

ABSTRAK

Perkembangan industri kosmetik di Indonesia mengalami peningkatan pesat seiring meningkatnya partisipasi masyarakat dalam memberikan ulasan produk kecantikan melalui platform digital, salah satunya *Female Daily*. Ulasan yang bersifat tidak terstruktur dan sering mencakup lebih dari satu aspek dalam satu komentar menyebabkan analisis manual menjadi kurang efektif. Selain itu, penelitian analisis sentimen umumnya masih berfokus pada klasifikasi sentimen secara umum tanpa mempertimbangkan aspek yang dibahas. Penelitian ini menerapkan pendekatan *Aspect-Based Sentiment Analysis* (ABSA) dengan mengombinasikan metode *Latent Dirichlet Allocation* (LDA) dan *Long Short-Term Memory* (LSTM). Hasil pengujian LDA menunjukkan jumlah topik terbaik diperoleh pada $k = 5$ dengan nilai *coherence c_v* 0,428, yang diinterpretasikan sebagai aspek kemasan, aroma, tekstur, harga, dan efek pemakaian. Klasifikasi sentimen menggunakan metode LSTM pada masing-masing aspek menghasilkan performa tertinggi pada aspek harga dengan akurasi 92,48% pada skenario *split data* 80:20, 200 *unit neuron*, *epoch* 20, dan *batch size* 32. Aspek efek mencapai akurasi 86,07% menggunakan *split data* 80:20, 200 *unit neuron*, *epoch* 10, dan *batch size* 32. Aspek kemasan memperoleh akurasi 84,78% dengan skenario *split data* 80:20, 100 *unit neuron*, *epoch* 20, dan *batch size* 64. Aspek tekstur mencapai akurasi 78,69% menggunakan *split data* 80:20, 200 *unit neuron*, *epoch* 20, dan *batch size* 32. Aspek aroma menghasilkan akurasi terendah 78,64% pada *split data* 80:20, 100 *unit neuron*, *epoch* 20, dan *batch size* 32. Secara keseluruhan, hasil akurasi dipengaruhi oleh jumlah dan proporsi data yang berbeda pada masing-masing aspek untuk penelitian analisis sentimen berbasis aspek pada ulasan pengguna *Female Daily*.

Kata kunci: *Aspect-Based Sentiment Analysis, Latent Dirichlet Allocation, Long Short-Term Memory, Female Daily.*

ABSTRACT

The cosmetic industry in Indonesia has experienced rapid growth along with the increasing participation of users in sharing product reviews through digital platforms, one of which is *Female Daily*. These reviews are generally unstructured and often discuss multiple aspects within a single comment, making manual analysis inefficient. In addition, most sentiment analysis studies still focus on overall sentiment classification without considering the specific aspects being discussed. This study applies an *Aspect-Based Sentiment Analysis (ABSA)* approach by combining *Latent Dirichlet Allocation (LDA)* and *Long Short-Term Memory (LSTM)* methods. The LDA results indicate that the optimal number of topics is $k = 5$ with a *coherence* value of 0.428, which are interpreted as packaging, aroma, texture, price, and usage effect aspects. Sentiment classification using the LSTM model for each aspect shows that the highest performance is achieved in the price aspect, with an accuracy of 92.48% using an 80:20 data split, 200 neuron units, 20 epochs, and a batch size of 32. The usage effect aspect reaches an accuracy of 86.07% with an 80:20 data split, 200 neuron units, 10 epochs, and a batch size of 32. The packaging aspect achieves an accuracy of 84.78% using an 80:20 data split, 100 neuron units, 20 epochs, and a batch size of 64. The texture aspect obtains an accuracy of 78.69% with an 80:20 data split, 200 neuron units, 20 epochs, and a batch size of 32. Meanwhile, the aroma aspect produces the lowest accuracy of 78.64% using an 80:20 data split, 100 neuron units, 20 epochs, and a batch size of 32. Overall, the classification accuracy is influenced by the amount and proportion of data available for each aspect, indicating that data distribution plays an important role in *aspect-based sentiment analysis* of *Female Daily* user reviews.

Keywords: *Aspect-Based Sentiment Analysis, Latent Dirichlet Allocation, Long Short-Term Memory, Female Daily.*