ABSTRACT

SOFT COMPUTING FOR ELECTRIC VEHICLE SELECTION RECOMMENDATION SYSTEM BASED ON BUYER EXPECTATIONS

Rizky Ananda[1] Safitri Jaya[2]

[1] *Student of Informatic Departemen, Universitas Pembangunan Jaya*
[2] *Lecture of Informatic Departemen, Universitas Pembangunan Jaya*

Electric vehicles have become an increasingly attractive environmentally friendly transportation alternative. However, with the variety of electric vehicles available in the market, decision-making has become more complex for prospective buyers. The selection of electric vehicles is currently made with the assistance of recommendations from relatives or brochures from specific brands. Data obtained from kaggle.com discusses the sentiments of the Indonesian public regarding electric vehicles. There are a total of 1,516 respondent data, with 868 negative sentiments, 503 positive sentiments, and 144 neutral sentiments. Various types of electric vehicles that have entered Indonesia include the Toyota Corolla Cross Hybrid, Nissan Kicks e-Power, Mitsubishi Outlander PHEV, Hyundai Ioniq, and others. The aim of this research is to develop software that functions as a recommendation system for the selection of electric vehicles based on buyer expectations, which are grounded in six criteria. These six criteria are efficiency, battery capacity, maximum speed, range, number of seats, and drivetrain. The system development method utilizes the sequential linear methodology, consisting of four stages: analysis, design, testing, and evaluation. The data analysis method uses Simple Additive Weighting (SAW), which is a decision-making analysis method. The research results show that the software website for the electric vehicle selection recommendation system based on buyer expectations, using the SAW method, has been successfully developed with a graphical interface. The accuracy of the recommendation results will be presented in the form of rankings for the top five choices. With the existence of this recommendation system, users can easily determine their choice of electric vehicles that align with their expectations.

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