

ABSTRAK

Penelitian ini bertujuan untuk merancang sistem penilaian supplier berbasis web guna mendukung proses evaluasi dan pemilihan supplier secara lebih objektif, terstruktur, dan efisien pada PT Cahaya Agro Teknik. Permasalahan yang dihadapi perusahaan adalah proses penilaian supplier yang masih dilakukan secara subjektif sehingga berpotensi menghasilkan keputusan yang kurang konsisten. Penelitian ini menggunakan metode *Analytical Hierarchy Process* (AHP) untuk menentukan bobot kriteria dan sub kriteria berdasarkan tingkat kepentingannya, serta metode *Technique for Order Preference by Similarity to Ideal Solution* (TOPSIS) untuk menentukan peringkat *supplier* terbaik. Hasil penelitian menunjukkan bahwa sistem pendukung keputusan berbasis web yang dikembangkan mampu mengelola proses penilaian *supplier* secara terintegrasi dan menghasilkan rekomendasi *supplier* secara objektif. Berdasarkan hasil perhitungan TOPSIS, *supplier* 2 memperoleh nilai preferensi tertinggi sebesar 0,835 sehingga direkomendasikan sebagai *supplier* terbaik. Sistem yang dikembangkan diharapkan dapat meningkatkan efektivitas, efisiensi, dan objektivitas dalam pengambilan keputusan pemilihan *supplier*. Selain itu, penelitian ini mendukung pencapaian *Sustainable Development Goals* (SDGs) poin 9 (Industri, Inovasi, dan Infrastruktur) melalui penerapan teknologi digital dalam sistem pendukung keputusan untuk meningkatkan efisiensi operasional serta mendorong inovasi proses pada industri manufaktur.

Kata Kunci: Pemilihan *Supplier*, AHP, TOPSIS, SDGs 9

ABSTRACT

This study aims to design a web-based supplier evaluation system to support a more objective, structured, and efficient supplier evaluation and selection process at PT Cahaya Agro Teknik. The company faces challenges in evaluating suppliers because the existing selection process is still conducted subjectively, resulting in less consistent decision-making. This study employs the Analytical Hierarchy Process (AHP) to determine the weights of the criteria and sub-criteria based on their relative importance, and the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) to rank the suppliers. The results indicate that the developed web-based decision support system is capable of managing the supplier evaluation process in an integrated manner and generating objective supplier recommendations. Based on the TOPSIS calculation, Supplier 2 achieved the highest preference value of 0.835 and was therefore recommended as the best supplier. The proposed system is expected to improve the effectiveness, efficiency, and objectivity of supplier selection decisions. Furthermore, this research contributes to the achievement of Sustainable Development Goal (SDG) 9 (Industry, Innovation and Infrastructure) through the implementation of digital technology in a decision support system that enhances operational efficiency and promotes innovation in manufacturing processes.

Keywords: Supplier Selection, AHP, TOPSIS, SDGs 9