

ABSTRAK

Perusahaan Umum Daerah Tirta Musi Palembang sering menghadapi kendala dalam menentukan prioritas penanganan gangguan distribusi air kepada masyarakat, di mana pembagian tugas teknisi lapangan masih berjalan secara konvensional serta subjektif, sehingga memicu keterlambatan respons penanganan pada lokasi yang mendesak. Untuk menyelesaikan masalah penentuan prioritas tersebut secara transparan, penelitian ini merancang sebuah Sistem Pendukung Keputusan. Metode penelitian mengimplementasikan *Composite Performance Index (CPI)* pada tahapan awal prapemrosesan data untuk menstandarisasi variabel mentah lapangan yang memiliki perbedaan satuan pengukuran menjadi skala nilai seragam. Selanjutnya, data hasil konversi diproses memakai algoritma *Technique for Order Preference by Similarity to Ideal Solution (TOPSIS)* berdasarkan kriteria tingkat keparahan (C1), jarak lokasi (C2), waktu tunggu (C3), dan intensitas pelaporan (C4). Sistem ini dibangun memanfaatkan metode rekayasa perangkat lunak Agile dengan pengujian *Blackbox*. Hasil penelitian secara nyata membuktikan bahwa integrasi metode *Composite Performance Index (CPI)* dan *Technique for Order Preference by Similarity to Ideal Solution (TOPSIS)* sukses memberikan rekomendasi urutan tugas teknisi yang cepat, tepat sasaran, serta presisi secara objektif. Kesimpulannya, penerapan aplikasi ini terbukti sangat efektif memberikan kemudahan bagi instansi dalam mengatur manajemen alokasi sumber daya manusia, sekaligus mempercepat durasi penanganan kerusakan saluran di lapangan. Sebagai saran, sistem ini direkomendasikan untuk dikembangkan lebih lanjut dengan penambahan fitur notifikasi otomatis yang terintegrasi langsung ke perangkat teknisi guna mempercepat penyampaian informasi penugasan.

Kata Kunci: Distribusi, Sistem Keputusan, Rekomendasi, Efektivitas, Notifikasi.

ABSTRACT

Perusahaan Umum Daerah Tirta Musi Palembang frequently faces challenges in determining the priority for handling water distribution disruptions to the public, where the assignment of field technicians is still carried out conventionally and subjectively, thereby triggering delayed responses to urgent locations. To resolve this priority determination problem transparently, this study designs a Decision Support System. The research method implements the Composite Performance Index in the initial stage to standardize raw field variables with different measurement units into a uniform value scale. Furthermore, the converted data is processed using the Technique for Order Preference by Similarity to Ideal Solution algorithm based on the criteria of severity level, location distance, waiting time, and reporting intensity. This system is built utilizing the Agile software engineering method with blackbox testing. The research results clearly prove that the integration of the Composite Performance Index and Technique for Order Preference by Similarity to Ideal Solution methods successfully provides recommendations for the assignment order of technicians that are fast, well-targeted, and objectively precise. In conclusion, the implementation of this application is proven to be highly effective in facilitating the institution to manage human resource allocation while accelerating the duration of handling pipeline damage in the field. As a recommendation, this system is advised to be further developed with the addition of an automatic notification feature integrated directly into the technicians' devices to accelerate the delivery of assignment information.

Keywords: Distribution, Decision System, Recommendation, Effectiveness, Notification.