ABSTRACT

Sentiment Analysis of X Social Media Users on Electric Cars Using Natural Language Processing

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Electric car is a type vehicle that uses an electric motor as its propulsion, which is run by one or several rechargeable batteries. Electric cars are considered as an environmentally friendly and sustainable alternative to fossil fuel-powered vehicles because they do not produce exhaust emissions that are detrimental to the environment and human health. Electric cars also have better performance and lower operating costs compared to conventional cars powered by fossil fuels. However, the constraints faced by electric cars today are the relatively high price and the limited range of batteries. Public opinion about electric cars tends to vary depending on various factors such as personal experience, knowledge of electric car technology, environmental concerns, and personal preferences. This study aims to apply Natural Language Processing (NLP) to analyze public sentiment on X social media regarding electric cars using the Support Vector Machine (SVM) algorithm. The machine learning model in this study achieved an accuracy rate of 84.57%, indicating a good alignment between the predicted results and the actual data. The sentiment classification list from 8,487 datasets concluded that public perception tends to be negative, with a percentage of 59%, followed by positive at 36%, and neutral at 5%.

Keywords: *Sentiment Analysis, Electric Car, NLP, Support Vector Machine*