

Sentiment Analysis on E-Commerce Product Purchase Reviews Using Natural Language Processing Approach

(Case Study of Tokopedia)

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ABSTRACT

The development of e-commerce in Indonesia, particularly the Tokopedia platform, has generated many consumer reviews containing opinions about the products purchased. These reviews have become a valuable source of information for understanding customer satisfaction and product quality. However, the volume of data makes manual analysis ineffective. Therefore, an automated approach using Natural Language Processing (NLP) is needed to conduct sentiment analysis efficiently. This study aims to classify sentiments in product reviews on Tokopedia into two categories: positive and negative, by utilizing NLP techniques. The methods used include data collection, text pre-processing (cleaning, case folding, stopword removal, tokenization), word representation using GloVe (Global Vectors for Word Representation), and classification using the Recurrent Neural Network (RNN) architecture. The model that was built is tested using evaluation metrics such as accuracy, precision, recall, and F1-score. The testing results show that the combination of GloVe and RNN is capable of delivering good performance in performing binary sentiment classification of consumer reviews on the Tokopedia platform.

Keywords: *Sentiment Analysis, Tokopedia, Natural Language Processing, GloVe, RNN, Binary Classification.*