

ABSTRAK

Dalam era digital yang semakin berkembang, analisis sentimen menjadi penting untuk memahami opini pengguna yang beragam. Namun, terdapat kesenjangan dalam studi komparatif mengenai efektivitas metode pembelajaran mesin untuk analisis sentimen aplikasi e-wallet di Indonesia. Penelitian ini bertujuan membandingkan performa metode Support Vector Machine (SVM) dan Naive Bayes dalam analisis sentimen ulasan pengguna aplikasi OVO, yang diambil dari Google Play Store. Sebanyak 3.000 ulasan dikumpulkan dan diproses melalui tahapan text preprocessing, meliputi data cleaning, case folding, stopword removal, tokenizing, dan stemming. Pelabelan sentimen dilakukan secara otomatis menggunakan metode VADER, menghasilkan tiga kategori: positif, netral, dan negatif. Data kemudian diubah menjadi format numerik menggunakan TF-IDF sebelum diterapkan ke model SVM dan Naive Bayes. Evaluasi kinerja model dilakukan menggunakan confusion matrix dengan metrik akurasi, presisi, recall, dan F1-score. Hasil penelitian menunjukkan bahwa metode SVM memberikan hasil yang lebih baik dengan akurasi 89%, presisi 89%, recall 89%, dan F1-score 88%, dibandingkan dengan metode Naive Bayes yang mencapai akurasi 86%, presisi 88%, recall 86%, dan F1-score 87%. Hasil penelitian ini dapat digunakan sebagai referensi dalam pemilihan metode machine learning untuk analisis sentimen aplikasi e-wallet serta membantu OVO dalam meningkatkan kualitas layanan berdasarkan umpan balik pengguna.

Kata Kunci: Analisis Sentimen, Support Vector Machine, Naive Bayes, OVO, Machine Learning

ABSTRACT

In the rapidly evolving digital era, sentiment analysis has become crucial for understanding diverse user opinions. However, there is a gap in comparative studies on the effectiveness of machine learning methods for sentiment analysis of e-wallet applications in Indonesia. This research aims to compare the performance of Support Vector Machine (SVM) and Naive Bayes methods in sentiment analysis of user reviews for the OVO application, sourced from the Google Play Store. A total of 3,000 reviews were collected and processed through text preprocessing stages, including data cleaning, case folding, stopword removal, tokenizing, and stemming. Sentiment labeling was performed automatically using the VADER method, resulting in three categories: positive, neutral, and negative. The data was then transformed into numerical format using TF-IDF before being applied to the SVM and Naive Bayes models. Model performance was evaluated using a confusion matrix with metrics such as accuracy, precision, recall, and F1-score. The results showed that the SVM method delivered better outcomes with an accuracy of 89%, precision of 89%, recall of 89%, and F1-score of 88%, compared to the Naive Bayes method, which achieved an accuracy of 86%, precision of 88%, recall of 86%, and F1-score of 87%. These findings can serve as a reference in selecting machine learning methods for sentiment analysis of e-wallet applications and assist OVO in improving service quality based on user feedback.

Keywords: Sentiment Analysis, Support Vector Machine, Naive Bayes, OVO, Machine Learning