

Impact of Effective Communication in E-Vehicles Advertisement Towards Sustainable Development Goals

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Abstract: *This article examines the impact of effective communication in e vehicle advertisement towards achieving sustainable development goals. The article begins by defining sustainable development goals and highlighting their importance. The role of e vehicle advertisement in achieving these goals is then discussed, along with the challenges faced by this industry. The article goes on to define effective communication and its importance in e vehicle advertisement, providing examples of effective communication strategies. The positive impacts of effective communication in e vehicle advertisement towards sustainable development goals are outlined, as well as the negative impacts of ineffective communication. Case studies of successful e vehicle advertisement campaigns are also provided. The article concludes by emphasizing the critical importance of effective communication in e vehicle advertisement towards achieving sustainable development goals and urging businesses and advertisers to prioritize this approach in their marketing campaigns.*

Keywords: Effective communication, E-vehicle advertisement, Sustainable development goals, Electric vehicles.

I. INTRODUCTION

The world is facing significant challenges related to climate change, energy security, and air pollution. The transport sector is one of the primary contributors to these challenges, accounting for approximately 23% of global carbon dioxide emissions. The transition towards sustainable mobility is critical to achieving the Sustainable Development Goals (SDGs) and addressing these challenges. One key aspect of this transition is the adoption of electric vehicles (EVs), which have significant environmental and social benefits. However, the adoption of EVs is hindered by various challenges, including consumer perceptions and awareness. Effective communication strategies can play a vital role in addressing these challenges and promoting the adoption of EVs. This research paper examines the impact of effective communication in EVs advertisement towards the achievement of SDGs. Sustainable development goals (SDGs) are a set of global goals adopted by the United Nations in 2015 to address various social, economic, and environmental challenges facing the world. One of the key goals of SDGs is to promote sustainable transportation, which is where e-vehicles come in. E-vehicles, or electric vehicles, are becoming increasingly popular as an alternative to traditional gas-powered vehicles. They offer a more environmentally friendly and sustainable mode of transportation. This article will explore the impact of effective communication in e-vehicles advertisement towards achieving sustainable development goals.

1.1 Objectives of the study

1. To Study the Communication Effectiveness Of E- Vehicle Advertisement.
2. To Understand the Core Idea E- Vehicle Advertisement.
3. To Know The E- Vehicle Advertisement Influence on Buying Decisions.

1.2 Statement of the problem

The lack of effective communication in electric vehicle (EV) advertisements is hindering the achievement of Sustainable Development Goals (SDGs) related to sustainable transportation. By improving communication strategies in EV ads, we can contribute to goals such as reducing greenhouse gas emissions, promoting clean energy, improving air quality, and mitigating climate change. Effective communication can raise awareness, educate the public, dispel misconceptions, and encourage sustainable transportation choices. Many current EV ads fail to effectively convey the benefits and environmental advantages of EVs, resulting in limited consumer interest. Addressing this issue requires innovative strategies that effectively communicate the advantages of EVs and foster widespread adoption, thus contributing to the SDGs.

1.3 Research Methodology

To investigate the impact of effective communication in electric vehicle (EV) advertisements on achieving the Sustainable Development Goals (SDGs) related to sustainable transportation, the following research methodology can be adopted:

A. Research Design:

A mixed-methods approach can be employed to gather both quantitative and qualitative data. This can involve conducting surveys, interviews, and content analysis of EV advertisements. This approach allows for a comprehensive analysis of the research problem, combining numerical data with in-depth insights from participants.

B. Data Collection:

- a. Surveys: Develop a questionnaire to collect data from a diverse sample of individuals, including consumers, EV owners, and the general public. The survey can assess their awareness, perception, and behavior towards EVs, as influenced by advertisements. Conduct surveys among target audiences to assess their awareness, attitudes, and perceptions towards EV advertisements and sustainable transportation. The survey can include questions about the effectiveness of current advertisements, knowledge about the SDGs, and the influence of advertisements on their willingness to switch to EVs.
- b. Interviews: Conduct interviews with experts in the field of sustainable transportation, marketing, and communication to gain insights into effective communication strategies and their impact on achieving the SDGs.
- c. Content Analysis: Analyze EV advertisements from different media platforms to assess their communication effectiveness, key messages, and the extent to which they align with sustainable development goals. Analyze survey data using statistical techniques such as descriptive statistics, regression analysis, and correlation analysis. This analysis will help identify trends, patterns, and relationships between variables such as effective communication, advertisement impact, and sustainable transportation choices.

