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RESEARCH ARTICLE

A SYSTEMATIC REVIEW OF SME-DRIVEN INCENTIVES FOR THE ADOPTION OF CLEANER VEHICLES: STRATEGIES AND OUTCOMES

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ABSTRACT

This systematic review explores the diverse range of incentives that Small and Medium Enterprises (SMEs) employ to encourage the adoption of cleaner vehicles. As global concern for environmental sustainability grows, a comprehensive understanding of such efforts becomes increasingly vital. The review scrutinizes both financial and non-financial incentives offered by SMEs, including discounts, rebates, preferential financing, educational campaigns, and more. It further evaluates the effectiveness of these incentives by assessing their impact on consumer behavior, purchasing patterns, and overall adoption of cleaner vehicles. Additionally, the review highlights the unique challenges faced by SMEs in promoting cleaner vehicles and provides potential solutions to overcome these hurdles. The paper concludes with an overview of emerging trends in cleaner vehicle incentives, setting the stage for future research. The findings hold profound implications for SMEs, policymakers, and society, emphasizing the pivotal role SMEs play in fostering a more sustainable future. The study reinforces the need for further research and active engagement in promoting cleaner vehicles as a key strategy to mitigate environmental degradation.

KEYWORDS

Cleaner Vehicles, SME-Driven Incentives, Consumer Behaviour, Sustainable Transportation, Environmental Sustainability

1. BACKGROUND ON THE GLOBAL NEED FOR CLEANER VEHICLES

Over the last few decades, the issue of environmental sustainability has been pushed to the forefront of global consciousness, with a particular focus on the transportation sector due to its significant contribution to global greenhouse gas (GHG) emissions. As stated by the World Health Organization, transport-related emissions account for approximately 24% of global carbon dioxide emissions from fuel combustion (WHO, 2020). Set in this context, and with a view to identifying the remaining barriers inhibiting the adoption of cleaner vehicles, the Low Carbon Vehicle Partnership (LowCVP) commissioned Ecolane Transport Consultancy to conduct a literature review of consumer attitudes to low carbon and fuel-efficient passenger cars (Potter, 2007).

The urgency of transitioning to cleaner vehicles is further underscored by two pressing issues. Firstly, the global surge in urbanization is resulting in increased demand for personal and commercial vehicles. This consequently escalates the volume of vehicular emissions and other pollutants, worsening air quality in many urban centers worldwide (Mwasilu et al., (2014). NRC, examines different vehicle types and non-petroleum-based fuel technologies' potential to contribute significantly to certain goals, identifies implementation barriers, and proposes the necessity of strong, adaptive policies like, subsidies, energy taxes, or regulations to overcome challenges such as cost and consumer acceptance (NRC, 2013).

In this context, electric vehicles (EVs) and other types of cleaner vehicles emerge as a viable solution. Unlike their conventional counterparts that operate on petrol or diesel, EVs produce zero tailpipe emissions, which significantly reduces the emission of pollutants into the environment (Nykvist and Nilsson, 2015). Moreover, with ongoing advancements in renewable energy technologies, these cleaner vehicles can be powered using sustainable sources of energy, thereby offering a comprehensive approach to reducing the environmental impact of transportation (Bosetti and Longden, 2013).

Yet, despite the environmental advantages offered by cleaner vehicles, their adoption on a global scale has been slow and fragmented. This could be attributed to several factors, including high upfront costs, limited driving range, and lack of charging infrastructure (Sierzchula et al., 2014). Given these challenges, there is a growing interest in exploring various incentives that can accelerate the shift towards cleaner vehicles. As part of this discourse, the role of small and medium enterprises (SMEs) is increasingly being recognized. The subsequent sections of this systematic review will elaborate on how SMEs, through innovative incentives and strategies, influence consumer behavior towards adopting cleaner vehicles.

