

ABSTRAK

Mengimplementasikan metode *Support Vector Machine* dengan kernel RBF dan *Naïve Bayes Multinomial* untuk analisis sentiment dengan kelas negatif, netral, dan positif. Serta mendapatkan perbandingan akurasi dari metode *Support Vector Machine* dengan kernel RBF dan *Naïve Bayes Multinomial* dalam analisis sentimen. Berdasarkan penelitian sebelumnya, penelitian ini memiliki perbedaan dimana secara spesifik membandingkan performa metode SVM kernel RBF dan *Multinomial Naïve Bayes*. Serta menggunakan komentar *YouTube* mengenai kenaikan BBM di Indonesia sebagai dataset.

Penelitian yang telah dilakukan menggunakan 1500 komentar mengenai kenaikan BBM di Indonesia sebagai dataset. kemudian menggunakan metode *confusion matrix* untuk evaluasi kinerja model, menunjukkan metode *Support Vector Machine* (SVM) kernel RBF (*Radial Basis Function*) menghasilkan nilai akurasi sebesar 65.4%, presisi sebesar 63.7%, *recall* sebesar 59.4%, f1-score sebesar 59.8%. Sedangkan metode *Multinomial Naïve Bayes* dengan nilai akurasi sebesar 63.8%, presisi sebesar 60.4%, *recall* sebesar 57.7%, f1-score sebesar 56.6%. Berdasarkan hasil evaluasi, metode *Support Vector Machine* dengan kernel RBF lebih unggul dibandingkan metode *Multinomial Naïve Bayes*.

Kata kunci: Analisis Sentimen, *Support Vector Machine (SVM)*, *Kernel Radial Basis Function (RBF)*, *Multinomial Naive Bayes*, **Komentar YouTube**, **Kenaikan harga bahan bakar**

ABSTRACT

To implement the Support Vector Machine method with an RBF kernel and Multinomial Naïve Bayes for sentiment analysis with negative, neutral, and positive classes. Additionally, to compare the accuracy of the Support Vector Machine with an RBF kernel and Multinomial Naïve Bayes in sentiment analysis. Based on previous research, this study differs by specifically comparing the performance of the SVM with RBF kernel and the Multinomial Naïve Bayes methods. Additionally, it uses YouTube comments on the fuel price increase in Indonesia as the dataset.

The study utilized 1500 comments regarding the increase in fuel prices in Indonesia as the dataset. The evaluation of model performance was conducted using the confusion matrix method, showing that the Support Vector Machine (SVM) with the Radial Basis Function (RBF) kernel achieved an accuracy of 65.4%, precision of 63.7%, recall of 59.4%, and an F1-score of 59.8%. Meanwhile, the Multinomial Naïve Bayes method resulted in an accuracy of 63.8%, precision of 60.4%, recall of 57.7%, and an F1-score of 56.6%. Based on the evaluation results, the Support Vector Machine with the RBF kernel outperformed the Multinomial Naïve Bayes method.

Keywords: Sentiment Analysis, Support Vector Machine (SVM), Radial Basis Function (RBF) Kernel, Multinomial Naive Bayes, YouTube Comments, Fuel Price Increase