

ABSTRACT

The rapid development of information technology has influenced consumer behaviour in online purchasing, with e-commerce being one of the online shopping platforms. In 2022, the total of transactions increased by Rp 476.3 trillion, a growth of 18.8% from the previous year. Tokopedia and Shopee are popular e-commerce platforms in Indonesia, with a total Gross Merchandise Value (GMV) of 36% for Shopee and 35% for Tokopedia. The extensive use of these platforms affects customer satisfaction. Satisfied customers tend to provide positive opinions, while dissatisfied customers express negative opinions.

This research aims to understand and comprehend customer satisfaction in Indonesian e-commerce based on customer reviews shared on the Twitter social media platform, encompassing positive and negative reviews according to customer sentiments.

The method employed in this study utilizes big data, employing the IndoBERT Sentiment Analysis model to gauge customer sentiment and Topic Modeling to identify primary topics and gain a deeper understanding of subtopics frequently discussed by customers. The dataset encompasses 7,898 customer reviews from Twitter, focusing on the Shopee and Tokopedia e-commerce platforms.

The results of the sentiment analysis yielded an accuracy rate of 93%. The distribution of sentiments revealed 90% as negative, 4% as positive, and 6% as neutral. The outcomes of the sentiment analysis distribution indicated customer dissatisfaction. Furthermore, the topic modelling focused on exploring negative sentiments, leading to the identification of five primary topics, each yielding comprehensive sub-topics. The five main topics revolved around specific dimensions: Firstly, in the "fulfilment" dimension, issues regarding instant delivery accounted for 18%; secondly, within the not specific dimension in e-service quality cost-related problems constituted 17%; thirdly, concerning the "system availability" dimension of the application, the issue represented 25%; fourthly, in the "fulfillment" dimension again, this time in the context of regular delivery, it comprised 21%; finally, in the "responsiveness" dimension, challenges related to customer service accounted for 17% of the observed conversations.

Based on these investigation outcomes, they become pivotal focal points for e-commerce enterprises. These aspects require evaluation to optimize and rectify in order to enhance customer satisfaction. Subsequent research endeavors could encompass a comprehensive exploration of overall customer satisfaction within the dimensions of e-service quality.

Keywords: *E-commerce, customer satisfaction, sentiment analysis, IndoBERT, Topic modelling*