

ABSTRAK

Sarana Bantu Navigasi Pelayaran (SBNP) memiliki peran penting dalam menjaga keselamatan pelayaran sehingga memerlukan pemantauan dan pemeliharaan secara berkala. Di Distrik Navigasi Tipe A Kelas I Palembang, proses pengelolaan data pemeriksaan dan penentuan prioritas pemeliharaan SBNP masih dilakukan menggunakan Microsoft Excel sehingga kurang efisien dan berpotensi menghambat pengambilan keputusan. Penelitian ini bertujuan membangun sistem penentuan prioritas pemeliharaan SBNP berbasis *website* menggunakan metode *Simple Additive Weighting* (SAW). Metode SAW diterapkan untuk menentukan prioritas pemeliharaan berdasarkan kriteria kondisi cahaya, kondisi cat, kondisi konstruksi, dan kondisi kelistrikan melalui proses normalisasi, pembobotan, perhitungan nilai preferensi, serta perangkingan. Tahapan penelitian meliputi analisis kebutuhan, perancangan sistem, implementasi, dan pengujian menggunakan *Black Box Testing*. Hasil penelitian menunjukkan bahwa sistem mampu mengelola data SBNP, data pemeriksaan, manajemen pengguna, serta menghasilkan rekomendasi prioritas pemeliharaan secara objektif dan sistematis sehingga membantu petugas, admin, dan kepala seksi dalam pengambilan keputusan pemeliharaan SBNP.

Kata Kunci: SBNP, *Simple Additive Weighting* (SAW), Prioritas Pemeliharaan, Sistem Pendukung Keputusan, *Website*.

ABSTRACT

Marine Navigation Aids (SBNP) play an important role in ensuring navigation safety and therefore require regular monitoring and maintenance. At the Class I Type A Navigation District of Palembang, the management of SBNP inspection data and the determination of maintenance priorities are still performed using Microsoft Excel, making the process less efficient and potentially hindering decision-making. This research aims to develop a web-based maintenance priority determination system for SBNP using the Simple Additive Weighting (SAW) method. The SAW method is applied to determine maintenance priorities based on four criteria: lighting condition, paint condition, construction condition, and electrical condition through the processes of normalization, weighting, preference value calculation, and ranking. The research stages include requirements analysis, system design, implementation, and testing using the Black Box Testing method. The results show that the developed system is capable of managing SBNP data, inspection data, and user management, as well as generating objective and systematic maintenance priority recommendations. The system also assists officers, administrators, and section heads in making more effective and efficient maintenance decisions.

Keyword: Marine Navigation Aids (SBNP), Simple Additive Weighting (SAW), Maintenance Priority, Decision Support System, Website.