

## ABSTRAK

Perkembangan perdagangan digital mendorong meningkatnya penggunaan aplikasi marketplace sebagai sarana utama belanja daring. Dalam persaingan tersebut, pengalaman pengguna (*user experience/UX*) menjadi faktor penting yang memengaruhi kepuasan pengguna terhadap aplikasi. Studi ini bertujuan untuk membandingkan efektivitas pengalaman pengguna pada aplikasi Shopee, Tokopedia, dan Lazada berdasarkan ulasan pengguna di Google Play Store, serta mengevaluasi keefektifan metode XGBoost berbasis TF-IDF dalam mengklasifikasikan sentimen ulasan.

Studi ini menggunakan pendekatan kuantitatif berbasis *text mining* dan *machine learning*. Data penelitian berupa 15.000 ulasan pengguna, masing-masing 5.000 ulasan untuk setiap aplikasi, yang diperoleh dari Google Play Store pada tahun 2025 sesuai ketersediaan data. Setelah melalui tahap *pre-processing*, diperoleh 14.791 ulasan efektif. Analisis difokuskan pada empat indikator utama, yaitu halaman depan, pembayaran, pencarian produk, serta diskon dan promosi.

Hasil penelitian menunjukkan bahwa Lazada unggul secara keseluruhan dengan proporsi sentimen puas sebesar 67,1%, rating rata-rata 3,72, dan *Satisfaction Score* sebesar 68,5%. Shopee berada pada posisi kedua dengan proporsi sentimen puas sebesar 53,6%, rating rata-rata 3,25, dan *Satisfaction Score* sebesar 56,1%, serta unggul pada indikator pencarian produk dan diskon/promosi. Sementara itu, Tokopedia menunjukkan hasil terendah dengan proporsi sentimen tidak puas sebesar 74,0%, rating rata-rata 1,95, dan *Satisfaction Score* sebesar 22,4%. Model XGBoost menunjukkan performa yang cukup baik dengan nilai *accuracy* 76,95%, *precision weighted* 83,91%, *recall weighted* 76,95%, *F1-score weighted* 79,89%, dan rata-rata *5-fold cross-validation* sebesar  $83,88\% \pm 0,45\%$ . Studi ini menyimpulkan bahwa analisis sentimen dari ulasan pengguna dapat digunakan untuk membandingkan efektivitas pengalaman pengguna pada aplikasi marketplace, dengan Lazada sebagai aplikasi yang paling unggul secara keseluruhan pada periode studi.

**Kata kunci:** Pengalaman Pengguna, Analisis Sentimen, Marketplace, TF-IDF, XGBoost, Google Play Store.

## ABSTRACT

The development of digital commerce has encouraged the increasing use of marketplace applications as the main means of online shopping. In such competition, the user experience (*User Experience/UX*) is an important factor that affects user satisfaction with the application. This study aims to compare the effectiveness of user experience on Shopee, Tokopedia, and Lazada applications based on user reviews on the Google Play Store, as well as evaluate the effectiveness of the XGBoost method based on TF-IDF in classifying review sentiment.

This study uses a quantitative approach based on *text mining* and *machine learning*. The research data is in the form of 15,000 user reviews, 5,000 reviews each for each app, obtained from the Google Play Store in 2025 according to data availability. After going through the *pre-processing stage*, 14,791 effective reviews were obtained. The analysis is focused on four main indicators, namely front page, payments, product search, and discounts and promotions.

The results showed that Lazada excelled overall with a proportion of satisfied sentiment of 67.1%, an average rating of 3.72, and a *Satisfaction Score* of 68.5%. Shopee is in second place with a proportion of satisfied sentiment of 53.6%, an average rating of 3.25, and a *Satisfaction Score* of 56.1%, and excels in product search and discount/promotion indicators. Meanwhile, Tokopedia showed the lowest results with a proportion of dissatisfied sentiment of 74.0%, an average rating of 1.95, and a *Satisfaction Score* of 22.4%. The XGBoost model showed quite good performance with an *accuracy* value of 76.95%, *precision weighted* of 83.91%, *recall weighted* of 76.95%, *F1-score weighted* of 79.89%, and an average of *5-fold cross-validation* of  $83.88\% \pm 0.45\%$ . The study concludes that sentiment analysis from user reviews can be used to compare the effectiveness of user experience on marketplace apps, with Lazada being the most superior app overall in the study period.

**Keywords:** *User Experience, Sentiment Analysis, Marketplace, TF-IDF, XGBoost, Google Play Store.*