ABSTRACT

One of the indicators in the Sustainable Development Goals (SDGs) related to sustainable cities and human settlements is the percentage of households with adequate housing. According to the Badan Pusat Statistik several provinces in Indonesia still do not meet the criteria for adequate housing, including three provinces on the island of Java such as DKI Jakarta, West Java, and Banten. An approach to analyze the disparity in the percentage of adequate housing on the island of Java can be carried out by clustering regencies/municipalities based on the 2024 adequate housing indicators to identify regions that have not yet met the housing adequacy targets. This research uses the K-Medoids clustering algorithm and the Density-Based Spatial Clustering Algorithm with Noise (DBSCAN) because they are more robust against *outlier*s and use Euclidean distance calculations. The K-Medoids algorithm groups objects based on the shortest distance to the medoids as the cluster centers. The DBSCAN algorithm groups objects based on density within a given area. Validation of the clustering results is conducted using the Silhouette Index. A higher Silhouette Index value indicates better clustering performance.Based on the research, the K-Medoids algorithm formed an optimal number of 2 clusters with a Silhouette Index validation score of 0.5169, while the DBSCAN algorithm formed 2 optimal clusters and 29 noise points with a Silhouette Index validation score of 0.5853. The best clustering for regencies/municipalities on the island of Java based on the 2024 adequate housing indicator is 2 clusters and 29 noise points using the DBSCAN algorithm.

Keywords: Adequate housing indicators, Java, Clustering, K-Medoids, DBSCAN, Euclidean distance, Silhouette Index