

ABSTRACT

Indonesia is one of the countries that is highly prone to natural disasters. Info BMKG is one of the information platforms used by the Meteorology, Climatology, and Geophysics Agency (BMKG). However, the number of Info BMKG app downloads remains relatively low. Additionally, numerous negative user reviews indicate areas for improvement. Therefore, an evaluation of the Info BMKG application is necessary.

This study evaluates the Info BMKG app based on user reviews from the Google Play Store. The evaluation was conducted through topic classification and sentiment analysis using the CatBoost model, as well as topic modeling using BERTopic. Topic classification was used to group data into two main topics: system quality and information quality.

The topic classification yielded an accuracy of 82% for system quality, with F1-scores of 0.77 (class 0) and 0.85 (class 1). For information quality, an accuracy of 85% was achieved, with F1-scores of 0.83 (class 0) and 0.86 (class 1). In sentiment classification, the model with SMOTE applied to the system quality topic achieved an accuracy of 87%, with F1-scores of 0.92 (class 0) and 0.69 (class 1). For information quality, sentiment classification achieved an accuracy of 91% with F1-scores of 0.88 (class 0) and 0.93 (class 1).

In addition, topic modeling using BERTopic revealed subtopics that reflect both strengths and weaknesses of the application within the two main topics. For system quality, user complaints included slow performance, errors, delayed notifications, and inaccurate location and map features. On the other hand, the app was praised for its ease of use and user interface design. Regarding information quality, users frequently complained about delayed earthquake information and inaccurate weather data, although the disaster-related content was considered informative, accurate, and relevant by many users.

Keywords – BERTopic, CatBoost, Info BMKG, Play Store, Sentiment Analysis, Topic Modelling