

ABSTRACT

IMPLEMENTATION OF THE K-MEANS ALGORITHM IN HEALTHY DIET CATERING FOOD MENU GROUPING

Oleh

Triyanti Br Manurung (20103082)

The cause of being overweight is influenced by many factors, one of which is unhealthy eating patterns, so to lose weight or diet, it is recommended to have a healthy diet such as eating healthy food. In the healthy diet catering industry, healthy food menu grouping is very important to meet customer needs and improve customer experience and trust. This research uses the K-Means Clustering algorithm which functions to group similar objects or products into different groups. The aim of this research is to implement healthy diet catering grouping techniques. The grouping in this study was carried out by considering various nutritional components such as calories, carbohydrates, protein and fat. This research is expected to improve the healthy diet catering industry in making the right decisions in choosing healthy food menus that suit customer needs. The implementation of the K-Means algorithm in this grouping is expected to improve customer experience and increase customer loyalty in the healthy diet catering industry. Based on the results of processing the healthy diet food menu dataset, it produces 3 clusters, namely cluster 1 with 10 diet menus with a moderately recommended level, cluster 2 with 19 diet menus with a recommended level, and cluster 4 with 24 diet menus with the most recommended level. The results of evaluating the accuracy of clustering performance in the K-Means algorithm produced a Davies Bouldin index of 0.657. With the Davies-Bouldin index values that have been obtained, it can be concluded that the grouping performance that has been carried out works well as seen from the clusters that can be differentiated well and have effective separation.

Keywords: *Healthy food, Healthy Diet, K-Means Clustering, Data Mining*