

## ABSTRACT

The current era of globalization, rapid changes often occur in various aspects of human life, such as technology, economy, society, and morality. These changes often make it difficult for people to adapt. Difficulties in adapting can trigger anxiety and confusion, especially when people feel unable to meet their basic needs. It is this condition that sometimes drives people to resort to any means necessary, including criminal acts. Criminality is an act that violates the law, norms, and values of society. The high incidence of criminality in Indonesia necessitates an approach to analyze crime-prone areas by grouping provinces based on socioeconomic factors that can influence criminality. This grouping aims to examine the characteristics of criminality in each province. This study uses the K-Medoids algorithm and Density-Based Spatial Clustering of Applications with Noise (DBSCAN) using Euclidean distance to group crime-prone areas in Indonesia. K-Medoids uses distance measurement by selecting one of the medoids as the cluster center, making it more robust against outliers. DBSCAN works by clustering objects based on object density and automatically identifying outliers as noise. Clustering results were validated using the Davies-Bouldin Index. Based on the Davies-Bouldin Index validation, the best clustering results for the K-Medoids algorithm were 4 clusters with a validation value of 0,934389. The DBSCAN algorithm produced 2 clusters and 1 noise category with a validation value of 0,751116. The results of this study indicate that the best clustering for crime-prone areas based on socioeconomic factors in Indonesia is 2 clusters using DBSCAN.

**Keywords:** *Criminality, K-Medoids, Socio Economic, DBSCAN, Davies-Bouldin Index*