ABSTRACT

The rapid development of technology in the current era of globalization has provide many benefits in industrial progress in various places. Media Social is often used to provide input comments on a product and services, one of its service products is an online transportation service provider. Social media is often used as a place to make complaints towards the provision of services on the emotional value of customers.

Comments from customers can affect the quality of service company. The company's service quality can be improved by taking input from customers and become evaluation material for the company in order to be taken into consideration by customers to choose the right online transportation best.

In this study, sentiment grouping was carried out on the positive, negative, and neutral sentiment dataset using the Spectral Clustering algorithm. The main purpose of this clustering was to group public opinion based on the similarity of characteristics or meaning in writing between the comments to determine positive, negative, and neutral sentiments. based on comments on social media Instagram. By performing preprocessing stages such as case folding, tokenize, stopword, and stemming, then word weighting is carried out using TF-IDF to be able to group comments. From the Clustering results, the results from testing positive, negative, and neutral datasets were each tested with a range of cluster values from 2 to 10 by producing different silhouette coefficient values. In the positive dataset the best cluster value is in the ninth cluster with a value of 0.64470, in the negative dataset the best cluster value is in the sixth cluster with a value of 0.37037, and in the neutral dataset the best cluster value is in the third cluster with a value of 0.56135. Then the data visualization of the topic clustering results will be shown on a web-based software which is also designed in this final project research.

Keywords: *Clustering, Pre-processing, Spectral Clustering, silhoutte coefficient*