

## Chapter 14

# The Impact of Environmental Concern on Consumers' Attitude and Intention Toward Electric Vehicles: The Role of Demographics

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### **ABSTRACT**

*This research aims to analyze the impact of environmental concerns on Turkish consumers' attitudes toward and intention to purchase EVs. It is also aimed to investigate the role of demographical characteristics—gender, age, income, and education—on those impacts. Given the purpose, a descriptive study was conducted through an online survey with a sample of 334 consumers. The research findings indicate that environmental concern plays a significantly influential role in the attitude toward and intention to purchase EVs. The study also confirms that environmental concern's impact on the attitude and intention toward EVs differs in terms of gender, age, and income. Only women show a positive influence of environmental concern on the attitude toward EVs. There is no difference in the direct or indirect link between EV purchase intention and environmental concern for age groups. Environmental concern's indirect influence on the intention to buy EVs is the highest and significantly different for the consumers with 7500-9999 TL income.*

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## INTRODUCTION

One of the major challenges facing our environment is the uncertainty of future access to fossil fuels and the significant volume of carbon dioxide (CO<sub>2</sub>) emissions. According to The World Resource Institute, road transportation accounts for 11.9% of global greenhouse emissions (Ritchie & Roser, 2021). Hence, the adoption of renewable energy vehicles instead of conventional ones may be considered a promising solution. One type of them, electric vehicles (EVs), produces zero direct emissions and helps protect natural sources and the environment (Shen et al., 2019, Tu & Yang, 2019).

Owing to the increasing environmental concerns of consumers, EVs are becoming an attractive alternative for transportation (Junquera et al., 2016). Various studies on EV adoption have assumed that EVs are eco-innovations with the ability to reduce the environmental problems of the transportation sector (Egbue & Long, 2012, Schuitema et al., 2013). According to the International Energy Agency (IEA), in 2020, over 3 million EVs were sold, with an increase of 43% compared to 2019 (IEA, 2020). EV sales rates in Turkey have also increased compared to 2019. The sales amount, which was 222 in 2019, increased to 844 in 2020 (TEHAD, 2021).

There has been an increasing amount of literature on the consumers' attitude and intention toward EVs (Asadi et al., 2021, Chu et al., 2018, Lai et al., 2015). However, the literature still lacks knowledge for the emerging markets. Since EVs are still a relatively new technology in those markets, few studies exist focusing on consumers' intention to adopt EVs. As an emerging market, Turkey, consumers' EV adoption is a brand-new subject. Besides, the relationship between environmental concern and EV acceptance has not been thoroughly investigated. Therefore, this paper aims to analyze the EC's impact on Turkish consumers' attitude and intention for EVs. We also aim to identify the role of demographics (i.e., gender, age, income, and education) on those effects.

This study has the following structure. The first section presents the theoretical background and hypotheses development. In the second part, the paper gives the methodology with the analysis and findings of the study that are followed by the conclusion and discussion section. In the last section of the study, the limitations and implications for future research are presented.

## THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

Environmental concern (EC) refers to one's perception and knowledge about environmental issues, to what extent a person concerns for and is worried about threats to the environment, and supports efforts to solve them (Lin & Niu, 2018, Moyo, 2018). Environmentally concerned consumers are highly motivated and interested in purchasing environmentally friendly products (Moyo, 2018, Verma et al, 2019).

Previous studies have posited that EC has a direct positive effect on the attitude toward and intention of green consumption (Mainieri et al., 1997, Bamberg, 2003, McDonald et al., 2016, Mohd, 2016). McDonald et al. (2016) stated that people who are more concerned about the environment are more likely to respond to environmental issues and take actions in environmental protection. Also, some of the studies have shown that EC is a significant personal antecedent of consumers' preference for green consumption. For instance, it is confirmed that EC positively influences the attitude toward (Kirmani, 2016) and willingness to purchase (Mohd, 2006) green products.

The previous studies also demonstrated that there is a positive link between EC and EV purchase intention (Thananusak et al., 2017, Wu et al, 2019). Besides, there is some evidence for the impact of

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