



The Moderating Roles of Environmental Awareness and Product Knowledge on the Impact of Marketing Mix Elements on Purchase Intention

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ABSTRACT

The purpose of this study is to examine the moderating effects of environmental awareness (EA) and product knowledge (PK) on the relationship between marketing mix elements and the purchase intention of electric vehicles (EVs) in Thailand. Based on a quantitative research design, 253 samples of Thai respondents aged 20 and above were collected via an online questionnaire as a research tool. Structural Equation Modeling (SEM) analysis was used to analyze the proposed hypotheses. The results indicate that all four marketing mix elements, which are product attributes, pricing strategy, distribution channels (place), and promotional activities, significantly influence the purchase intention of electric vehicles. Product attributes ($b = 0.523$) have the strongest impact on purchase intention, followed by pricing strategy ($b = 0.501$), distribution channels (place) ($b = 0.477$), and promotional activities ($b = 0.334$) respectively. The results of moderation analysis reveal that environmental awareness significantly moderates the effect of product attributes ($b = 0.412$) and pricing strategy ($b = 0.305$) on purchase intention but is not found in the relationships of distribution channels (place) and promotional activities toward purchase intention. Additionally, consumer product knowledge of EVs was found to significantly and negatively moderate only the influence of promotional activities ($b = -0.343$) on purchase intention. In other words, potential consumers who possess higher EV knowledge seem to be less influenced by promotional activities in their decision to buy EVs. These findings highlight the importance of integrating environmental concerns and EV product knowledge into the firm's marketing strategies to boost EV adoption in emerging countries. The implications and recommendations will be discussed in the paper.

Keywords: Environmental Awareness, Product Knowledge, Marketing Mix, Purchase Intention, Electric Vehicles, Thailand

JEL Classifications: L26, M13, J24

1. INTRODUCTION

Recently, the electric vehicle market has grown substantially worldwide because of advances in EV technology and environmental concerns. The change from internal combustion engine technology to EV technology can be realized as a sustainable transportation technology not only because of the imperative demand for carbon emission reduction but also because of changes in consumer preferences (Rezvani et al., 2015). The data from Global EV Outlook 2024 showed that global electric vehicle sales will be more than 10 million US dollars in 2022, and

the sales are expected to reach around 17 million in 2024, which can account for more than one in every five vehicles sold globally (IEA, 2024). The electronic vehicle market has started to become a mass market for vehicles in many countries. In China, the EV market will account for 45% of car sales in 2024, followed by 25% in Europe and around 11% in the USA. Intense competition among manufacturers, falling battery and automobile prices, and ongoing regulatory support bolster this growth.

Thailand is one of the emerging countries in Southeast Asia that shows potential growth in the EV market. In 2023, EV sales will have reached around 76,000 units, which is nearly eight times