

INTISARI

PENERAPAN *HARD C-MEANS* UNTUK *CLUSTERING* PENDUDUK MISKIN DENGAN VISUALISASI BERDASARKAN KLASSTER **(Studi Kasus : Kecamatan Bantul)**

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Masalah kemiskinan merupakan hal yang sangat kompleks. Sumber data dari BPS menunjukkan bahwa Jumlah penduduk miskin tahun 2015 di provinsi Daerah Istimewa Yogyakarta tergolong tinggi, sejumlah 532.590 penduduk dengan prosentase kemiskinan 14,55%. Di wilayah Kecamatan Bantul, seorang warga disebut sebagai keluarga miskin berdasarkan beberapa aspek seperti aspek pangan, sandang, papan, penghasilan, kesehatan, pendidikan, kekayaan, air bersih, listrik maupun jumlah jiwa.

Berdasarkan kondisi tersebut perlu dibangun sistem klastering untuk membantu BKKBN dalam pengelompokan keluarga miskin sehingga bantuan dapat tersalurkan dengan tepat. Penelitian ini menggunakan metode *Hard C-Means* dalam klastering penduduk miskin. *Information Gain* digunakan sebelum proses *Clustering*. Hasil *clustering* divisualisasi untuk mempermudah dalam melihat sebaran keluarga miskin.

Dari 23, 500, 1000 dan 1313 jumlah data uji dan 2, 3, dan 4 jumlah cluster yang diuji menggunakan *validity index xie beni* menunjukkan jumlah cluster optimal yaitu 4 cluster dengan nilai 0.4002. Hasil clustering menggunakan atribut penghasilan dan tanpa menggunakan atribut penghasilan (seleksi atribut *information gain*) menunjukkan hasil yang sama.

Kata Kunci : *Clustering, Hard C-Means, Xie Beni, Visualisasi, Kemiskinan*

ABSTRACT

THE IMPLEMENTATION OF HARD C-MEANS FOR CLUSTERING POOR POPULATION USING VISUALIZATION BASED ON CLUSTER (Case Study : Bantul Subdistrict)

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Poverty is a complex problem. Based on the data taken from Central Statistics Bureau /Biro Pusat Statistik (BPS) in 2015,it showed that the number of poor people in Yogyakarta Special Region is still high. There were 532.590 inhabitants with 15.5% of that number included as poor people. In Bantul district, a person is considered as a poor based on some aspects, namely: food, clothing, shelter, income, health, education, wealth, water, electricity and the number of the inhabitants.

Based on those conditions, it is necessary to build a clustering system to help Badan Koordinasi Keluarga Berencana Nasional (BKKBN) or National Family Planning Coordinating Board in grouping poor families so that the aids can be delivered accurately. This reseach used Hard C-Means method in clustering the poor people. Information Gain was used before the clustering process. The result of clustering was visualized to make it easier to see the distribution of poor families.

From 23,500,1000 and 1313 data used in the research and 2, 3 and 4 is the number of cluster, the result of the data was tested using validity Index Xie Beni and it showed the number of the optimum cluster. There were 4 cluster with xie beni value of 0.4002. The result of clustering using income atribute and without income atribut showed a similarity result.

Keywords: Clustering, Hard C-Means, Xie Beni, Visualization, Poverty