ABSTRACT

Indra Rizky Saputra. 2026. *Decision Support System for Smartphone Selection Based on Consumer Needs at Magmus Celluler Using the Simple Additive Weighting (SAW) Method. Informatics Engineering Study Program, Faculty of Engineering, Universitas PGRI Madiun. Supervisor* (I) Erny Untari, S.Pd., M.Pd. *Supervisor* (II) Pratiwi Susanti S.Kom., M.MT.

The rapid development of smartphone technology has led to a wide variety of products with diverse specifications and price ranges, making it difficult for consumers to select a smartphone that meets their needs and budget. The selection process, which is often based on subjective considerations or salesperson recommendations, may result in inappropriate purchasing decisions. This study aims to design and develop a web-based Decision Support System for selecting smartphones according to consumer needs at Magmus Celluler using the Simple Additive Weighting (SAW) method. The system was developed using the Rapid Application Development (RAD) methodology, while the Simple Additive Weighting (SAW) method was applied to perform weighting, normalization, and ranking of smartphone alternatives based on the criteria of price, RAM, ROM, camera, and battery. The system was developed using the Laravel framework and MySQL database. System testing was conducted using Black-Box Testing to evaluate system functionality and the System Usability Scale (SUS) to measure system usability. The results indicate that the system is capable of providing smartphone recommendations that better match consumers' needs in a faster, more objective, and more accurate manner based on the highest preference value generated by the Simple Additive Weighting (SAW) method. All system features functioned properly according to the results of Black-Box Testing, while the System Usability Scale (SUS) evaluation showed that the system achieved a good level of usability, indicating that it is suitable for supporting decision-making in smartphone selection at Magmus Celluler.

Keywords: Decision Support System, Simple Additive Weighting (SAW), smartphone selection, Laravel, MySQL, website.

ABSTRAK

Indra Rizky Saputra. 2026. Sistem Pendukung Keputusan Pemilihan *Smartphone* Sesuai Kebutuhan Konsumen Pada Magmus Celluler Menggunakan Metode *Simple Additive Weighting (SAW)*. Program Studi Teknik Informatika, Fakultas Teknik, Universitas PGRI Madiun. Pembimbing (I) Erny Untari, S.Pd., M.Pd. Pembimbing (II) Pratiwi Susanti, S.Kom., M.MT.

Perkembangan teknologi *smartphone* yang semakin pesat menyebabkan banyaknya pilihan produk dengan spesifikasi dan harga yang beragam sehingga konsumen sering mengalami kesulitan dalam menentukan *smartphone* yang sesuai dengan kebutuhan dan anggaran yang dimiliki. Proses pemilihan yang masih dilakukan berdasarkan pertimbangan subjektif atau rekomendasi penjual berpotensi menghasilkan keputusan yang kurang tepat. Penelitian ini bertujuan untuk merancang dan membangun Sistem Pendukung Keputusan pemilihan *smartphone* sesuai kebutuhan konsumen berbasis *website* pada Magmus Celluler menggunakan metode *Simple Additive Weighting* (SAW). Metode pengembangan sistem yang digunakan adalah *Rapid Application Development* (RAD), sedangkan metode *Simple Additive Weighting* (SAW) digunakan untuk melakukan proses pembobotan, normalisasi, dan perangkingan alternatif *smartphone* berdasarkan kriteria harga, RAM, ROM, kamera, dan baterai. Sistem dikembangkan menggunakan *framework* Laravel dengan *database* MySQL. Pengujian sistem dilakukan menggunakan *Black-Box Testing* untuk menguji fungsionalitas sistem dan *System Usability Scale* (SUS) untuk mengukur tingkat kegunaan sistem. Hasil penelitian menunjukkan bahwa sistem mampu memberikan rekomendasi *smartphone* sesuai kebutuhan konsumen secara lebih cepat, objektif, dan akurat berdasarkan nilai preferensi tertinggi hasil perhitungan metode *Simple Additive Weighting* (SAW). Seluruh fitur sistem berjalan sesuai dengan fungsinya berdasarkan hasil *Black-Box Testing*, sedangkan hasil pengujian *System Usability Scale* (SUS) menunjukkan bahwa sistem memiliki tingkat kegunaan yang baik sehingga layak digunakan sebagai media pendukung pengambilan keputusan pemilihan *smartphone* pada Magmus Celluler.

Kata Kunci*:* Sistem Pendukung Keputusan*, Simple Additive Weighting* (SAW)*,* pemilihan *smartphone, Laravel, MySQL, website.*