ABSTRACT

Current use of private vehicles is inevitable and has become a priority, as is happening in the city of Palu. High-school students in the city of Palu tend to use a motorcycle. This condition can lead to high rates of road accidents involving students.

This study aims to determine the mode of usage patterns among high-school students in the city of Palu. The uses of modes in the high-school students were in the city of Palu, namely motorcycles, private cars and public transport.

The independence test results indicated that socioeconomic factors were the independent variables influence the use of modes to school. The tabulated results showed the use of modes of data transports by students, was 56% of motorcycles, 7% of private cars, and 37% of public transport. Further, testing of individual multinomial logistic regression that produced the sex factor and time factors that influenced the use of modes in the high-school students in the city of Palu.

Then, conducted multinomial logistic regression testing simultaneously resulting logit model as follows:

\[ g_1(x) = -1.721 + 2.192X5(1) + 5.265X5(3) + 2.345X7(2) \]
\[ g_2(x) = -3.505 - 18.093X5(1) + 2.883X7(2) \]

Based on the above equation were an influential factor X5 (factor of family size) and X7 (satisfaction factors), resulting in the probability that student who used motorcycles was 0.827, the student who exercised a personal car was 0.972, and students who application ed public transport was 0.158.

The resulting model had a classification accuracy of 85.2%. Classification accuracy was greatly influenced by the number of independent variables that represented the usage patterns for modeling the modes at high-school students in the city of Palu, or in other words; the model used was appropriate.

Key words: Multinomial logistic regression, social-economic factors, use moda