

This study investigates sentiment classification in e-commerce using Naïve Bayes with lexicon-based, N-gram, and combined lexicon-N-gram features. Previous research has employed various e-commerce platforms and achieved varying degrees of accuracy using Naïve Bayes for sentiment analysis, the combination of lexicon and N-gram features with Naïve Bayes has not been extensively explored in e-commerce contexts. This study proposes to evaluate three models: Naïve Bayes with Lexicon Features, Naïve Bayes with N-Gram Features, and Naïve Bayes with Combined Lexicon-N-Gram Features. The research analyzes 10,000 customer reviews of the Shopee application from Google Play Store. Results show that the Naïve Bayes model using combined lexicon-N-gram features achieved the highest performance among the three approaches. Using 10-fold cross-validation, the combined model achieved an average accuracy of 83.4%. The N-gram model showed strong performance with an average accuracy of 82.8%, while the lexicon-based model demonstrated lower performance with an average accuracy of 77%. These findings contribute to the field of sentiment analysis in e-commerce, highlighting the effectiveness of combining lexicon and N-gram features when used with Naïve Bayes classifiers. The study provides insights into optimizing sentiment classification techniques for e-commerce platforms, emphasizing the importance of leveraging both semantic and contextual information in sentiment analysis tasks.