

ABSTRACT

Digital pregnancy applications are increasingly used by expectant mothers in Indonesia to access health information and monitor their pregnancy progress. However, behind these benefits, users also face psychological challenges related to technology use, known as technostress. This study aims to identify the factors contributing to technostress through the analysis of user reviews from pregnancy applications, using a topic modeling approach with Latent Dirichlet Allocation (LDA) and sentiment analysis. The dataset consists of 48,733 Indonesian-language reviews collected via web scraping from the Google Play Store. The analysis process includes text preprocessing, sentiment labeling using the IndoBERT model, and topic and sub-topic mapping to uncover the context of user complaints. The LDA results reveal five main topics most frequently associated with complaints: Features, Technical & Access, Education & Community, Complementary Feeding (MPASI), and Monitoring. Each topic is further analyzed into 21 subtopics with negative sentiment to identify specific aspects contributing to technostress, such as navigation difficulties, login errors, and confusion in understanding fetal development information. For sentiment classification, three algorithms were compared—Naïve Bayes, SVM, and Random Forest. Evaluation results show that SVM outperformed the other models in all classification scenarios (main topic, sentiment, and sub-topic), achieving the highest accuracy of 0.8814 in main topic classification. This study also highlights challenges related to data imbalance, particularly the low proportion of negative sentiment data (7.57%), which may affect model performance. These findings provide valuable insights into the dynamics of technostress in pregnancy applications and serve as a foundation for developing more targeted recommendations for app developers.

Keywords: Pregnancy Applications, Technostress, Sentiment Analysis, Topic Modelling, Latent Dirichlet Allocation, scraping, Machine Learning, Naïve Bayes, SVM, Random Forest..