

Chapter 1

Introduction

1.1 Background

Global warming refers to the increase in the Earth's atmospheric temperature, primarily driven by greenhouse gases released through human activities such as deforestation and the burning of fossil fuels, which generate carbon emissions (United Nations, 2022). These emissions constitute a major source of air pollution. Particularly in Jakarta, air pollution has grown to be a serious environmental problem. Iqbal et al. (2024) claim that Jakarta's fast industrialization and population increase have negatively impacted the city's air quality, mostly as a result of motorized cars and other sources of pollution. According to a 2025 study, there were 26,370,535 motorized vehicles in Jakarta, including cars, trucks, buses, and motorbikes (Pramono et al., 2025). With an Air Quality Index (AQI) score of 153 as of August 2025, Jakarta was the third most polluted city in the world, trailing only Baghdad with an AQI score of 167 and Kinshasa with an AQI score of 154 (**Figure 1**).



Figure 1. Top 9 most polluted cities in August 2025 (IQAir, 2025)

Various strategies have been proposed to reduce air pollution, including planting more trees, promoting the use of public transportation, and encouraging the adoption of electric vehicles. In this research, the term 'Electric Vehicles or EVs' refers to electric cars exclusively and not other forms of electric vehicles such as electric motorcycles, buses, or trucks. Electric vehicles produce zero direct carbon emissions during operation and have therefore been introduced as an alternative to reduce emissions generated by conventional vehicles (Ghani et al., 2025). To encourage the use of electric vehicles, governments all over the world have also put rules and incentives into place. Through the Directorate General of Taxes, the Indonesian government offers a 10 percent Value Added Tax (VAT) incentive for the purchase of electric vehicles. Furthermore, the government of Indonesia has implemented an odd-even exemption regulation in Jakarta that limits traffic congestion by only allowing odd- or even-numbered non-EV car plates to be used on selected roads on weekdays. However, all EVs are exempted from this rule. This regulation is only available in Jakarta as of this date (Dinas Perhubungan Provinsi DKI Jakarta, 2021). Adoption of electric vehicles has been shown to have positive environmental effects in earlier studies. According to Liu et al. (2025), for example, the use of electric vehicles decreased carbon emissions in China's transportation sector by 81.2 percent.

Despite these advantages, the adoption rates of electric vehicles differ greatly between nations. In China, electric vehicle adoption has been highly successful. According to the International Energy Agency (2025), electric car sales in China were projected to reach 60 percent of total car sales. On the other hand, Indonesia continues to have a very low rate of electric vehicle adoption. Cahyadi & Tjhin (2025) reported that electric cars account for less than 0.5 percent of the total number of cars in Indonesia. This suggests that Indonesia is still in the early stages of its electric vehicle transition. To promote the adoption of electric vehicles, it is crucial to comprehend the variables that affect consumers' purchase decisions.

Among different demographic groups, Millennials are considered one of the populations most likely to adopt electric vehicles (Ju & Kim, 2022). In Jakarta, Millennials represent a significant portion of the population, accounting for 23.38 percent of the total population (Badan Pusat Statistik Provinsi DKI Jakarta, 2025). In addition, Millennials contribute to more than 50 percent of total consumer spending in Jakarta (Kusworo, 2025). Research conducted by Zulfana (2026) also found that Millennials are among the age groups most motivated to purchase electric vehicles. Given their purchasing power and large population share, Millennials represent an important target group for studying electric vehicle purchasing behavior in Jakarta.

Numerous elements that affect consumers' decisions to buy electric vehicles have been found in earlier research. Research conducted in Vietnam by Hoang et al. (2022) found that consumers' attitudes toward electric vehicles significantly influence their purchasing behavior. Similarly, a study conducted in China found that higher levels of environmental concern lead to increased electric vehicle sales (Wu et al., 2024). Furthermore, the adoption of electric vehicles is significantly influenced by perceived usefulness. A study conducted in Pakistan found a positive relationship between perceived usefulness and consumers' intention to purchase electric vehicles (Hussain & Qureshi, 2024). However, many previous studies on electric vehicle purchasing behavior have primarily been conducted in China, while research in other countries remains limited (Wang et al., 2022). As a result, it is crucial to investigate this subject in many settings, especially in Indonesia, where the uptake of electric vehicles is still very low. Through this research, it may be possible to gain important insights for boosting the uptake of electric vehicles and promoting environmental sustainability by examining the variables that affect Jakarta Millennials' purchase decisions.

1.2 Research Objective

The prevalence of electric vehicles in Indonesia is still much lower than in other nations, despite the environmental advantages of these vehicles and the government incentives put in place to promote

their adoption. In Indonesia, electric vehicles make up less than 0.5 percent of all automobiles sold, whereas in China, they are expected to make up the majority of all car sales. This indicates that the transition toward electric mobility in Indonesia has not yet progressed at the same pace as in other countries. Increasing the use of electric vehicles could have a significant positive impact on the environment, given Jakarta's serious air pollution issue and the significant contribution of transportation to carbon emissions.

However, the factors that influence consumers' decisions to purchase electric vehicles in Indonesia remain insufficiently understood. Previous studies have identified several determinants of Electric Vehicle Purchasing Behavior, such as Consumers' Attitudes, Environmental Concern, and Perceived Usefulness. Nevertheless, much of the existing research has been conducted in countries such as China, and limited research has focused on the Indonesian context. In addition, Millennials represent a significant demographic group in Jakarta with considerable purchasing power and a higher likelihood of adopting electric vehicles. Therefore, it is important to examine the factors that influence electric vehicle purchasing behavior among Millennials in Jakarta. Understanding these factors may help policymakers and businesses develop more effective strategies to promote electric vehicle adoption and contribute to the reduction of air pollution.

1.3 Research Questions

Based on the topics covered in the preceding sections, the purpose of this study is to investigate the variables that affect Jakartan Millennials' decisions to buy electric cars. It is critical to comprehend these elements in order to pinpoint the aspects that could promote increased electric vehicle adoption in the area. This study specifically focuses on three variables, which are Attitude toward Electric Vehicles, Environmental Concern, and Perceived Usefulness. These variables are significant drivers of electric vehicle adoption in earlier studies. Thus, the following are the research questions of this study:

1. To what extent does Attitude toward Electric Vehicles (EVs) influence the Purchasing Behavior of EVs among Millennials in Jakarta?
2. To what extent does Environmental Concern influence the Purchasing Behavior of Electric Vehicles (EVs) among Millennials in Jakarta?
3. To what extent does Perceived Usefulness influence the Purchasing Behavior of Electric Vehicles (EVs) among Millennials in Jakarta?