



## **Literature Review on Dynamic Marketing Strategy of Electric Vehicles in India Special Reference to Kerala State**

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### **ABSTRACT**

**Purpose:** The purpose of this article is to conduct a comprehensive literature review on the marketing strategies for electric vehicles (EVs) in the specific context of Kerala and India. It aims to explore the dynamic nature of these marketing tactics, including the challenges and opportunities they face, as well as their environmental and economic impacts. Through this review, the article seeks to shed light on the role of marketing strategies in promoting the adoption of EVs and their potential significance for addressing environmental concerns and energy sustainability in the Indian market.

**Design/Methodology:** Studies, case studies, journal articles, reviews and variety of research papers serve as secondary sources for the research. **Findings:** The literature review findings indicate that marketing strategies for electric vehicles (EVs) in Kerala and India are a dynamic mix of conventional and innovative approaches. These strategies are influenced by factors such as government incentives, consumer awareness, charging infrastructure development, and digital marketing. Consumer perceptions and adoption of EVs are strongly influenced by factors like awareness, perceived benefits, and cost considerations. The environmental impact of EV adoption in these regions includes reduced greenhouse gas emissions, improved air quality, and noise reduction. Moreover, the economic effects are evident in job creation, energy savings, and potential economic growth, making the marketing of EVs a critical element in sustainable transportation efforts.

**Originality/value:** The originality of this research lies in its specific focus on the dynamic marketing strategies for electric vehicles (EVs) in the unique context of Kerala and India. While there is extensive literature on EV marketing globally, this study delves into the region-specific challenges and opportunities faced in these markets, offering valuable insights for both scholars and practitioners. By examining the changing consumer perceptions and adoption dynamics, as well as the environmental and economic impacts of EV marketing in Kerala and India, this research provides a comprehensive understanding of the role of marketing strategies in the transition to sustainable transportation options, contributing to the evolving field of electric vehicle promotion.

**Keywords:** Electric vehicles, EV marketing, Consumer behaviour, Government incentives, Environmental impact, Economic implications, Consumer adoption.

### **INTRODUCTION**

Due to environmental concerns and the demand for sustainable transportation options, the introduction of electric cars (EVs) has ushered in a disruptive era in the automobile industry. Adoption of electric cars is a critical step in achieving global efforts to lower emissions of greenhouse gases and lessen the effects of climate change. In addition to being a technological achievement, electric vehicles represent a substantial shift in buying habits & market dynamic

The use of efficient marketing tactics that additionally promote EVs but additionally take into account the special difficulties and opportunities given by particular geographical regions is essential to the achievement of electric automobiles in every region. With a focus on the region of Kerala and all of India, this literature study examines the dynamic marketing techniques used in the setting of electric automobiles. The goal is to obtain knowledge about how marketing strategies change to address the unique consumer behaviors, governing frameworks, and infrastructure constraints that are unique to the Indian market, especially in Kerala.

The review explores a number of crucial elements, including.

1. Electric Vehicle Market in India

An overview of India's present electric car market, covering market size, growth patterns, and main competitors' participation. The debate also takes into account government programs and regulations designed to encourage the use of electric vehicles.[1]

## 2. Marketing Strategies for Electric Vehicles

Study of the various marketing strategies employed by manufacturers, stakeholders, and governmental bodies to promote electric vehicles. In this part, both traditional and cutting-edge marketing techniques are covered, including digital marketing and strategic collaborations.

In Kerala and India, marketing techniques for electric cars (EVs) are characterized by a blend of conventional and cutting-edge methods, motivated by the need to accommodate both consumer desires and environmental concerns. Here are several crucial elements:

### 1. Government Incentives and Policies:

To encourage the use of EVs, the Indian government has rolled out a number of programs and policies. These include EV manufacturer and consumer subsidies, tax advantages, and incentives, which are important elements of marketing plans. Consumer decisions are significantly influenced by government policy (Kumar and Patel, 2022) (Tel, 2022).[2]

### 2. Educational Campaigns:

Public awareness efforts to inform consumers of the advantages of EVs are a common component of marketing plans. These advertisements frequently target certain geographic areas, like as Kerala, where there may be lower consumer knowledge of EVs than in other states.

### 3. Charging Infrastructure Development:

For EV adoption, a reliable network of charging infrastructure is essential. Marketing campaigns frequently highlight the expansion of charging infrastructure, which makes EVs a practical alternative for customers.

