

ABSTRACT

The increased adoption of technology in the healthcare sector has facilitated greater access to services for the public, including pregnant women in Indonesia. Nevertheless, the adoption rate of health applications still faces significant challenges related to data security, feature effectiveness, and the influence of the social environment. This research aims to conduct an in-depth analysis of user sentiment towards health applications specifically for pregnant women in Indonesia, focusing on three primary factors: security, social, and health. The analysis was conducted on user reviews collected from the Google Play Store platform. This study integrates two primary methods: Latent Dirichlet Allocation (LDA) to identify the most frequently discussed topics among users, and the Support Vector Machine (SVM) algorithm to classify review sentiment into positive or negative categories. The data analysis process comprised several stages, starting from data preprocessing, topic modeling, sentiment labeling, to model performance evaluation using confusion matrix metrics, which include accuracy, precision, recall, and F1-score. The analysis results indicate that user sentiment varies significantly across the three factors. The health and social factors were dominated by positive sentiment, signifying user satisfaction with pregnancy monitoring features and community support. Conversely, the security factor exhibited a predominantly negative sentiment, particularly concerning aspects of performance risk and privacy. This indicates significant concerns regarding application stability and data security. The evaluation of the SVM model demonstrated strong performance, achieving an accuracy of 87%. By integrating LDA and SVM, this research successfully mapped user sentiment patterns in detail and provides strategic insights for developers to enhance the quality of health application services, making them safer, more responsive, and better aligned with the needs of pregnant women in Indonesia.

Keywords: e-Health, Sentiment Analysis, Support Vector Machine (SVM), Topic Modelling