

ABSTRACT

Technological developments have changed the way people interact, including in the trade sector. One of the increasingly popular innovations is Facebook Marketplace, which allows users to make buying and selling transactions easily and efficiently. However, some users have expressed concerns about transaction security and product quality, which are often expressed through social media such as X. Therefore, sentiment analysis is needed to understand public perceptions of Facebook Marketplace. This study aims to apply the Chi-Square feature selection method and the Support Vector Machine (SVM) algorithm in analyzing the sentiment of X social media users towards the Facebook Marketplace feature. The data used are Indonesian-language tweets collected through a crawling process. After preprocessing, the data is classified into two sentiment categories, namely positive and negative. Three test scenarios were carried out to evaluate model performance, the application of Chi-Square feature selection, hyperparameter exploration on SVM, and undersampling ratio testing to handle class imbalance. The test results show that the best model is obtained by using Chi-Square feature selection at a threshold of 80%, the SVM algorithm with a Linear kernel and parameter $C = 1$, and an undersampling technique with a ratio of 0.6. The combination resulted in an accuracy of 80.00%, precision of 78%, recall of 76%, and f1-score of 77%. The system was then implemented in the form of a React JS-based web application connected to the Flask backend, with sentiment prediction and data visualization features. This research is expected to contribute to the development of a more accurate and practically applicable sentiment analysis system, as well as serve as a reference for platform developers to improve mutual services and build user trust.

Keywords: *Sentiment Analysis, Facebook Marketplace, Chi-Square, Support Vector Machine, Classification*