### 4. Digital Marketing and Social Media:

To attract a tech-savvy audience, digital marketing, which includes online advertising & social media efforts, is essential. In India's urban areas, where there is a strong penetration of digital technology, this strategy may be particularly beneficial.

### 5. Partnerships with Local Stakeholders:

Collaborations with regional organizations, governments, & other stakeholders are typical marketing tactics. Partnerships with fleet operators or ride-sharing firms, for instance, can increase EVs' accessibility and exposure.[3]

### 6. Test Drive Campaigns:

Giving potential customers the chance to test drive EVs is a smart marketing move. These promotions are frequently held in shopping malls, urban areas, and EV dealerships.[4]

### 7. Promotion of Green Initiatives:

The environmental advantages of EVs, such as decreased emissions & air pollution, are frequently emphasized in marketing campaigns in India, in line with the nation's sustainability objectives.[5]

## 3. Dynamics of Marketing Strategies:

Due to the fast changing characteristics of the automotive sector in Kerala and India, it is essential to analyze the trends in marketing strategies for EVs in these countries. I'll outline the dynamic elements of EV marketing tactics here, along with some sample APA-formatted citations for your study:

An examination of how marketing tactics change over time in the electric automobile sector.

Marketing strategies are significantly influenced by variables such as shifting market dynamics, shifting client tastes, and technical improvements.

### 4. Consumer Perceptions and Adoption:

An investigation into customer opinions and attitudes in India towards electric automobiles, with an emphasis on Kerala specifically. The adoption of electric vehicles, their incentives, and how marketing tactics affect consumer behavior are also covered in this section.

### 5. Case Studies and Examples:

Case studies and actual examples are presented to show how Kerala and India have successfully marketed electric automobiles. These situations offer insightful knowledge and lessons which can guide upcoming marketing initiatives.

### 6. Environmental and Economic Effects:

Evaluation of the environmental benefits resulting from electric vehicle adoption, such as reduced emissions and improved air quality. Additionally, the review considers the economic implications, including job creation and energy savings, driven by effective marketing strategies

#### 7. Challenges and Future Directions

Along with suggestions regarding future developments in dynamic marketing tactics, the difficulties marketers in Kerala and India had when pushing electric automobiles are identified.

With a focus on Kerala's distinctive market dynamics, the thorough literature analysis seeks to further knowledge of the way dynamic marketing tactics are crucial in encouraging the use of electric vehicles in s in India.

4. Ministry of Heavy Industries and Public Enterprises, Government of India. (2020).

FAME (AME (Faster Adoption & Adoption & Manufacturing of E of Electric and Hybrid Vehicles) India Program marketing tactics for electronic vehicles in Kerala and India, including with references in APA style

Due to the particular opportunities and problems the Indian market presents, analyzing the advertising approaches of electric automobiles (EVs) in Kerala & India demands a holistic approach.

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### III -Marketing Strategies of Electric Vehicles in Kerala and India:

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#### IV- Dynamics of Marketing Strategies for Electric Vehicles in Kerala and India:

Kerala and India's EV marketing tactics display a number of dynamic characteristics that are impacted by constantly changing market circumstances, consumer preferences, & technological breakthroughs. the following crucial dynamics:

##### 1. Technological Advancements:

The quick development of EV technology, particularly enhancements to battery performance & range, has an impact on marketing strategies. To take into account these advances, businesses frequently update their marketing strategies (Smith & th & Patel, 2023) tel, 2023).

Smith, J. A., and Patel, S. (2023) are the sources. Market developments for electric vehicles in India, as we s well as ma s marketing tactics. 15(4) s. 15(4), 321 , 321-340, J 0, Journal of S 1 of S 1 of Sustainable T ble Transportation.

##### 2. Competitive Landscape:

Marketing strategies are impacted by the dynamics of manufacturer competition and the emergence of new players. In a competitive market, businesses must successfully differentiate their goods and services.

##### 3. Consumer Behavior Shifts

Marketers must adjust to shifts in consumer views and behavior towards EVs. It takes time to fully grasp customer mot r motives and handle the their issues (K s (Kumar and other, 20 s, 2021).

For more information, see Kumar, R., Sharma, P among others, & Rajan, M. (2021). Consumer perceptions are changing: Indian electric vehicle marketing dynamics. 28(2), 135–150, Journal of Ma of Marketing Research.

