ABSTRACT

DECISION SUPPORT SYSTEM FOR HEALTHY DIET SELECTION BASED ON GENOTYPE USING THE TOPSIS METHOD

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The purpose of this study was to use the TOPSIS approach to create a Decision Support System (DSS) for choosing a healthy diet based on genotype. This technique was created to assist users in choosing a diet according to their genetics. Identification of criteria, evaluation of various diets based on criteria, creation of a decision matrix, normalization of the matrix, weighting of criteria, and distances of positive and negative ideal alternative solutions.

Based on the distance between each alternative and the positive and negative ideal solutions, the TOPSIS approach is used to determine the relative relevance score of each alternative. The system offers dietary advice that best suits a person's genetic needs by leveraging expert knowledge and the user's genotype data. The development of a DSS with the TOPSIS approach in the context of choosing a type of diet and a healthy eating pattern is the main objective of this research. To help users make better and more useful judgments, this system allows users to select various diets based on defined criteria. It is hoped that the findings from this study will assist in the creation of a decision support tool that can be used to choose a healthy diet depending on genotype. It is thought that by leveraging private genetic information, diet efficacy and general health can be improved.

Keywords: TOPSIS, Genotype, Healthy Diet Selection, Decision Support System.