**METHOD TESTING OF NEURAL NETWORK BACKPROPAGATION AND LINEAR REGRESSION IN PREDICTING THE SALES TARGET OF UREA PSO FERTLIZER**

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**ABSTRACT**

PT. PUSRI (Pupuk Sriwidjaja) has responsibility and obligation to run the distribution and marketing of subsidized fertilizers as a form of implementation of the Public Service Obligation (PSO) to support the national food program by prioritizing the production and distribution of fertilizers for farmers. It is important to make predictions to consider the ideal amount of fertilizer to be provided in the future, so that the company does not experience shortages or excess supplies that will result in losses. Data mining as a supporting methodology in making structured predictions using a comparison of Neural Network Backpropgation and Linear Regression to find the highest accuracy results and apply them as prediction results. Method testing of Neural Network Backpropgation and Linear Regression using the Urea PSO sales data in 2019 and cross validation as a technique in trainning and testing data with rapidminer application. The result of the test using Neural Network Backpropagation and Linear Regression show the MSE error values are 0.767 and 5.130, which indicates that Neural Network Backpropagation has a higher level of accuracy than Linear Regression based on the data used in testing to predict sales of Urea PSO fertilizer in the future.

**Keywords:** Neural Network Backpropagation, Linear Regression, Prediction, Cross validation.