

# Modelling Malaysians willingness-to-pay for electric cars: evidence from discrete choice data

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## ABSTRACT

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Road transportation is the major contributing factor of increasing carbon emission to the environment that eventually leads to the severe air pollution. In recent decade, electric vehicles (EVs) have been introduced to replace fossil fuel cars as a way to reduce carbon emission from the road. The study examines Malaysians willingness-to-pay for electric cars by utilising the discrete choice modelling approach. Consumers in Kuala Lumpur and Penang were sampled and given sets of alternatives determined from a systemically review of past studies to make their choices. The choices are made up of three important attributes of EVs: the price, driving range and charging time of the vehicle. This paper also describes the relationship between socio-demographic factors of consumers and their buying decision. Results show that brand, design and safety features of the electric car significantly influence willingness-to-pay for electric cars. This study also reveals that Malaysians have low knowledge and willingness to purchase electric cars. The main reason was the costly battery replacement. Nonetheless, some respondents are willing to pay a higher price for a better performance electric car. The findings may be beneficial to policymakers and car producers in both profit gaining and environment protection.

**Keywords:** Electric cars, willingness-to-pay, multinomial logit model, random utility theory, consumption, carbon emission