

Introduction

Currently, stock investment in the capital market has become a hot topic among the public. Stock price movements are influenced by many factors such as political events, company policies, bank exchange rates and so on [1]. In the stock market, fluctuations are unavoidable. As for the case that occurred on July 20, 2019. Bank Mandiri experienced a system disruption that caused about 10 percent of customers to experience changes in their balances, some increasing or decreasing drastically [2]. This incident caused one of the negative sentiments that affected Bank Mandiri's shares, the share price opened down 1.27% to a level of Rp 7,775 per share [3]. The large number of customers who complained about the disturbance made the hashtag #mandirieror a top topic on social media Twitter and also many news media spread this information, so this topic became a hot topic in the community.

Social media and news media are platforms the public uses to exchange information and communicate. The use of social media supports the rapid spread of information. The information on social media and news media can be used as a decision maker to see someone's opinion on an event. This form of information can be analyzed using sentiment analysis. These sentiments usually consist of positive, neutral, and negative sentiments [5]. Sentiment analysis is a process to understand, extract, and processing textual data automatically to obtain information [4].

Research on sentiment analysis has been carried out by Maulana, who classifies sentiment into three types negative, positive, and neutral using the Backpropagation Neural Network method with weighting using the Term Frequency-Inverse Document Frequency (TF-IDF). The test results using the BNN method obtained an accuracy of 78.34% and a precision of 84.21% [6]. Other research was also conducted using the Deep Convolutional Neural network method and Word2vec as a word representation which produced the best accuracy of 76.40%, the Word2vec model succeeded in accelerating the training process and increasing accuracy [7].

The purpose of this study, we built a model to see the effect of sentiment on social media and news media on BMRI stock movements using Word2Vec as a feature expansion and classification method using Backpropagation Neural Network. Word2vec is done to group similar words into vector space. In addition, correlation calculations were performed using the Pearson Correlation method to see the relationship between sentiment and stocks.

The writing organization in this paper as follow. In the section II will discuss previous research related to this research, then in the section III will explain the systems and technique that used in this study. In the section IV and section V get the experiment, evaluation, and conclusions obtained based on the test scenarios that have been carried out in this research.