

## EVIDENCE FROM THE HYBRID VEHICLE MARKET ON CLIMATE CHANGE AND SUSTAINABLE PRODUCT CONSUMPTION

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**ABSTRACT** Firms must better understand the motivations behind the purchasing of these items as sustainable consumption becomes more essential. In the context of the U.S. hybrid car market, this article investigates the influence of mass media. Monthly sales data shows that the general coverage of climate change or global warming by major media outlets has a beneficial influence on the sales of hybrid automobiles. Climate change deniers in the media are largely to blame for this effect. While climate change denial or neutral reporting has minimal influence, the opposite is true with media coverage. According to the authors' findings, media coverage of environmentally friendly products has a significant impact on customer purchases. Research on the causal influence of media on consumer decisions, particularly those that are critical to society, is needed, as are their implications for theory and practise.

**Keywords:** climate change, global warming, hybrid vehicle, media, social marketing, sustainability

### I. Introduction

Climate change and global warming are altering the social and economic landscapes of the twenty-first century as a major worldwide concern. Nearly two-thirds of respondents in a study conducted by Global Scan/BBC World Service (2009) claimed that climate change is "extremely serious" and important to them. The same study found that 61 percent of respondents would support their governments making investments in climate change, even if those steps would have a short-term impact on the economy. Meanwhile, the average customer is actively looking for sustainable consumption choices. Consumers throughout the world are eager to switch to environmentally friendly items in an effort to combat climate change, a poll by McKinsey & Company revealed. As a result of these developments, businesses and policymakers must know what factors impact the acceptance and spread of environmentally friendly goods across society.

The hybrid car market in the United States is the framework in which we conduct our empirical research on this subject. There has been an increase in study on the drivers of hybrid car purchases, however most studies have focused on financial considerations (Shin, *et al.* 2019). A favourable correlation between gasoline prices and the demand for fuel-efficient automobiles is shown by (Chen, *et al.* 2019), and this suggests that customers' "total cost of ownership" influences their decision to buy a hybrid car. Scholars have examined the impacts of government policies, particularly tax exemptions and deductions.

### II. Conceptual Background

#### Sustainable Products and Hybrid Vehicles

There are two benefits to purchasing a product that is both environmentally friendly and sustainable at the same time. Consumption has a direct benefit to the consumer since it is a private good. When it comes to transportation costs, hybrid automobiles are one example. Sustainable consumption, such as driving a hybrid car, has significant

social advantages, including lower energy use and emissions of greenhouse gases (Ivanova, *et al.* 2020). Many people find it difficult to get behind public-benefit products due to the fact that their social advantages are dispersed, difficult to measure, and only realised at a later period. In addition, customers might profit from these societal advantages by simply free-riding on the purchases of others. Even environmentalists may not always "practise what they preach," as (Chen, *et al.* 2019) points out. Furthermore, even with tax incentives, sustainable items are typically more expensive than traditional products.

What motivates people to buy sustainable items in the first place, given these obstacles? An suitable scenario for studying this issue is hybrid automobiles, which have a private–public benefit dichotomy. A significant contributor to air pollution and climate change has long been viewed as autos, therefore worries about climate change and media coverage of it are likely to have an influence on the automotive market. Second, the auto industry sions operate as key impediments to the adoption of hybrids in the form of hybrid automobiles.

Consumer attitudes regarding green products have been the primary focus of current marketing research on green products. Customer perceptions of green products, brand perceptions affected by the introduction of green products, and the impact of environmental messaging on consumer attitude are all examples of this type of study (Roemer, & Henseler, 2022). There has been a lack of research on how people really shop in the real world. Although there are many studies on network effects and how it affects consumer purchases, one notable exception is by (Chen, *et al.* 2019) who found in California customer purchases of Toyota Priuses were impacted by the installed base (the total amount of prior Prius buyers) in the same area. In their research, they found that the installed-based impact might be influenced by a variety of factors such as social preferences, the word-of-mouth effect, and observational learning. We, on the other hand, evaluate the impact of mass media as a key social force on the adoption of hybrid automobiles in the overall U.S. market rather than network or peer effects.

We rely on ideas and previous research to better understand what motivates people to make purchases in this area, including the influence of mass media and economic vs noneconomic prosocial incentives (Sovacool, *et al.* 2021). Examples of theoretical reasons and methodologies utilised in typical research are presented. In the next section, we'll focus on the most important points.

### III. Motivation for Hybrid Vehicle Purchase

Monetary motives. According to studies on extrinsic, financial variables, there is a significant association between the price of gasoline and the adoption of fuel-efficient cars. Studies have indicated that the savings on fuel costs—and hence the overall cost of ownership—is a significant factor in adoption. On the other hand, incentives provided by the government appear to have a conflicting impact. As an example, state sales tax exemptions have a three-fold influence on hybrid car sales compared to the delayed income tax credits, which have a far smaller impact.

