

## **Abstract**

Customer satisfaction relies on the quality of services provided to customers. The rapid development of technology allows customers to do transactions digitally. Obtaining feedback and complaint from customers emotion whether positive or negative, is challenging. This issue can be addressed by conducting sentiment analysis. Specifically, the study focuses on employing the Word2Vec method in conjunction with the K-Nearest Neighbors (KNN) algorithm. Word2Vec is utilized to generate word vector representations, allowing for the capture of words meanings and relationships between words within the context of customer feedback and complaints. Meanwhile, KNN serves as a classification algorithm, facilitating the identification of sentiment patterns within review data. By using stemming techniques on reviews and setting a window size of 2 in Word2Vec, coupled with a K value of 1 and the Manhattan metric in the KNN parameter, the research achieves optimal results. The findings demonstrate that this approach yields an impressive F1-score of 91.98%, indicating the effectiveness of the proposed methodology in sentiment analysis of customer complaints. This research contributes to the advancement of sentiment analysis methodologies for evaluating customer complaints in the banking industry. The insights from this study can inform banks and financial institutions in devising strategies to address customer concerns more effectively.

Keywords: sentiment analysis, mobile banking, livin' by mandiri, word2vec, knn