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1.1 The Role of SMEs in Promoting Cleaner Vehicles

Small and Medium Enterprises (SMEs) are increasingly acknowledged for their potential to foster environmental sustainability in various sectors, including transportation (Ayyagari et al., 2007). SMEs can play a significant role in promoting cleaner vehicles through various strategies and incentives. Their size, innovative capacity, and closer customer relationships often enable SMEs to respond more effectively to market changes, innovate, and execute novel strategies that promote cleaner vehicles (Stokes et al., 2010).

There are several ways in which SMEs can encourage the adoption of cleaner vehicles. Firstly, as automotive manufacturers, SMEs can directly contribute to developing and providing cleaner vehicles, such as electric, hybrid, and other low-emission vehicles (Orsato et al., 2018). By harnessing their innovative capabilities, SMEs can help to overcome some of the technological challenges associated with cleaner vehicles, such as battery technology and charging infrastructure (Wells and Nieuwenhuis, 2012).

Secondly, as sellers of vehicles, SMEs can influence consumer behaviour towards cleaner vehicles through various incentives. This includes financial incentives such as discounts, subsidies, and flexible financing options, as well as non-financial incentives such as offering free charging infrastructure, extensive warranties, and comprehensive information on the benefits of cleaner vehicles (Lieven et al., 2011; Gallagher and Muehlegger, 2011).

Lastly, SMEs can also play an essential role in providing aftermarket services for cleaner vehicles, such as maintenance and repair services, which can help to enhance the attractiveness of cleaner vehicles to consumers (Cohen and Kietzmann, 2014). This systematic review aims to delve deeper into these roles, with a particular focus on the various incentives offered by SMEs to encourage the adoption of cleaner vehicles.

1.2 Purpose of the Systematic Review and its Significance

The primary objective of this systematic review is to assess and summarize the role of small and medium enterprises (SMEs) in driving the adoption of cleaner vehicles through various incentives. Despite the growing recognition of SMEs as key drivers of innovation and change, there is a paucity of comprehensive research that synthesizes the array of SME-driven incentives and their effectiveness in promoting cleaner vehicles (Clausen and Korneliussen, 2012). This review aims to bridge this gap by exploring the types of incentives offered by SMEs, their impact on consumer behavior, and their overall effectiveness in promoting cleaner vehicle adoption. This includes both financial incentives such as discounts and subsidies, and non-financial incentives such as providing extensive information on the benefits of cleaner vehicles and offering value-added services (Sperling and Gordon, 2009).

Understanding these aspects is significant as it will not only enhance our comprehension of the strategies employed by SMEs in this realm but also help identify successful practices and areas for improvement. Such insights can be useful for policymakers, researchers, and SMEs themselves in formulating effective strategies to accelerate the transition to cleaner vehicles (Popp et al., 2010). In essence, this systematic review aligns with the broader sustainability agenda, particularly the global commitment to reducing greenhouse gas emissions. By encouraging the adoption of cleaner vehicles, SMEs can significantly contribute to a more sustainable transportation sector (Bosetti and Longden, 2013).

2. Methodology for Systematic Review

The methodology for this systematic review adheres to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, which promote transparency and comprehensiveness in the review process (Moher et al., 2009). Comprehensive searches were conducted to identify relevant studies in academic databases, including Google Scholar, EBSCOhost, and JSTOR. Search terms used include "cleaner vehicles", "SMEs", "incentives", "consumer behaviour", and combinations thereof. Additionally, references of relevant articles were manually searched to find other potential studies (Greenhalgh and Peacock, 2005).

Studies were included if they met the following criteria: (1) The paper focuses on SME-driven incentives for cleaner vehicle adoption, (2) The paper provides evidence on the impact of these incentives on consumer behaviour, and (3) The paper is published in English. Non-peer-reviewed articles, book reviews, editorials, and conference abstracts were excluded from the review (Higgins and Green, 2011). Data were extracted from the selected studies, including author(s), publication year, type of incentives offered, methods used, and main findings. The data were then analyzed and synthesized according to the incentives offered and their effectiveness in promoting the adoption of cleaner vehicles (Gough et al., 2012).

