

## ABSTRAK

Perkembangan pemasaran digital menuntut perusahaan untuk memahami perilaku pelanggan agar strategi promosi dapat berjalan lebih efektif. Permasalahan dalam penelitian ini adalah sulitnya menentukan pelanggan yang berpotensi memberikan respons terhadap kampanye pemasaran digital karena data pelanggan belum dimanfaatkan secara optimal. Untuk mengatasi masalah tersebut, penelitian ini menerapkan algoritma Decision Tree sebagai metode klasifikasi untuk menganalisis dan memprediksi respons pelanggan berdasarkan karakteristik dan perilaku pembelian. Data yang digunakan merupakan dataset Customer Personality Analysis dari Kaggle sebanyak 2.240 data pelanggan yang diolah melalui tahap preprocessing, seleksi atribut, transformasi data, penerapan SMOTE, pembentukan model Decision Tree, dan evaluasi menggunakan confusion matrix pada RapidMiner Studio. Hasil penelitian menunjukkan bahwa model Decision Tree memperoleh nilai accuracy sebesar 74,48% dan atribut AcceptedCmp5 menjadi atribut paling berpengaruh karena memiliki nilai information gain tertinggi. Berdasarkan hasil tersebut, algoritma Decision Tree cukup efektif digunakan untuk membantu analisis perilaku pelanggan dan mendukung pengambilan keputusan dalam strategi pemasaran digital.

**Kata Kunci:** Decision Tree, klasifikasi, pemasaran digital, perilaku pelanggan, RapidMiner.

## ABSTRAC

The development of digital marketing requires companies to understand customer behavior to ensure more effective promotional strategies. The problem in this study is the difficulty in identifying customers who are likely to respond to digital marketing campaigns because customer data has not been optimally utilized. To address this issue, this study applies the Decision Tree algorithm as a classification method to analyze and predict customer responses based on characteristics and purchasing behavior. The data used is the Customer Personality Analysis dataset from Kaggle, comprising 2,240 customer data. This data was processed through preprocessing, attribute selection, data transformation, SMOTE application, Decision Tree model development, and evaluation using a confusion matrix in RapidMiner Studio. The results showed that the Decision Tree model achieved an accuracy score of 74.48%, with the AcceptedCmp5 attribute being the most influential attribute due to its highest information gain. Based on these results, the Decision Tree algorithm is quite effective in assisting customer behavior analysis and supporting decision-making in digital marketing strategies.

**Keywords:** Decision Tree, classification, digital marketing, customer behavior, RapidMiner