ABSTRAK

Transformasi perilaku konsumen menuju era digital telah mendorong pertumbuhan signifikan platform belanja online untuk kebutuhan harian di Indonesia. Platform-platform seperti Alfagift, Klik Indomaret, AlloFresh, Astro, dan My Super Indo hadir dengan keunggulan yang beragam. Kondisi ini menciptakan tantangan bagi konsumen untuk menentukan pilihan platform yang paling relevan dengan preferensi mereka. Meskipun review pengguna di Google Play Store memberikan gambaran mengenai pengalaman berbelanja, volume ulasan yang masif menyulitkan proses evaluasi manual. Hal ini menyebabkan kebutuhan akan sistem pendukung keputusan yang dapat memberikan rekomendasi yang objektif berdasarkan data.

Studi ini menggabungkan metode analisis sentimen dengan *Multi-Objective Optimization by Ratio Analysis* (MOORA) untuk mengembangkan sistem pendukung keputusan dalam sistem rekomendasi supermarket online. Dataset dikumpulkan menggunakan *web scraping* dari review pengguna untuk lima aplikasi yang tersedia di Google Play Store. Proses pra-pemrosesan data mencakup data *cleaning*, konversi huruf kecil, tokenisasi, normalisasi teks, eliminasi *stopwords*, stemming, dan *filtering* berdasarkan panjang teks. Selanjutnya, klasifikasi sentimen dilakukan dengan menggunakan *Support Vector Machine* (SVM) dengan fitur ekstraksi TF-IDF untuk membagi ulasan menjadi sentimen positif atau negatif. Output klasifikasi kemudian ditransformasi menjadi tujuh parameter evaluasi: harga, pengiriman, kualitas produk, promosi, performa aplikasi, metode pembayaran, dan layanan pelanggan.

Hasil analisis menunjukkan bahwa SVM dengan kernel linear menghasilkan tingkat akurasi terbaik dalam kategori klasifikasi sentimen. Implementasi metode MOORA berhasil menghasilkan ranking aplikasi berdasarkan bobot preferensi pengguna terhadap kriteria evaluasi. Validasi sistem melalui *black box testing* membuktikan bahwa semua fungsionalitas bekerja sesuai spesifikasi yang ditetapkan. Sistem berbasis web yang dihasilkan mampu memfasilitasi pengguna dalam mengambil keputusan pemilihan platform supermarket online dengan lebih efisien dan objektif.

Kata Kunci: analisis sentimen, *Support Vector Machine*, MOORA, aplikasi supermarket online, sistem rekomendasi

ABSTRACT

The transformation of consumer behavior toward the digital era has driven significant growth in online shopping platforms for daily necessities in Indonesia. Platforms such as Alfagift, Klik Indomaret, AlloFresh, Astro, and My Super Indo offer various advantages and features. This condition creates challenges for consumers in determining the platform that best matches their preferences. Although user reviews on Google Play Store provide insights into shopping experiences, the massive volume of reviews makes manual evaluation difficult. Therefore, a decision support system is needed to provide objective recommendations based on data.

This study combines sentiment analysis and the Multi-Objective Optimization by Ratio Analysis (MOORA) method to develop a decision support system for an online supermarket recommendation system. The dataset was collected through web scraping of user reviews from five applications available on the Google Play Store. The data preprocessing stage included data cleaning, case folding, tokenization, text normalization, stopword removal, stemming, and filtering based on text length. Furthermore, sentiment classification was performed using the Support Vector Machine (SVM) algorithm with TF-IDF feature extraction to classify reviews into positive or negative sentiments. The classification results were then transformed into seven evaluation criteria: price, delivery, product quality, promotions, application performance, payment methods, and customer service.

The results of the analysis indicate that SVM with a linear kernel achieved the best accuracy in sentiment classification. The implementation of the MOORA method successfully generated application rankings based on user preference weights for the evaluation criteria. System validation through black box testing proved that all functionalities operated according to the specified requirements. The resulting web-based system is capable of assisting users in making online supermarket platform selection decisions more efficiently and objectively.

Keywords: *sentiment analysis, Support Vector Machine, MOORA, online supermarket application, recommendation system*