

Demographic Grouping of Patient Satisfaction Levels at Sadewa Maternity and Child Specialist Hospital Using the DBSCAN Method

ABSTRACT

RSKIA Sadewa has yet to fully optimize patient feedback data to identify patterns of satisfaction and dissatisfaction with the services provided. This study aims to cluster patients based on demographic attributes and satisfaction levels to uncover patterns and risk groups. The method used is the DBSCAN algorithm, with input attributes including age, satisfaction score, education level, and care category. The clustering results were evaluated using the Silhouette Score and Davies-Bouldin Index. The clustering results of Model 1 generated five clusters with a Silhouette Score of 0.6435 and a Davies-Bouldin Index of 0.4478, while Model 2 produced four clusters with a Silhouette Score of 0.6628 and a Davies-Bouldin Index of 0.4236. The clusters formed reveal significant patterns of patient satisfaction, such as a group of outpatient patients with high satisfaction levels and elderly inpatient patients with low satisfaction levels. These findings provide valuable insights for the hospital to design more effective service strategies, particularly by focusing on vulnerable patient groups or those exhibiting discrepancies in satisfaction patterns.

Keywords: DBSCAN, data clustering, hospital service satisfaction, PCA.