

**SISTEM PENDUKUNG KEPUTUSAN BERBASIS WEB DALAM
PENENTUAN SISWA BERPRESTASI DI SMK NEGERI BALI
MANDARA MENGGUNAKAN METODE MARCOS**

Oleh

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ABSTRAK

Penentuan siswa berprestasi di SMK Negeri Bali Mandara saat ini masih menggunakan metode konvensional melalui perangkat lunak spreadsheet yang rentan terhadap *human error* dan kurang efisien. Penelitian ini bertujuan merancang dan mengimplementasikan Sistem Pendukung Keputusan (SPK) berbasis web dengan metode *Measurement of Alternatives and Ranking according to Compromise Solution* (MARCOS). Pengembangan sistem menggunakan kerangka kerja *Agile Development* yang mencakup tahap *planning* hingga *review*. Penilaian didasarkan pada lima kriteria utama: nilai rapor, IPC, prestasi, absensi, dan ekstrakurikuler. Instrumen kriteria dinyatakan reliabel dengan nilai *Cronbach's Alpha* sebesar 0,790. Hasil pengujian *Black Box* dan *User Acceptance Testing* (UAT) menunjukkan tingkat keberhasilan fungsional sebesar 100%. Pengukuran usability menggunakan *System Usability Scale* (SUS) menghasilkan skor rata-rata 77,25 (kategori "Good"). Selain itu, uji akurasi sistem terhadap penilaian pakar mencapai 80%. SPK ini terbukti efektif dalam mendukung proses pengambilan keputusan yang objektif dan transparan di SMK Negeri Bali Mandara.

Kata Kunci: Sistem Pendukung Keputusan, MARCOS, Siswa Berprestasi, *Agile Development*, SUS

***WEB-BASED DECISION SUPPORT SYSTEM IN DETERMINING
STUDENT ACHIEVEMENT AT BALI MANDARA STATE VOCATIONAL
SCHOOL USING THE MARCOS METHOD***

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ABSTRACT

Outstanding student selection at SMK Negeri Bali Mandara currently relies on conventional spreadsheet methods, which are prone to human error and inefficiency. This research aims to design and implement a web-based Decision Support System (DSS) using the Measurement of Alternatives and Ranking according to Compromise Solution (MARCOS) method. The system was developed using the Agile Development framework, spanning from planning to review stages. Assessment is based on five main criteria: report card, IPC, achievement, attendance, and extracurriculars. The criteria instrument was deemed reliable with a Cronbach's Alpha value of 0.790. Black Box and User Acceptance Testing (UAT) results showed a 100% functional success rate. Usability measurement using the System Usability Scale (SUS) yielded an average score of 77.25 (categorized as "Good"). Additionally, the system's accuracy test against expert assessment reached 80%. This DSS effectively supports objective and transparent decision-making at SMK Negeri Bali Mandara.

Keywords: Decision Support System, MARCOS, Outstanding Students, Agile Development, SUS