

## **PENERAPAN METODE DECISION TREE (C4.5) DAN MODEL FUZZY MAMDANI UNTUK REKOMENDASI BEASISWA**

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### **ABSTRAK**

Pendidikan dasar 9 tahun merupakan hal yang wajib bagi setiap warga Indonesia namun ada saja peserta didik khususnya yang berada pada jenjang SMP harus putus sekolah dikarenakan kondisi ekonomi yang kurang mampu maka dari itu dibutuhkanlah beasiswa, pada SMP Negeri 1 Kalinyamatan beasiswa diberikan pada siswa yang nilai akademiknya tinggi dan kondisi ekonominya kurang mampu namun pada prakteknya pemberian beasiswa diberikan secara kurang tepat sasaran dikarenakan pemilihan dilakukan secara manual, guna meningkatkan kelayakan tersebut dilakukan analisa dan digunakanlah data mining dengan teknik klasifikasi, metode yang digunakan adalah decision tree (C4.5) dan juga model fuzzy mamdani. Data yang digunakan pada penelitian ini adalah data siswa SMP Negeri 1 Kalinyamatan Kelas 9 tahun ajaran 2014/2015 dari data tersebut dilakukan klasifikasi dengan rule - rule yang sebelumnya diperoleh dari decision tree kemudian dengan metode fuzzy mamdani dicari kesalahan absolutnya dengan menggunakan MAPE (Mean Absolut Percentage Error) dan didapatkanlah hasil error sebesar 59.91%

Kata Kunci : beasiswa, data mining, klasifikasi, decision tree (C4.5), fuzzy mamdani

## **IMPLEMENTATION OF DECISION TREE (C4.5) METHOD AND FUZZY MAMDANI MODEL FOR SCHOLARSHIP RECOMENDATION**

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### **ABSTRACT**

The basic of education during nine years is one of the obligation every people in Indonesia. However, there are also students who break their school in junior high school because the condition their economy were very low. So, in that case needed to gave the scholarship for students. The scholarship in SMP N 1 Kalinyamatan given to students who get the high academic and the condition their economy were very low. But, in that practices of give the scholarship, the targets were less exact. It happens because the selection did as manually. So, to increase expediency of the data, the researcher did analysis and used data mining by classifications of data. The method that used in this research is decision tree (C4.5) and also fuzzy mamdani model. The data that used in this research is the data students who grade 9 in academic year 2014/2015 at SMP N 1 Kalinyamatan. Then, the researcher did the classifications with the rules from decision tree before. Thus, by fuzzy mamdani model, the researcher can find the absolutely error with used MAPE (Mean Absolut Percentage Error) and the error result is 59.91%

Keyword : scholarship, data mining, classifications, decision tree (C4.5), fuzzy mamdani