

ABSTRACT

SURVIVAL BUCKLEY-JAMES REGRESSION APPLICATIONS TO RESOLVE CENSORED OUTLIER DATA

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Survival analysis or life test analysis is a statistical technique used to analyze data that aims to find out the results of variables that affect an initial event to the end of an event. Linear regression analysis is an analysis that aims to determine the effect and linear relationship of independent variables on the dependent variable. Ordinary linear regression models cannot be used to model survival data because of the existence of right censored data. If forced to use, ordinary linear regression will give less accurate results, because censored data is data obtained from incomplete observations. Multiple Linear Regression Analysis can be used if there are outliers but are unable to provide the right results. Outlier data will be used as censored data. To analyze the censored data Buckley-James Regression analysis was used. In this research, a case study of factors that influence the duration of recovery of a tuberculosis patient is carried out. Factors that are thought to influence the length of time of a Tuberculosis patient's recovery are gender, patient age, complications, other diseases, education, occupation, cases, and diagnosis. From the results of the analysis concluded that the Buckley-James Regression method has a smaller MAPE value compared to the Multiple Linear Regression method. So that the Buckley-James Regression can be more accurately used in survival data containing censored data.

Keywords: *Survival, Multiple Linear Regression, Buckley-James Regression, Outlier, Censored Data, Tuberculosis*