C. Data Analysis:

- a. Quantitative Analysis: Analyze survey data using statistical techniques to identify patterns, correlations, and differences in perception and behavior towards EVs.
- b. Qualitative Analysis: Conduct thematic analysis of interview transcripts and content analysis of advertisements to identify recurring themes, messages, and communication strategies.

D. Case Studies

Conduct in-depth case studies of successful EV advertising campaigns that have positively influenced sustainable transportation choices. Analyze their communication strategies, messaging, target audience, and the resulting impact on achieving the SDGs. This will provide real-world examples and best practices for effective communication in EV advertisements.

E. Ethical Considerations:

Ensure the research follows ethical guidelines and protects the privacy and confidentiality of participants. Obtain informed consent before data collection and use pseudonyms or anonymize data during analysis.

1.4 Limitations:

- Recognize any limitations of the research, such as sample size (211), geographical scope, and potential biases in data collection or analysis.
- Conclusion and Recommendations:
- Summarize the findings, draw conclusions on the impact of effective communication in EV advertisements towards the SDGs, and provide recommendations for improving communication strategies in future EV advertisements.

1.5 Dissemination:

Present the research findings through research papers, conferences, or reports, targeting relevant stakeholders in the EV industry, marketing professionals, policymakers, and organizations working towards sustainable development goals.

1.6 Recommendations:

Present the research findings, including quantitative and qualitative analysis, case study insights, and recommendations for improving communication in EV advertisements to better align with sustainable transportation goals and the SDGs.

1.7 Scope of the Study

This study aims to investigate how effectively communicating the benefits of electric vehicles (EVs) in advertisements can help achieve sustainable transportation goals aligned with the Sustainable Development Goals (SDGs). The study will gather information through surveys and interviews to understand public opinions on EV advertisements and their impact on sustainable transportation choices. Interviews with experts and industry professionals will provide insights into effective communication strategies and challenges.

The collected data will be analysed using statistical methods and thematic analysis to identify patterns and common themes. Additionally, successful EV advertising campaigns will be studied to learn from their approaches. The study recognizes limitations such as sample size and potential biases. The findings and recommendations will contribute to improving communication in EV advertisements to support sustainable transportation and the SDGs.

II. LITERATURE REVIEW

1) (Siekkinen, 2022) Full electric vehicles (EV's) are becoming one of the main vehicle technology types, and all the established car brands have announced their commitment to develop new models and the technology. Still, electric vehicle focused advertisement and marketing research is in its infancy. Consumer EV preferences have been quite extensively studied around the world during the last couple of years, but a lack of information on how these results can be utilized in marketing or in advertising is evident. Advertising can further increase the EV adaptation level and sales by portraying EVs in an intriguing fashion when correctly aligned with the consumers preferences and expectations. Past research has shown that in evolving market conditions, advertisements should focus on informative and argument-oriented text and themes instead of emotional orientations.

2) (Refalo, L., & Tsang, S., 2021) This literature review examines the effectiveness of communication strategies in electric vehicle (EV) advertisements. With the growing importance of sustainable transportation, EVs have gained significant attention in recent years. Effective communication is crucial for promoting and increasing the adoption of EVs. This review explores various communication approaches employed in EV advertisements and analyzes their impact on consumer attitudes and intentions. The findings provide insights into the key factors influencing communication effectiveness in EV advertisements, guiding future research and advertising campaigns.

3) (Latheef, 2018) These barriers, when analyzed through the lens of behavioral economics, reveal several opportunities for "behaviorally informed" interventions that have the potential to help make it easy and attractive for buyers to

purchase an EV. This was further corroborated by examples of “best practices” from organizations and programs that have successfully improved the adoption of EVs in their geographies or regions.

4) (Mrs. Eiman Elghanam, 2021) electric vehicles (EVs) have been introduced as an alternative method of transportation to help mitigate environmental issues, such as carbon emissions and fuel consumption, caused by conventional transportation systems. The implementation of effective EV charging systems is essential to motivate mass adoption of EVs. Accordingly, fast and reliable communications between the charging systems and the EVs are vital for efficient management of the charging process. Different radio access technologies (RATs) are discussed in the literature to enable communication between the highly mobile EVs and the charging subsystems, to collect and exchange information such as state of charge (SoC), users’ locations, and charging decisions between the different network entities.

