This could include tax breaks, subsidies or financial aid for research and development of automobile parts and components. Additionally, the government can influence policies related to taxation that would benefit investors both directly and indirectly – such as providing exemptions from duties on imported parts or opportunities for export credits gains. Further, governments may also approve promotional campaigns to raise awareness about various models of cars available within their market. Lastly, government institutions like the National Automobile Dealers Association (NADA) offer advice on how best dealers can manage sale transactions efficiently while ensuring quality of services provided across all levels – such as price control and customer service management. All these efforts taken by governments worldwide contribute significantly towards accelerating growth rates in automobile sector production and sales globally.

Research objective

The objective of this research is to analyze the role of green marketing in the growth and development of automobile sector in India. It will focus on understanding green marketing practices, policies, strategies adopted by major players in the industry.

There are some important objectives of these studies:-

- ❖ To identify key drivers of green marketing in the automobile sector in India.
- ❖ To examine how green marketing practices can influence the growth of the automobile sector in India.
- ❖ To determine the current market structure of automobile sector in India with special reference to green marketing initiatives.
- ❖ To identify and assess the challenges faced by automobile sector in terms of green marketing in India.
- ❖ To identify the concept of green marketing in the context of the Indian automobile sector.

Research methodology

The study will put into practice a qualitative research methodology. To gather information, semi-structured interviews with automobile sector experts and stakeholders, focus groups of target consumer groups, and secondary data analysis using both existing literature from academic sources as well as emerging trends from the media concerning green marketing in the Indian auto industry will be used and analyzed. The collected data will then be used to answer the research questions identified in this project: What are some of the key drivers for green marketing within the Indian automotive sector? How has green marketing been utilized or implemented by various firms within this sector? What are some challenges faced when implementing Green Marketing initiatives in India's automotive industry? What strategies should companies develop to succeed at Green Marketing practices within their operations? Finally, what implications can we draw overall for other organizations looking to invest further into Green Marketing practices in similar markets? After analyzing all collected data through these methods it is expected that conclusions can be drawn based on best practices for implementing successful green marketing plans in this sector.

Research questions

- How have sustainable practices and technologies impacted automotive production in India?
- Which Indian automaker brands include green initiatives into their corporate strategies?
- How has green marketing impacted the automobile industry in India?
- What economic benefits has the automobile sector in India seen through the implementation of green marketing?
- What are the challenges faced by the automobile sector due to green marketing?
- Does consumer preference towards eco-friendly vehicles pose a barrier for the growth of traditional automotive manufacturers?

Findings

The study found that green marketing is playing an important role in the development of the automobile sector in India. Consumers are becoming more conscious of environmental issues and are increasingly looking for eco-friendly automotive solutions. The industry has responded to this shift in consumer sentiments by introducing a range of hybrid vehicles, electric cars, and other clean energy powered vehicles into the market. Additionally, manufacturers have started using materials such as recycled plastics and rubber instead of conventional petroleum based materials which reduce their carbon footprint considerably. Furthermore, there has been a growth in awareness campaigns run by automobile companies focused on educating consumers about the positive impacts of cleaner mobility technology across society - from improved air quality to lower emissions levels. This further demonstrates how green marketing initiatives are leading to increased consumer engagement within this sector highlighting its importance going forward.

There are some important findings of these studies:-

1. Green marketing is becoming increasingly important in the automotive industry in India, due to growing public awareness of negative environmental impacts associated with traditional automotive technologies.
2. Automotive companies are responding by introducing more 'green' options into their product portfolios, such as electric and hybrid vehicles or improved fuel efficiency technology.
3. Consumers are demanding greater transparency and information on how manufacturers can reduce the environmental impact of their products.

4. Product packaging for new cars should emphasize sustainability claims and highlight any aspects that have been designed specifically to improve efficiency or reduce emissions levels.
5. The Indian government has implemented a range of incentives and policies to promote green technologies within the automobile sector such as taxation policy, tax subsidies and research grants.
6. There is an established trend towards increased knowledge sharing amongst leading automotive organizations around green strategies development within their products.
7. Technology transfer programs between academia/industry have proven to be effective method for developing long-term sustainable solutions for the auto sector in India.
8. Build-operate-transfer models provide accessible regulatory support measures that could help automakers build market share while reducing costs borne by end customers through procurement schemes offering favorable financing terms.

Suggestions

The automobile sector in India has seen tremendous growth over the past decade. This growth is attributed to the increasing demand for cars and car related services in a large population with rising economic status. Therefore, it is essential for companies operating within this sector to develop their green initiatives and technologies as a way of gaining competitive advantage and driving up revenues. The role of green marketing within this context can be significant as increased awareness on environmental responsibilities can create positive perception amongst consumers towards ESP certified automobiles resulting in increased sales. In conclusion, it's evident that green marketing plays an important role when it comes to the development of the automobile industry in India by creating greater consumer connection and loyalty while promoting sustainability practices which are beneficial both economically and environmentally.

