

ABSTRACT

CLUSTERIZATION BASED ON STUDENTS, TEACHER, EMPLOYEES, AND SCHOOLS USING K-MEANS METHOD

(Case Study of SMA and SMK in Subang Regency)

Oleh

Yuda Pauzan Hermawan 16102144

Education is one of the important factors in one's life today. Education can change a person's mindset and can develop their potential both in terms of intelligence, skills and noble character to be able to adapt to the surrounding environment. Subang Regency is one of the regencies in West Java Province which has quite abundant levels of Natural Resources but lacks the ability of its people to manage these natural resources. Subang Regency occupies the bottom 2nd position or position 27 of 28 Regencies/Cities in West Java Province with an index point of 56.23. Data mining was carried out to determine the quality of education in Subang Regency and find solutions to overcome these problems so that the quality of education in Subang Regency could increase. Data grouping (clustering) is done using the K-Means algorithm. K-Means is a data analysis method or Data Mining method that performs the modeling process without supervision (unsupervised) and is a method that groups existing data into several groups (clusters). By carrying out data clustering (clustering) using the K-Means algorithm, it is hoped that this can be used as evaluation material to improve the quality of education in Subang Regency so that the index points for Subang Regency can also increase. From the research results, the first data variation was produced with Cluster 1 of 1 region and Cluster 2 of 29 regions with a purity value of 0.966. The second data variation produces Cluster 1 with 1 region, Cluster 2 with 21 regions, and Cluster 3 with 8 regions with a purity value of 0.7. The third data variation produces Cluster 1 of 1 region, Cluster 2 of 12 regions, Cluster 3 of 2 regions and Cluster 4 of 15 regions with a purity value of 0.5. Based on these results, one sub-district is included in the very good level and 15 sub-districts are included in the unfavorable level.

Keywords: Education, Quality of Education, Clustering, K-Means, Purity, Davies-builden Index