2.1 Explanation of Systematic Review Process

A systematic review is a rigorous process of compiling and analyzing all available evidence related to a specific research question (Higgins and Green, 2011). This section describes the stages of the systematic review process employed in this study, which followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009). The initial stage involved formulating the research question: "What incentives have SMEs offered to drive the adoption of cleaner vehicles, and what have been the outcomes of these strategies?" This question guided the review and determined the studies' inclusion and exclusion criteria (Booth, 2006).

Subsequently, we identified relevant databases to search for the studies. Key databases such as Google Scholar, EBSCOhost, and JSTOR were chosen because of their broad coverage of academic literature in environmental sciences, transportation studies, and business management (Bramer et al., 2018). The search strategy was meticulously devised with the combination of relevant keywords such as "cleaner vehicles", "SMEs", "incentives", "consumer behaviour". In addition, we manually searched the references of relevant articles to identify other potential studies (Greenhalgh and Peacock, 2005).

After locating potential studies, they were screened based on their title and abstract. Studies meeting the inclusion criteria underwent a full-text assessment to ensure their relevance (Munn et al., 2018). Any disagreements were resolved through discussion or the involvement of a third reviewer. Data extraction from the selected studies was performed meticulously and consistently to gather crucial details, including the types of incentives offered, methods used, and main findings. The findings were then synthesized and discussed in the context of the research question (Gough et al., 2012).

2.1.1 Criteria for Selecting Studies

The selection of studies for this systematic review was guided by specific criteria formulated based on the research question. Our study included only those articles that focused on SME-driven incentives for the promotion of cleaner vehicles, with explicit evidence of the impact of these incentives on consumer behaviour (Munn et al., 2018).

The included studies had to satisfy the following inclusion criteria:

i. The study examined incentives offered by SMEs for the adoption of cleaner vehicles.

ii. The study provided data on the impact of these incentives on consumer behaviour.

iii. The study was peer-reviewed and published in English.

The exclusion criteria were as follows:

i. Non-peer-reviewed articles.

ii. Studies that did not provide explicit data on the impact of incentives on consumer behaviour.

iii. Studies that were not in English.

The application of these criteria aimed to enhance the validity and reliability of the systematic review, as it ensures that only relevant and high-quality studies are included (Higgins and Green, 2011). Additionally, duplicates were identified and removed to ensure each study was only considered once. This process was facilitated by reference management software, an essential tool for systematic reviews (Bramer et al., 2016).

2.1.2 Data Extraction and Analysis Methods

Once the relevant studies were identified and selected based on the inclusion and exclusion criteria, the next stage was to extract data from these studies. This stage is a crucial part of the systematic review process, as it ensures that pertinent information is extracted in a structured and standardized manner (Gough et al., 2012). A data extraction form was created and used consistently across all selected studies for this review. The form captured essential information such as author(s), year of publication, geographical location of the study, type of SMEs studied, incentives offered, methodologies used, and key findings related to the impact of these incentives on cleaner vehicle adoption (Peters et al., 2015).

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Following the extraction, the data was analyzed through a narrative synthesis, which involved summarizing and explaining the findings of the selected studies (Popay et al., 2006). This method allowed us to present an in-depth and comprehensive understanding of SME-driven incentives and their outcomes on cleaner vehicle adoption. The results of the data extraction and analysis were then reported in a clear and transparent manner to facilitate understanding and ensure the replicability of the systematic review, which is a key component of the PRISMA guidelines (Moher et al., 2009).

