ABSTRACT

TransJakarta is a Bus Rapid Transit (BRT) system that has been operational since January 15th 2004, with the aim of providing fast, comfortable, and affordable mobility for the people of Jakarta. The provision of TransJakarta public transportation is intended as a solution to Jakarta's traffic congestion problems. Even though this policy is implemented, the level of traffic congestion in Jakarta remains high. The perception that TransJakarta facilities do not provide comfort and safety for passengers is one of the factors why people are still reluctant to use public transportation. This is reflected in user responses to TransJakarta facilities, which can be seen on social media platforms like Twitter, where users can post tweets in real-time. Sentiment analysis is conducted to classify users' emotions into positive or negative opinions by collecting tweets about TransJakarta facilities. The results of the sentiment analysis can then be used for evaluation and innovation purposes by PT TransJakarta to continuously improve their facilities. The chosen method for sentiment analysis is the Support Vector Machine (SVM), with tests conducted using three types of kernels: Linear Kernel, RBF Kernel, and Polynomial Kernel. This study aims to compare the classification results of the three kernels, using grid search to find the best parameter set. The results show that the RBF kernel performs the best in sentiment analysis of TransJakarta facility tweets, with the optimal parameter set being C = 10 and gamma = 1. The RBF kernel achieved the best accuracy, precision, recall, and f1-score, which were 95%, 89%, 100%, and 94%, respectively, in classifying positive and negative sentiments.

Keywords: *Sentiment Analysis, Facilities,* TransJakarta*, Support Vector Machine, Kernel*