ABSTRACT

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Title : Complementary Log-Log Regression Analysis on Categorical Data (Case Study: Customer Interest in Buying Insurance)

Humans cannot predict the risks that will occur while traveling, while risks can occur at any time. Insurance is an effort to reduce and transfer the risks that may occur at any time during the trip. However, there are still many public considerations in buying travel insurance. These considerations are influenced by several factors, namely age, type of work, education, annual income, number of families, chronic illnesses, history of flights and traveling abroad. The method used to determine the factors that people consider in buying insurance is regression. When people's interest in buying insurance is categorized into two, namely interest in buying and not interest in buying, a complementary log-log regression is used. The steps in carrying out a complementary log-log regression analysis are, 1) preparing data in binary form, 2) creating a Bin model which is a different combination of factors that influence people's interest in buying insurance, 3) estimating the parameters of each Bin model, 4) testing the significance parameters simultaneously using the likelihood ratio test and partial using the Wald test on each Bin model, 5) choosing the best Bin model using AIC and BIC. From the best Bin model, a complementary log-log regression equation can be constructed and the factors influencing people's interest in buying travel insurance can be identified. Based on the case study, the Bin 6.3.6 model is the best Bin model, which is a model consisting of 6 factors that influence people's interest in buying insurance, except for the 3rd factor, namely education and the 6th factor, namely chronic disease. So that the factors that influence the purchase of travel insurance products are age, type of job, annual income, number of families, flight history and history of traveling abroad, while education and chronic illness factors do not affect people's interest in buying travel insurance.

Keywords : C*omplementary Log-Log Regression*, *Estimation Parameter*, *Wald Test, Likelihood Ratio Test, AIC and BIC*