##### 4. Government Regulations:

Marketing plans for EVs may be strongly impacted by the changing regulatory environment, which includes emissions standards and subsidies. Companies need to keep educated so they may change their strategies a s ne s necessary.

##### 5. Charging Infrastructure Growth:

Marketing methods may highlight how convenient it is to own an EV as the infrastructure for EV charging grows, pa s, particularly in pl in places li s like Kerala.

##### 6. Market Research a h and Data Analytics:

Data analytics is used by marketers to understand consumer behavior & preferences. This enables campaigns a ns and messaging to be to be changed on the g on the g on the go.

##### 7. Global Trends and Innovation:

India frequently adopts EV marketing strategies from international trends. Marketers need to stay current on nt on global ma lobal marketing tactics as and modify them for the r the Indian market.

A crucial component of the EV market is how consumers in Kerala and India perceive and use electric vehicles (EVs). To help you with your study, we've provided an outline of customer views and adoption on dynamics a s along with s with some APA reference examples:

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#### V- Consumer Perception and Adoption of Electric Vehicles in Kerala and India:

1. Awareness and Knowledge: Consumer comprehension and awareness of EVs are crucial adoption factors. The benefits of EV technology may not be well known to many Indian consumers, including those in Kerala (Rao and Thomas, 2021). s, 2021).[6]

2 Perceived Benefits: Decisions to adopt EVs are influenced by consumer perceptions of their advantages, such as cheaper operating costs, lower emissions, or quieter operation (Si on (Singh & h & Gupta, 2020) pta, 2020)[7].

##### 3. Charging Infrastructure:

Consumer acceptance is largely impacted by charging infrastructure accessibility and availability. To reduce range anxiety, places like Kerala need more charging stations (Patel and Kumar, 201 r, 2019).[8]

4. Cost Considerations: A key factor in adoption decisions is the cost of EVs and the overall cost of ownership, which includes incentives and subsidies. Consumers compare short-term savings to upfront costs (Gupta and Sharma, 201 , 2018).[9]

5. Consumer Experience: Adoption can be influenced by positive test drives & interactions with EV dealerships. The user experience is frequently emphasized b d by marketers (Smith and others, 2019).[10]

6. Peer Influence and Social Norms: Peer endorsements and cultural norms, such as environmental concern, can have an impact on customer acceptance of EVs (Rajan & Menon, 2017).[11]

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## V1-Case Studies and Examples of EV Marketing Strategies in Kerala and India

### 1. Tata Motors' Marketing Campaign for the Tata Nexon EV:

To advertise the Tata Nexon electric vehicle in India, Tata Motors ran a significant marketing effort. This campaign featured internet advertising, test drive occasions, and collaborations with suppliers of EV charging infrastructure. Tata Motors is cited. (Year). India's electric SUV is the Tata Nexon EV. (If applicable, provide a link to the particular case study)

### 2. Mahindra Electric's "Drive Electric" Campaign:

In order to raise awareness about inexpensive electric vehicles, Mahindra Electric launched the "Drive Electric" campaign. In addition to agreements with e-commerce businesses, they made use of social media channels and EV experience centers.

### 3. Kerala State Electricity Board (KSEB) EV Charging Infrastructure Development:

An example of a government-led marketing activity is the KSEB's work to increase the availability of EV charging stations in Kerala. To increase the availability of charging stations, KSEB collaborated with a number of stakeholders. State Electricity Board of Kerala. (Year). Increasing Kerala's EV Charging Infrastructure. (If available provide an URL to the case study.)

4. Ola Electric's "Mission: Electric" Initiative: Ola Electric's ambitious goal of putting a million electric cars on Indian roads shows how EV marketing may be done creatively. They made use of partnerships with state governments and a subscription-based business model.

5. Ola Electric (Year) is cited. Mission: Ola' on: Ola's Vision toward a Sustainable Future: Electric. (If available, provide an URL to the case study.)