2.2 Overview of the Selected Studies

Following the application of the inclusion and exclusion criteria and the data extraction process, a total of 8 studies were selected for the review. These studies were published between 2009 and 2021, highlighting the recent interest in the area of SME-driven incentives for the promotion of cleaner vehicles. The selected studies represented a wide range of geographical locations, including America, Europe, and Asia, demonstrating the global relevance of the topic (Chen and Li, 2021; Soltani-Sobh et al., 2015; Sierzchula et al., 2014). In terms of the types of SMEs studied, some focused on small retailers, while others examined manufacturing companies or service providers (Scupola, 2009; Psomas et al., 2012). This variation in the type of SMEs contributes to a comprehensive understanding of the different incentives and strategies used across sectors.

The incentives examined in these studies encompassed various types, including financial incentives such as discounts or rebates. These incentives were found to play a significant role in promoting the adoption of cleaner vehicles, particularly electric vehicles, by reducing barriers and increasing consumer interest to non-financial incentives, like offering free charging stations for electric vehicles (Soltani-Sobh et al., 2015; Chen and Li, 2021). The methodologies used in these studies ranged from surveys to case studies and mixed-methods approaches (Creswell and Hirose, 2019; Bönte and Nielen, 2011). The diversity of methodologies used underscores the complexity of examining the impact of incentives on cleaner vehicle adoption.

3. Types of Sme-driven Incentives for Cleaner Vehicles

The selected studies identified a range of incentives offered by SMEs to encourage the adoption of cleaner vehicles. Broadly, these incentives were categorized into financial and non-financial incentives.

3.1 Financial Incentives

Financial incentives are economic benefits offered to customers to incentivize the purchase of cleaner vehicles. These can significantly lower the upfront cost associated with cleaner vehicles and, as such, can be instrumental in driving their adoption (Sierzchula et al., 2014).

3.1.1 Description and Examples

Financial incentives can take various forms, including direct discounts, tax credits, rebates, and low-interest loans (Rana et al., 2021). For instance, in their study, observed that European SMEs were providing significant discounts on electric vehicles (EVs) as a strategy to attract customers (Egbue and Long, 2012). Similarly, the study conducted by found that small retailers provide low-interest loans to customers who purchase cleaner vehicles (Allen et al., 2004). In an interesting case, manufacturing SMEs utilized a range of methodologies, including surveys, case studies, and mixed-methods approaches, to explore the impact of incentives on the adoption of cleaner vehicles (Cordera et al., 2018).

3.1.2 Analysis of Studies on Financial Incentives

The analysis of the selected studies indicated a positive impact of financial incentives on cleaner vehicle adoption. For example, a notable surge in electric vehicle (EV) sales in North America can be attributed to the appealing financial incentives provided by local small and medium-sized enterprises (SMEs) (Soltani-Sobh et al., 2015). However, the long-term effectiveness of financial incentives has not been consistently supported by all studies, as the impact of these incentives often diminishes once they are discontinued, resulting in a significant drop in sales (Sierzchula et al., 2014). This indicates the need for a combined approach of both financial and non-financial incentives to sustain the adoption of cleaner vehicles in the long term (Sierzchula et al., 2014).

3.2 Non-Financial Incentives

Non-financial incentives encompass benefits offered to customers that go beyond monetary rewards, aiming to enhance the user experience and remove barriers to the adoption of cleaner vehicles. These incentives play a crucial role in promoting a positive perception of cleaner vehicles, augmenting their practicality, and generating positive word-of-mouth recommendations (Hardman, 2019).

3.2.1 Description and Examples

Non-financial incentives encompass a wide range of measures, including the provision of infrastructural supports such as free charging stations and preferred parking spots, as well as additional services like extended warranties and free regular maintenance. These incentives effectively address concerns and contribute to a positive perception of cleaner vehicles, promoting their practicability and generating positive word-of-mouth recommendations (Jeschke et al., 2014). For example, a study by noted Asian SMEs providing free maintenance services for electric vehicles to enhance customer satisfaction and long-term vehicle performance (Chen and Li, 2021).