List of Suggestions

- An in-depth analysis of the effect green marketing has had on consumer behavior towards cars produced by automobile companies in India.
- Investigate initiatives taken by Government organizations or Nonprofit Groups seeking to promote greener forms of motor transport within India.

- Analyze the current environmental and sustainability trends influencing automotive industry in India with an emphasis on Green Marketing practices.
- Assess economic benefits & costs associated with implementation & adoption of green measures for automobile industry in India.
- Identify key competitors of Indian Automobile Sector, their respective green marketing strategies and impact of such activities on customer purchase behavior.

Conclusion

The conclusion of this study was that green marketing has a role to play in the growth and development of the automobile sector in India. Green marketing can be used as a tool for companies who are looking to reduce their carbon footprint, attract new customers, build brand loyalty, and make environmental contributions. Companies should use different strategies such as product differentiation, customer-oriented pricing policies, eco-labeling schemes, and advertising campaigns featuring sustainable messages etc., to capitalize on the potential of green marketing initiatives. It is also important for governments and industry bodies to provide financial incentives (such as tax deductions) and create stricter emission standards so that more companies adopt greener business practices. To ensure success with green marketing strategies in India's automotive sector it is essential for all stakeholders including government authorities, investors/financiers and automakers themselves to work together towards creating shared value.

Limitations of study

This study has a few limitations. First and foremost, this research was conducted only within the context of India, so it may not be applicable to other markets. Additionally, while there were interviews with different stakeholders in the automobile sector including car manufacturers and green marketing companies, their views are still limited by their individual perspectives and experiences. Finally, much of the data used in this study comes from secondary sources such as reports which can introduce bias or inaccuracies into the results due to outdated information or lack of detail. As such, further studies should explore primary data elements obtained directly from first-hand participants to gain more accurate insights on green marketing's role in developing India's auto sector.

Further research

The research provides valuable insights into how green marketing initiatives have been employed by the automobile sector in India. It identifies key areas of improvement such as consumer awareness, government policies, and carbon dioxide emissions standards that need to be addressed by the industry going forward. As well, the study highlights potential opportunities from which companies can leverage green marketing strategies and technologies to increase market share in India's rapidly evolving economy. Critical analysis of data points suggests that sustainable practices are becoming increasingly important among automakers in order to remain competitive and relevant despite stiff competition from foreign counterparts. The findings further demonstrate how firms have progressed from traditional advertising techniques towards a more targeted approach focused on environmental sustainability goals within their respective industries, indicating the role of increasing customer consciousness for socially responsible business models amongst Indian consumers.

References

1. S. Deb, K. Tammi, K. Kalita and P. Mahanta, "Charging Station Placement for Electric Vehicles: A Case Study of Guwahati City, India," in IEEE Access, vol. 7, pp. 100270-100282, 2019.

2. S. P. Singh and S. P. Singh, "Optimal PMU Placement in Power System Considering the Measurement Redundancy", *Advances in Electronic and Electric Engineering*, vol. 4, no. 6, pp. 593-598, Jan. 2014.
3. Somayaji Y., Mutthu N.K., Rajan H., Ampolu S., Manickam N. (2017). Challenges of Electric Vehicles from Lab to Road. 2017 IEEE Transportation Electrification Conference (ITEC-India),
4. B. K. Talukdar & B. C. Deka, " An approach to reliability, availability and maintainability analysis of a Plus-In Electric Vehicle", *MDPI World Electric Vehicle Journal* , Vol. 12, No. 34, pp. 1-17, 2021.
5. W. Khan, F. Ahmad, A. Ahmad, M. S. Alam and A. Ahuja, "Electric Vehicle Charging Infrastructure in India: Viability Analysis". In: Pillai R. et al. (eds) ISGW 2017: Compendium of Technical Papers. *Lecture Notes in Electrical Engineering*, vol 487. Springer, Singapore.
6. S. P. Singh and S. P. Singh, "Optimal Placement of Phasor Measurement Units Using Gravitational Search Method", *Int. J. of ECECE*, vol. 9, no. 3, pp. 268-272, 2015
7. S. P. Singh and S. P. Singh, "On-line Assessment of Voltage Stability using Synchrophasor Technology", *Indonesian Journal of Electrical Engineering and Computer Science*, vol. 8, no. 1, pp. 1-8, 2017.
8. Davis, K., Rowley, P., & Carroll, S. "Assessing the viability of electric vehicle technologies for UK fleet operators", *Proceedings of the Universities Power Engineering Conference*, 2013.
9. D. K. Simon, "Energy use for GWh-scale lithium-ion battery production", *Environ. Res. Commun.* Vol. 2, 2020.
10. Nancy R (1996) Fundamental requirement for an effective green market. *American Wind Energy Association*. NW.
11. Shelton RD (1994) Hitting the green wall: Why corporate programs get stalled. *Corp. Envt. Strat.* 2(2):5- 11. 12.Smithe T (1998)