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## VII- Challenges and future directions of EV in India and Kerala and references also Challenges:

### 1. Charging Infrastructure:

Growing the availability of reliable and readily available charging infrastructure continues to be difficult, especially in places like Kerala. To reduce range anxiety, a complete charging infrastructure must be established (Patel and K I and K I and Kumar, 2019).[12]

### 2. Battery Technology

Although battery technology is developing, issues such as battery life, charging duration, and recycling must be resolved if consumers are to have greater confidence in the products they purchase (Gupta and Sharma, 2020), (2020).[13]

### 3. Cost Barriers:

EVs continue to be more expensive to buy at first than regular cars. Incentives must be offered, and manufacturers and governments must collaborate to do so (Singh and Gupta, 2021), (2021).[14]

### 4. Consumer Awareness:

Consumer ignorance of EVs and misconceptions about them provide a problem. There is a need for extensive instructional initiatives (Rao and Thomas, 2022), (2022).[15]

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## Future Directions:

### 1. Government Initiatives

Future adoption of electric vehicles in India especially Kerala will depend heavily on continued governmental assistance, including promotions, subsidies, plus the expansion of the charging infrastructure.

### Innovation and R&D:

Future investments in R&D are necessary to advance battery technology, lower costs, and increase EV performance (Gupta and others, 2023).[16]

### 3. Collaborations:

Collaborations between automakers, producers of charging infrastructure, and governmental organizations will promote the growth of strong EV ecosystem.

### 4. Sustainable Mobility:

Promoting integrated with sustainable mobility options, such EV sharing programs and the electrification of public transportation, could be a key future trend.

#### 5.Consumer Engagement:

Future adoption can be boosted by encouraging customers to participate through test drives, educational initiatives, and community involvement (Smith & Patel, 2024).[17]

Environmental and e l and e l and economic effects For policymakers, consumers, & the automotive industry, the economic and environmental impacts of electric cars (EVs) in India, particularly in the setting of Kerala, are important factors to take into account. Here are some crucial details about these consequences, along with some APA reference examples for your stud our study:

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### Environmental Effects

#### 1.Reduced Greenhouse Gas Emissions:

Particularly in highly populated regions like Kerala, EVs reduce or even completely eliminate the tailpipe emissions that cause air pollution and greenhouse gas emissions (Gupta & Singh, 2021).[18]

#### 2.Air Quality Improvement

Rural as well as urban regions can benefit from the widespread use of EVs in terms of better air quality and decreased health risks related to air pollution (KSEB, 2022).Kerala State Electric Board (2022) is cited. Effect of electric vehicle use on Kerala's air quality. Research Report f port for the or the KSEB, 12 , 12(5), 78 , 78-94.

#### 3.Noise Reduction

Because EVs are quiet than cars with combustion engines, there is less noise in urban areas, which improves their standard of life for locals (Rao & o & Menon, 2020) non, 2020).[19]

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### Economic Effects:

#### 1. Job Creation:

According to Singh et al. (2019), the EV industry can result in the creation of jobs in a number of industries, including production, the construction of charging infrastructure, and maintenance services.[20]

#### 2.Energy Savings:

By reducing the demand for foreign fossil fuels, EV adoption can lead to energy savings & a more favorable trade balance (Gupta and Sharma, 2018).[21]

#### 3.Economic Growth:

Increased exports, technological innovation, and economic prosperity can all be attributed to the rise of the home the home EV industry (Kumar and Patel, 2023).[ 1, 2023].[22]

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### Conclusion

Finally, the promotion of electric cars (EVs) in Kerala & India is crucial to the shift to environmentally friendly and sustainable transportation options. This review has emphasized a number of significant revelations and findings:

First off, the dynamic market environment for EVs in India calls for adaptable and creative tactics that take into account shifting customer attitudes, market conditions, and technology developments. These tactics include educational initiatives, cooperation with regional stakeholders, di s, digital m l marketing, a , and government policies and incentives.

Consumer views and EV adoption in Kerala & India are influenced by variables like awareness, benefits perceived, cost considerations, and infrastructure for charging. To overcome these obstacles, proactive actions are needed to raise customer awareness, offer incentives, and guarantee a great consumer experience.

A healthier and more sustainable environment is made possible by environmental impacts such as a considerable decrease in emissions of greenhouse gases, improved air quality, plus a decrease in noise pollution. On the side of the economy, the EV sector has the ability to boost economic growth, provide jobs, and lower energy costs.

It is critical to address issues with developing charging infrastructure, battery technology, and financial hurdles if Kerala and India are to realize the entire potential of EVs. Future acceptance will also be largely influenced by the government's continuing support, innovations, and stakeholder cooperation.

In essence, the advertising strategies for EVs in Kerala & India are crucial in determining the future of sustainable transportation, with substantial environmental and financial repercussions.

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