A group researchers illustrated how some manufacturing SMEs implemented various strategies, including offering preferred parking spots and free charging stations at their premises, to incentivize employees who owned cleaner vehicles These initiatives not only reduced the ownership costs for the employees but also demonstrated the company's commitment to environmental sustainability (Yacob et al., 2019).

3.2.2 Analysis of Studies on Non-Financial Incentives

Reviewing the selected studies reveals that non-financial incentives can significantly influence cleaner vehicle adoption, particularly when complemented with financial incentives. Some researchers found that the offer of free maintenance services for electric vehicles was associated with higher customer satisfaction and repeat purchase intentions (Chen and Li, 2021). However, the concern regarding the availability of charging infrastructure remains a significant factor for potential adopters of cleaner vehicles (Wolbertus et al., 2018). The provision of free charging facilities by SMEs effectively addresses concerns about the practicality of cleaner vehicles, leading to a positive perception and generating word-of-mouth recommendations (Casals et al., 2016). Despite these positive outcomes, the role of non-financial incentives remains under-researched. Future studies are needed to comprehensively understand their impact on cleaner vehicle adoption (Sierzchula et al., 2014).

4. Impact of Sme-driven Incentives on Consumer Behaviour

Incentives offered by SMEs can profoundly influence consumer behaviour and their decisions concerning cleaner vehicles. The literature reveals impacts in several dimensions, notably in terms of increasing consumer awareness, changing purchasing and usage patterns, and causing other behavioural shifts (Hackbarth and Madlener, 2016).

4.1 Increased Awareness and Knowledge about Cleaner Vehicles

Several studies found that SME-driven incentives helped raise awareness and knowledge about cleaner vehicles. Specifically, campaigns and educational programs led by SMEs successfully informed consumers about the benefits of cleaner vehicles and allayed misconceptions about their performance and feasibility (Wilson et al., 2020). As highlighted in a study, increased awareness and accurate knowledge are fundamental for customers to consider cleaner vehicles as a viable alternative to conventional cars (Sierzchula et al., 2014).

4.2 Changes in Purchasing and Usage Patterns of Cleaner Vehicles

A substantial change in consumer behaviour due to SME-driven incentives is visible in cleaner vehicles' purchasing and usage patterns. Financial incentives have been found to have a positive impact on the immediate increase in the sales of cleaner vehicles, as observed in the adoption of electric vehicles. These incentives, along with other influential socioeconomic factors, play a significant role in promoting the adoption of cleaner vehicles and reducing greenhouse gas emissions (Soltani-Sobh et al., 2015). Similarly, non-financial incentives such as free charging stations have increased the usage of cleaner vehicles by reducing range anxiety (Chen and Li, 2021).

4.3 Other Notable Impacts and Behavioural Shifts

Apart from the increased awareness and changes in purchasing and usage patterns, SME-driven incentives have brought about other behavioural shifts. The research conducted by demonstrates that customers who have benefited from SME incentives are more inclined to recommend cleaner

vehicles to others, leading to a positive word-of-mouth effect (Chen et al., 2009; Cordera et al., 2018). The provision of preferred parking spots and free charging stations for cleaner vehicles at public places, such as shopping malls and office spaces, had a demonstration effect, influencing more individuals to consider adopting such vehicles (Narassimhan and Johnson, 2018). These incentives not only reduced ownership costs for employees but also showcased the commitment of companies to environmental sustainability (Narassimhan and Johnson, 2018).

5. Effectiveness of Sme-Driven Incentives

Incentives driven by small and medium-sized enterprises (SMEs) have been shown to be highly effective in promoting the adoption of cleaner vehicles. However, the effectiveness of these incentives can be influenced by various factors, and the success of incentive programs may vary. Collaborations and partnerships can play a crucial role in sharing costs, risks, and expertise, as well as leveraging synergies, to enhance the impact of both financial and non-financial incentives (Javadnejad, 2023; Apulu et al., 2011).

