# Prediction of Risk of Bankruptcy of a Company

## Kartini Hutagaol and Daniel Nicson Simanjuntak

Universitas Advent Indonesia; Surel:
kartinih_smant@yahoo.com

**Abstract:** Mathematical discriminant method is a multiple regression model that adopts Altman model by using five ratio variables, which aim to predict the risk of bankruptcy of manufacturing company in BEI. The sample used in this study consists of 24 companies that publish the financial statements in 2013- 2015, conducted by purposive sampling. The analysis performed in predicting the risk of bankruptcy of the company is factor analysis, structure matrix analysis, discriminant analysis. Before estimating the coefficients in multiple regression models and testing discriminant methods, the regression model must meet several classical assumption tests. The results of the classical assumption test show that the data free of a classical assumption namely: Multicolinearity, Autocorrelation, Residual Normality and Heteroscedasticity. The result of structure matrix shows that variable X3 is the most distinguishing variable able to predict the risk of failure of a company, has the highest matrix structure that is equal to 0,703, and then followed by very weak variable in predicting failure risk that fall at X1 equal to 0,005. The result of the discriminant function is Z-score $= -0,065X_1 + 0,234X_2 + 0,546X_3 + 0,12X4 + 0,465X_5$. The value of Cutoff is 0.240. The function of the equation has tested for accuracy in three firms where two firms are not bankrupt and one is bankrupt. The results illustrate the real situation.

**Keywords:** Prediction bankruptcy, discriminant analysis, classic assumption, Z-score