5) (Verma, 2020) The emission of carbon dioxide from the Transportation sector is raising concerns about global warming at an alarming rate. Electric mobility has still not grown into a conventional choice for the vast population of India, which makes it essential to understand the attitude and perception of people towards Electric vehicles (EVs). In this direction, a study is conducted in the City of Bengaluru, to identify the factors affecting the Purchase decision of Electric vehicles.

6) (Chawla, 2023) This study examines the impact of ecological awareness on Electric Vehicle (EV) acceptance and usage in light of the ecosystem advantages, and its changing focus from “traditionally perceived usefulness” to “green perceived usefulness”. The purpose of this study is to analyze public perceptions of autonomous driving and automotive tracking systems. Furthermore, it helps to comprehend why people adopt new technology and offers some recommendations for the global growth of EVs.

7) (Shetty, 2020) Electric vehicles (EVs) are one of the near-term practical solutions in-vehicle technology, which can reduce emissions leading to the greenhouse effect and dependence on fossil fuels that are correlated with conventional vehicles conventional vehicles (CVs). Several interferences are yet to be overcome for widespread adoption of EVs, despite many benefits provided to the consumers. The tendencies of customers to resist new technology is one of the major barriers in EV adoption.

8) (gaol, 2021) It is a harsh fact that the introduction of various government schemes to push electric vehicle (EV) utilization does not seem to appeal to the consumers. There are a few barriers that prevent consumers from purchasing EVs. Thus, in the present study, we have tried to identify and analyze the prominent barriers to the adoption of EVs by scrutinizing the existing literature and defining new barriers. From the literature review, 35 barriers have been initially identified in the context of the Indian market.

9) (Preetha, 2019) Electric Vehicles (EV) has recently been gaining increased worldwide interest since they result in far less climate pollution than their gas-powered counterparts. The main challenges in adoption of EV are insufficient charging stations, long charging time, high initial cost and limited range. Making India an all-EV market by 2040 also ushers in incentives for the development of EVs like the Faster Adoption & Manufacturing of Electric Vehicles (FAME) Scheme in 2015 to incentivize manufacturing of Eco-friendly vehicles including Hybrid Electric Vehicles (HEV).

10) (Aswani, 2018) We are moving towards the increased share of renewable energy to reduce the Green House Gases (GHG). Transport is the main source of GHG and hence Electric Vehicle (EV) can be used as an alternative. Although EVs offers several advantages and can be used in different application but there are numerous challenges in the popular use of them. This paper summarizes the advantages/use of EVs and barriers in their popularization.

III. SUGGESTION

To Study the Communication Effectiveness Of E- Vehicle Advertisement

- Conduct qualitative interviews and surveys to assess target audience perception and understanding of e-vehicle advertisements.
- Analyse brand recognition and recall through pre- and post-exposure surveys or brand recognition tests.
- Measure message comprehension to evaluate the effectiveness of conveying key messages.
- Assess emotional impact using facial expression analysis, surveys, or focus groups.
- Track brand sentiment on social media and review websites to gauge public perception.

- Perform A/B testing with variations in messaging and visuals to identify the most effective approach.
- Use eye-tracking studies to optimize the placement and design of key elements in advertisements.
- Measure brand recall and association through surveys or recognition tests.
- Gather feedback through online surveys to analyse trends and patterns in perception.
- Conduct focus groups to explore opinions and suggestions for improving communication effectiveness.

To Understand the Core Idea E- Vehicle Advertisement.

- Clearly define the brand's value proposition and competitive advantages.
- Develop emotionally engaging advertisements that connect with viewers.
- Incorporate real-life stories and testimonials to provide authentic perspectives.
- Highlight the convenience and user-friendly features of e-vehicles.
- Emphasize advanced safety features to address concerns and build trust.
- Showcase advancements in battery technology and growing charging infrastructure.
- Collaborate with relevant stakeholders to showcase a comprehensive ecosystem.
- Promote the joy of driving through instant torque and responsive handling.
- Educate on long-term cost savings and potential incentives.
- Foster a sense of community and shared responsibility for a better future.

To Know The E- Vehicle Advertisement Influence on Buying Decisions.

- Conduct surveys to assess the impact of e-vehicle advertisements on purchasing decisions.
- Analyse the correlation between exposure to ads and actual e-vehicle purchases.
- Interview recent e-vehicle buyers to understand the role of advertisements in their decision-making.
- Measure changes in purchase intent before and after exposure to e-vehicle ads.
- Assess the influence of ads on factors like perceived value, environmental impact, and cost savings.
- Study the impact of ads on brand perception and reputation.
- Evaluate the role of ads in shaping consumer knowledge and awareness of e-vehicle features.
- Analyse the influence of ads on specific demographic segments or consumer groups.
- Monitor online conversations about e-vehicle ads to gauge their impact on buying decisions.
- Conduct conjoint analysis to understand the importance of different ad factors in influencing purchases.

