

ABSTRAK

Perkembangan layanan digital di sektor transportasi laut menuntut penyedia layanan untuk menyediakan aplikasi yang andal, responsif, dan mampu mendukung kebutuhan pengguna dalam mengakses berbagai layanan secara efektif. aplikasi e-ticketing Pelni Mobile memperoleh rating dari pengguna dengan rating rata-rata 3,2 dari 5 bintang. Serta masih terdapat berbagai keluhan yang disampaikan pengguna, seperti bug pada aplikasi, kegagalan transaksi, error sistem, serta tampilan antarmuka yang dinilai kurang *user-friendly*. Fenomena tersebut mengindikasikan perlunya analisis terhadap opini pengguna guna memahami persepsi mereka terhadap aplikasi dan mendukung proses evaluasi kualitas layanan yang diberikan. Tujuan penelitian ini adalah untuk mengklasifikasikan dan menganalisis opini pengguna dengan kategori positif, negatif, dan netral aplikasi Pelni Mobile menggunakan metode *Naïve Bayes*. Data penelitian berjumlah 3996 ulasan yang dikumpulkan melalui teknik *web scrapping* dari Google Play Store. Data ulasan terlebih dahulu dibersihkan lalu melalui tahap *pre-processing* yang meliputi *case folding*, *normalisasi*, *tokenizing*, *stopword removal*, dan *stemming*. Selanjutnya, pelabelan sentimen dilakukan menggunakan IndoBERT, fitur diekstraksi dalam bentuk numerik dengan TF-IDF, dan data latih diseimbangkan menggunakan *Synthetic Minority Over-sampling Technique (SMOTE)*. Berdasarkan hasil evaluasi pada data pengujian, model *Multinomial Naïve Bayes* menghasilkan nilai akurasi sebesar 81%. Hasil distribusi akhir menunjukkan bahwa sentimen positif berjumlah 16,98%, sentimen netral berjumlah 14,96% dan sentimen negatif berjumlah 68,06%. Temuan ini menunjukkan bahwa opini pengguna terhadap aplikasi PELNI Mobile masih didominasi oleh sentiment negatif sehingga terdapat beberapa aspek layanan dan fitur aplikasi yang perlu mendapatkan perhatian lebih lanjut dari pihak pengembang.

Kata kunci: Analisis Opini Pengguna, electronic ticketing, *Naïve Bayes*, Pelni Mobile.

ABSTRACT

The development of digital services in the transportation sector requires service providers to provide reliable, responsive applications that can support user needs in accessing various services effectively. Pelni Mobile e-ticketing application received a rating from users with an average rating of 3.2 out of 5 stars. Furthermore, there are still various complaints submitted by users, such as bugs in the application, transaction failures, system errors, and an interface that is considered less user-friendly. This phenomenon indicates the need for analysis of user opinions to understand their perceptions of the application and support the process of evaluating the quality of services provided. The purpose of this study is to classify and analyze user opinions into positive, negative, and neutral categories of the Pelni Mobile application using the Naïve Bayes method. The research data amounted to 3996 reviews collected through web scraping techniques from the Google Play Store. The review data was first cleaned and then went through a pre-processing stage that included case folding, normalization, tokenizing, stopwords removal, and stemming. Furthermore, sentiment labeling was performed using IndoBERT, features were extracted in numerical form with TF-IDF, and training data was balanced using Synthetic Minority Over-sampling Technique (SMOTE). Based on the evaluation results on the test data, the Multinomial Naïve Bayes model produced an accuracy value of 81%. The final distribution results showed that positive sentiment amounted to 16.98%, neutral sentiment amounted to 14.96% and negative sentiment amounted to 68.06%. These findings indicate that user opinion on the PELNI Mobile application is still dominated by negative sentiment so that there are several aspects of the application's services and features that need further attention from the developer.

Keywords: Electronic Ticketing, Naïve Bayes, Pelni Mobile, User Opinion Analysis.