

ABSTRACT

**Comparative Analysis of Sentiment Analysis Using Naïve Bayes with TF-IDF,
Bag of Word, and Word2Vec
(Case Study: Lazada Electronic Product Reviews)**

Electronic commerce (e-commerce) is an online platform where sellers and buyers meet to exchange products or services. In addition, electronic commerce plays an important role in Small and Medium Enterprises growth. Recently, e-commerce became popular which drives businesses to come up with fresh business strategies. Sales is the main business metric for e-commerce players. Product reviews in e-commerce have significantly led the merchant or brand image into sales. Responding to this issue, historical customer data in e-commerce is expected to give valuable business insight through data mining implementation, such as text mining.

This research is aimed to compare feature extraction models on Naïve Bayes for the sentiment analysis problem. The sentiment analysis is beneficial for e-commerce decision making, especially for brands and merchants. The research approach is using text mining concepts starting from data gathering, pre-processing (tokenization, stop word removal, and stemming), feature extraction, sentiment analysis, and evaluation. The dataset is crawled e-commerce data from Lazada electronic products with the feature extraction confusion matrix as the output. The extractions used for this research are TF-IDF, Bag of Word, and Word2Vec.

Keywords: *Feature Extraction, Naïve Bayes, Sentiment Analysis*