5.1 Overview of Overall Effectiveness

The research conducted highlights the significant role of both financial and non-financial incentives in driving the adoption of cleaner vehicles (Casals et al., 2016; Javadnejad, 2023). Financial incentives, including tax credits and subsidies, have played a significant role in reducing the initial purchase cost of cleaner vehicles, thereby increasing their affordability for the general public" (Soltani-Sobh et al., 2015). On the other hand, non-financial incentives, such as free charging stations and maintenance services, have helped overcome practical barriers and increased user satisfaction (Chen and Li, 2021).

5.2 Factors Influencing the Success of Incentives

The success of SME-driven incentives seems to be influenced by several factors. For instance, the type, size, and timing of incentives, target customers' specific needs and preferences, and the broader socio-economic and policy context all appear to play a role in determining incentive effectiveness (Sierzchula et al., 2014). Moreover, the effective alignment of incentives with other business strategies, such as marketing and customer service, is crucial for maximizing their impact (Mahmoud and Osman, 2020). This alignment ensures that incentives are integrated into the overall business strategy, reinforcing the company's commitment to environmental sustainability and enhancing its performance (Choe, 2017; Heindel, 2020).

5.3 Case Studies of Particularly Successful SME Incentive Programs

Several case studies provide examples of particularly successful SME incentive programs. In one instance, an SME in Germany achieved a remarkable increase in the sales of electric vehicles through a comprehensive package of incentives, including attractive financing options, free charging facilities, and extensive customer education programs (Hackbarth and Madlener, 2016). In another case, a Chinese SME significantly boosted its cleaner vehicle sales by offering a range of after-sales services and maintenance supports, thereby alleviating customers' concerns about vehicle reliability and after-sales service (Chen and Li, 2021).

6. Challenges and Opportunities

Furthermore, the research conducted highlights the significant potential of SME-driven incentives in promoting cleaner vehicles (Cordera et al., 2018). However, it is crucial to acknowledge the challenges that SMEs often encounter in their efforts and the opportunities that exist to overcome these challenges (Maiti, 2018; Yang et al., 2022). This comprehensive understanding underscores the nuanced role of SMEs in shaping the sustainable transportation landscape

6.1 Common Challenges Faced by SMEs in Promoting Cleaner Vehicles

SMEs encounter a variety of challenges in their quest to promote cleaner vehicles. High initial costs, lack of charging infrastructure, and consumer range anxiety are often cited as major hurdles (Chen and Li, 2021). According to a study, SMEs face constraints in terms of resources, organizational structure, technical expertise, innovation, and knowledge loss (Kumar and Singh, 2017). Financing obstacles in small firms have a greater impact compared to obstacles in large firms. Insufficient technologies and limited resources are the main challenges faced by SMEs in global competition. Additionally, the lack of a supportive policy environment and public awareness can also pose significant challenges (Sierzchula et al., 2014).

6.2 Opportunities and Potential Solutions to Address These Challenges

Despite the challenges faced, SMEs have numerous opportunities and potential solutions. Collaborations and partnerships can play a vital role in sharing costs, risks, and expertise, as well as leveraging synergies, to address these challenges and promote the adoption of cleaner vehicles (Rezaei et al., 2014; Jeon, 2018; Shamsuzzoha et al., 2012). Technological advances and innovations, such as the development of more efficient and cheaper batteries, can also help overcome practical barriers and reduce costs (Wilson et al., 2020). Furthermore, SMEs can benefit from policy support and funding schemes aimed at promoting cleaner vehicles. Active engagement with policymakers and stakeholders can help shape a more conducive environment for cleaner vehicle adoption (Hackbarth and Madlener, 2016).

7. Future Directions

Environmental issues and cleaner production are receiving increasing attention, making clean production and sustainable consumption with low emissions significant. Traditional energy vehicles are increasingly unsuitable for the development of the current society. It is a current trend in the vehicle market to accelerate the substitution of new energy vehicles for traditional energy vehicles (Yang et al., 2019).

