

ABSTRACT

The WMO organization, which is affiliated with the UN, forecasts that in 2050, a water crisis will affect more than 5 billion people, which served as the impetus for this study. The enormous demand for clean water extracted from the ground is one of several reasons contributing to the water crisis. This is demonstrated by the rise in groundwater levels in the DKI region, from 31 million cubic meters to 33.8 million cubic meters, and the Bandung Basin, from 46.8 million cubic meters to 61 million cubic meters. The government's efforts to address this issue include the creation of a Regional Drinking Water Company (PDAM), whose primary duty is to oversee drinking water management. BPS 2021 estimates that there are 15,973,088 users overall on PDAM. They establish social media pages on Facebook and Instagram to stay in touch with PDAM customers, where consumers can express praise or criticism of the services offered. User sentiment analysis is required to formulate the outcomes of the customer sentiment analysis for the services offered, which will improve service to PDAM users. Data for this study was gathered via scraping PDAM social media accounts. The Support Vector Machine technique is used to categorize data based on positive and negative sentiment. This study will also run tests to determine the most effective model to deploy the PDAM user sentiment categorization model using Flask. After balancing the data with the SMOTE approach, the model with a ratio of 70:30 is the most accurate one. The precision, recall, and f1-score values for data with a negative label are 0.95, 0.99, and 0.97, respectively. Data with a positive label, on the other hand, has precision values of 0.90, recall values of 0.62, and f1 scores of 0.73. The accuracy percentage is 0.95, or 95%, and the AUC is 0.927. According to the analysis's findings, many PDAM subscribers have issues with payments, leakage, hazy water, and meter records, in addition to frequently failing water services.

Keywords: PDAM, Sentiment Analysis, Support Vector Machine