A mix of personal and social factors. Earlier research has also shown that inherent qualities have a significant influence on the pursuit of hybrid automobiles in particular. Green Party registered voters are more likely to drive hybrid cars, as evidenced by (Chen, *et al.* 2019)'s research on this topic. People who belong to the Sierra Club are more likely to acquire fuel-efficient hybrid vehicles, according to (CHEN, ET AL. 2019). It is discovered in California by (Chen, *et al.* 2019) that the Toyota Prius has a direct impact on the model's adoption. A peer effect may be observed in the proliferation of solar photovoltaic panels, though.

Prosocial behaviour is influenced by a person's image/identity, according to experimental investigations. For example, (Chen, et al. 2019) has demonstrated that charitable donations are more likely to be given in public because individuals are driven by their personal image rather than by a real desire to help others.. (Chen, et al. 2019) showed that activating status motives not only promotes consumers to acquire more environmentally friendly things but also increases their desire for green products when they are more expensive than nongreen ones when they are purchased in public rather than at home. Prosocial behaviour may be motivated by a person's desire to conform to social norms through enhancing their public image.

#### **IV. The Role of Mass Media**

The media's influence in environmental management, public health, and economics has been extensively studied in academic literature (Wu, *et al.* 2021). As a result, the study has concentrated on a variety of diverse functions, and conclusions about the influence of media are far from definitive. According to a number of researchers, educating people about issues and suggesting solutions is straightforward, but motivating them to alter their behaviour is a lot more.

The establishment and enforcement of social standards is an important role of the media in bridging the awareness/attitude/behavior divide (Abanyam, & Abanyam, 2021). A consumer's actions are more likely to be in line with the societal norm if the consumer's views are consistent. Social norms, for example, are a significant predictor of recycling behaviour, and the mass media is a primary source of these social norms, according to (Chen, et al. 2019). It has been shown that media coverage of underage binge drinking influences social norms, which in turn influences behaviour by raising public disapproval and discouraging others from engaging in the habit.

#### **V. Managerial Implications**

Our findings have a number of crucial implications for companies who want to promote environmentally friendly products. Next, we'll review them.

Use the media to impact people's perceptions of sustainable consumption. While sustainable items can serve as status symbols, it is essential that sustainable consumption be seen as a socially acceptable normative behaviour before they can fulfil this purpose. As a result, Tesla has struggled to gain traction in China, where living a sustainable lifestyle is not widely seen as a desirable norm. There is evidence to suggest that media attention to climate change has an effect on the sale of hybrid vehicles since it can help establish the societal norm that environmentally friendly purchasing is more desired (Giannakis, *et al.* 2020). A long-term marketing strategy for companies like Tesla would be to cooperate with the media on environmental concerns rather than merely promoting their own products, according to this analysis. – This is especially true in emerging international markets where societal norms have yet to take root and take hold. Observe and respond to media trends and interest in a strategic manner. Despite the firm's own marketing efforts, the media has a significant impact on consumer perceptions and purchasing decisions. When environmental issues are covered favourably in the media, companies who offer sustainably produced goods should take advantage of this favourable publicity. Tracking the trends and focus of such media coverage may help companies plan their marketing strategy based on present and future customer preferences (Tarei, Chand, & Gupta, 2021). Consumers and societal norms grow increasingly inclined

to support environmentally friendly items as media coverage of environmental concerns rises. Marketers must act swiftly to help consumers find what they're looking for. Firms, for example, may plan unique events and improve distribution and availability to purchase. ”

## VI. Limitation and Future Research

Mainstream media's coverage of significant social issues may have an impact on consumers' purchasing decisions. Such an influence has important ramifications for media consumption, public policy, and public discourse. However, even though we have used a range of methods, including fixed-effect models, instrumental factors, and delayed dependent variables, to quantify the impact, we note the limitation that to properly quantify causal effects in these circumstances is experimentally difficult to do (Ivanova, *et al.* 2020). We have taken a step in the right direction, but our findings are not proof of causation, but rather evidence based on correlations. Research in a variety of situations and approaches might be useful in the future. An excellent way to demonstrate these impacts would be to conduct long-term field experiments or studies that take use of quasi-experiment chances (Williamson, *et al.* 2018). As a final note, we urge more investigation into the potential impact of media on consumer behaviour, particularly in areas critical to society like sustainable consumerism, technology uptake, and charity giving.

## VII. Conclusion

The "strategic use of mass media as a resource to achieve a social or public policy cause" might be an example of this. Advocacy via the media has been utilised successfully in the field of public health to encourage people to adopt healthier habits (e.g., Jernigan and Wright 1996). Spending resources on media advocacy campaigns could provide a greater return on investment than advertising by companies, an intriguing possibility being that media coverage of sustainability issues is more likely to motivate genuine desire to engage in socially valued consumption (that also serves as a status symbol for conspicuous products) than advertising initiated by firms. This is an interesting hypothesis (Chen, *et al.* 2019). Corporate sustainability strategies and integrated marketing initiatives to influence the mass media should be considered by makers of sustainable products. Even though cause marketing may not directly expose consumers to a product itself, it may result in important media attention of particular sustainable causes, which in turn increases product sales. In the same way, governments and non-governmental groups may use social marketing and media campaigning to raise awareness of environmental concerns in order to encourage consumers to buy more sustainable products.

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