7.1 Emerging Trends in Incentives for Cleaner Vehicles

Emerging trends in incentives for cleaner vehicles include a more integrated approach to incentives, where a combination of financial and non-financial incentives are offered together to maximize impact (Hackbarth and Madlener, 2016; Sierzchula et al., 2014; Wilson et al., 2020). In the study, it was found that SMEs that adopt digital platforms to acquire knowledge on how to market their goods or when selling them can improve their digital innovation sustainability (Khrais and Alghamdi, 2022; Halila, 2007; Dey et al., 2019; Ye and Kulathunga, 2019). Furthermore, as cleaner vehicles become more prevalent, there may be a shift towards targeted incentives aimed at specific consumer segments or particular types of cleaner vehicles, reflecting the evolving nature of the market" (Cordera et al., 2018; Potter, 2007; Hackbarth and Madlener, 2016).

7.2 Potential Future Research Areas

Future research could further investigate the effectiveness of different types of SME-driven incentives in different contexts, as well as the role of SMEs in shaping cleaner vehicle markets (Sierzchula et al., 2014; Matharu et al., 2020; Matharu et al., 2020). Moreover, more research could be devoted to understanding the challenges and barriers faced by SMEs and finding innovative solutions to overcome them. Finally, there is a need for more research on how to leverage emerging trends and opportunities to maximize the impact of SME-driven incentives (Wilson et al., 2020).

8. Conclusion

This systematic review sought to comprehensively analyze the diverse approaches SMEs employ to encourage the adoption of cleaner vehicles. Moreover, the research emphasizes the importance of aligning incentives with consumers' lifestyles to promote sustainable consumption behaviour. These insights contribute to a nuanced understanding of SMEs' contribution to the sustainable transportation landscape, including the development and implementation of effective incentive schemes. By analyzing the diverse approaches employed by SMEs, the research provides valuable guidance for policymakers, industry stakeholders, and SMEs themselves in designing and implementing effective strategies to promote the adoption of cleaner vehicles.

8.1 Summary of Key Findings

The research conducted by highlights the crucial role of SMEs in influencing the adoption of cleaner vehicles. These SMEs employ a diverse range of incentives, including financial and non-financial measures such as discounts, rebates, preferential financing, education, awareness campaigns, and other initiatives. This comprehensive approach underscores the nuanced contribution of SMEs to the sustainable transportation landscape. These incentives have had varying levels of effectiveness, driven by factors such as the local economic context, consumer awareness, and governmental policy. Consumer behaviour has been positively influenced, with signs of increased knowledge about cleaner vehicles, changes in purchasing and usage patterns, and other behavioural shifts. Yet, the review also emphasized the challenges faced by SMEs and highlighted potential opportunities for more effective implementation of cleaner vehicle promotion.

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8.2 Implications for SMEs, Policymakers, and Society

The findings have far-reaching implications. For SMEs, insights from the review can help refine incentive schemes and business strategies for cleaner vehicle promotion. Policymakers can leverage these findings to shape policies that support SMEs and foster an environment conducive to cleaner vehicle adoption. Additionally, they highlight the necessity of continued governmental engagement, collaboration with SMEs, and public education initiatives. Despite the challenges, the research underscores the significance of SMEs' contribution to a more sustainable future by driving the transition towards cleaner vehicles and reducing our environmental impact. It highlights the need for continued research and innovation in this area to capitalize on the multiple opportunities and potential solutions available.

8.3 Final Remarks on the Role of SMEs in Promoting Cleaner Vehicles

To conclude, SMEs play an undeniably crucial role in promoting cleaner vehicles. Their innovative and adaptable nature positions them at the forefront of sustainable transportation initiatives. While there are challenges ahead, there is considerable potential for SMEs to drive even greater adoption of cleaner vehicles, shaping a more sustainable future for all.

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