

ABSTRAK

Beasiswa Cerdas Humanis (BCH) di Universitas Sanata Dharma merupakan program bantuan bagi mahasiswa berprestasi yang memiliki keterbatasan ekonomi. Namun, proses seleksinya menghadapi tantangan berupa banyaknya kriteria yang harus dipertimbangkan, potensi subjektivitas penilai, serta waktu pemrosesan yang lama karena masih menggunakan metode *system by system* yang belum terintegrasi. Penelitian ini bertujuan untuk membangun Sistem Pendukung Pengambilan Keputusan (SPPK) menggunakan metode *Multi-Objective Optimization on the basis of Ratio Analysis* (MOORA) untuk membantu Lembaga Kesejahteraan Mahasiswa (LKM) dalam proses seleksi. Sistem ini dikembangkan berbasis web menggunakan bahasa pemrograman PHP dan basis data MySQL. Kriteria penilaian yang digunakan meliputi kondisi orang tua (30%), penghasilan orang tua (25%), tagihan listrik (25%), dan jumlah tanggungan anak (20%). Metode MOORA dipilih karena kemampuannya dalam menyeimbangkan kriteria *benefit* dan *cost* secara efisien untuk menghasilkan peringkat kandidat yang objektif. Hasil pengujian akurasi sistem terhadap data riil menunjukkan performa yang sangat baik. Tingkat akurasi dan *F1-Score* untuk periode 2023 adalah 86,46% dan 87,03%, periode 2024 sebesar 84,97% dan 90,97%, serta periode 2025 mencapai 89,17% dan 94,27%. Selain itu, hasil uji *usability* terhadap tiga aktor utama (Admin BAA, BAPSI, dan LKM) menunjukkan tingkat kepuasan yang tinggi, di mana sistem dinilai efektif (86,67%), efisien (93,33%), mudah digunakan (86,67) dan memuaskan (86,67%) dalam proses pengambilan keputusan penerimaan beasiswa Cerdas Humanis.

Kata Kunci: SPPK, MOORA, Beasiswa Cerdas Humanis, Akurasi, *Usability*.

ABSTRACT

The Cerdas Humanis Scholarship (BCH) at Sanata Dharma University is a support program for high-achieving students facing economic constraints. However, the selection process faces challenges such as the numerous criteria to consider, potential evaluator subjectivity, and long processing times because it still relies on a non-integrated "system by system" manual approach. This research aims to develop a Decision Support System (DSS) using the Multi-Objective Optimization on the basis of Ratio Analysis (MOORA) method to assist the Student Welfare Institute (LKM) in the selection process. The system is a web-based application developed with PHP and MySQL. The evaluation criteria used include parental condition (30%), parental income (25%), electricity bills (25%), and the number of dependent children (20%). The MOORA method was chosen for its ability to *Efficiently* balance benefit and cost criteria to produce objective candidate rankings. The results of the system's accuracy testing against real data show excellent performance. The accuracy and F1-Score for the 2023 period were 86.46% and 87.03%; for the 2024 period, they were 84.97% and 90.97%; and for the 2025 period, they reached 89.17% and 94.27%. Furthermore, the usability test results involving three main actors (Admin BAA, BAPSI, and LKM) indicated high *Satisfaction* levels, with the system being rated as *effective* (86,67%), *efficient* (93,33%), *easy to use* (86,67) and *satisfaction* (86.67%) -in the decision-making process for Cerdas Humanis scholarship admissions.

Keywords: DSS, MOORA, Cerdas Humanis Scholarship, Accuracy, Usability.