IV. FINDINGS

Demographics of the Target Audience

The data reveals important demographic information about the target audience for e-vehicle advertisements. It indicates that the majority of respondents are young individuals, with a strong presence of individuals aged 21-30. As age increases, the representation of the target audience decreases. Additionally, the data shows that the respondents are predominantly male, accounting for 78.2% of the dataset, while females make up 21.3%. A small percentage (0.5%) chose not to disclose their gender.

Importance of Effective Communication

The data emphasizes the significance of effective communication in e-vehicle advertisements among the target audience. A majority of respondents hold Bachelor's (61.6%) and Master's degrees (20.4%), indicating their educational background. This finding highlights the importance of crafting compelling and informative advertisements that effectively convey key messages to an audience with higher education levels.

Income Distribution

The data indicates that the majority of respondents have incomes below 5.99 lakhs, suggesting a predominant lower-income range within the dataset. This information is crucial for advertisers to understand the economic context and tailor their messaging accordingly, addressing the potential financial considerations of the target audience.

Marital Status

The majority of respondents (84.4%) are married, while a smaller percentage (15.6%) are unmarried. This finding can influence the messaging and positioning of e-vehicle advertisements, considering the differing needs and priorities of married individuals compared to unmarried individuals.

Exposure to E-Vehicle Advertisements

The data reveals that a significant percentage (80%) of respondents have seen advertisements for electric vehicles (e-vehicles) in the past six months, while the remaining 20% have not. This insight highlights the level of awareness and familiarity with e-vehicle advertisements within the target audience.

Recognized Brands in E-Vehicle Advertisements

The data shows that certain brands were recognized by the majority of respondents in the context of two-wheeler and four-wheeler electric vehicles. TVS (81.5%) and Hero (79.6%) were recognized as two-wheeler options, while Tata Motors (55.5%) stood out among the four-wheeler options. This information provides advertisers with an understanding of the brand awareness and perception within the target audience.

Key Features that Attract Attention

The data reveals the specific features of e-vehicles that caught the attention of respondents in the advertisements. The environmental impact (35.1%) and charging infrastructure (36.5%) were the prominent features that resonated with the target audience. These findings suggest that emphasizing the eco-friendliness and convenience of charging infrastructure could be effective in capturing their interest.

Positive Sentiments and Agreement

The data demonstrates that respondents expressed positive sentiments and agreement on various aspects related to e-vehicles. They strongly agreed with the positive environmental impact (55%) and the effectiveness of communication in conveying benefits in EV ads (52.13%). They also agreed on the importance of charging infrastructure (55.92%), positive brand reputation (48.82%), and sufficient safety features in electric vehicles (49.76%). These findings highlight the potential for advertisers to leverage these positive perceptions in their messaging.

Factors Influencing Buying Decisions

The data provides insights into the factors influencing the buying decisions of the target audience. Respondents considered various aspects, such as lower fuel or charging costs (46.4%), government incentives or tax credits (19.4%), safety features like automatic emergency braking (33.2%), and performance features like electric torque and driving range (31.3% and 24.3% respectively). These findings offer advertisers valuable information to align their messaging with the factors that impact the decision-making process.

V. CONCLUSION

This study aimed to investigate the impact of effective communication in e-vehicle advertisements on achieving sustainable development goals. Through the utilization of surveys distributed via Google Forms, data was collected and analysed using statistical software, including SPSS and Excel. The findings highlighted the significance of effective communication in shaping consumers' perceptions and attitudes towards electric vehicles. Clear and persuasive messaging, along with visually appealing content, were identified as crucial elements in successful e-vehicle advertisements.

The core idea of these advertisements centered around promoting sustainable transportation, reducing carbon emissions, and contributing to sustainable development goals. Moreover, the study revealed that e-vehicle advertisements exerted a positive influence on consumers' buying decisions, increasing their intention to purchase electric vehicles and driving the transition towards a more sustainable transportation system. The implications of this research provide valuable insights for marketers, policymakers, and stakeholders involved in promoting e-vehicles, enabling them to enhance their advertising strategies and effectively communicate the benefits of e-vehicles to accelerate progress towards a sustainable future. The sources of information include the data collected through surveys, statistical analysis, and a review of relevant literature in the field of sustainable transportation and advertising effectiveness.

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