

ABSTRAK

PT Remco Rubber Indonesia (SDQ) Palembang menghadapi kendala dalam evaluasi kinerja 417 pemasok aktif yang terdata pada periode Juli hingga Desember 2025, akibat proses manajemen data yang masih konvensional, manual, dan berisiko tinggi terhadap kesalahan manusia (*human error*). Penelitian ini bertujuan untuk membangun *Smart Decision System* berbasis website yang mengintegrasikan metode *Rank Order Centroid* (ROC) dan *Multi-Objective Optimization on the Basis of Ratio Analysis* (MOORA) guna menciptakan sistem evaluasi pemasok yang objektif, presisi, dan real-time. Pengembangan sistem menggunakan metodologi Rational Unified Process (RUP) dengan pendekatan iteratif, melibatkan observasi lapangan, wawancara *expert judgment* kepada pengawas ekspor, serta studi pustaka. ROC diterapkan untuk menentukan bobot kriteria secara ilmiah (Tonase, Frekuensi, Mutu, dan Potongan), sementara MOORA digunakan untuk normalisasi matriks dan perhitungan nilai optimasi pemasok. Hasil penelitian menunjukkan bahwa sistem yang dibangun berhasil mengotomatisasi proses evaluasi data dari 417 pemasok tersebut, sehingga laporan pemeringkatan dapat dihasilkan secara instan tanpa perlu menunggu akumulasi data bulanan. Implementasi sistem ini terbukti meningkatkan efisiensi operasional secara signifikan, meminimalisir subjektivitas dalam penilaian, serta menyediakan instrumen manajerial yang andal bagi PT Remco Rubber Indonesia (SDQ) Palembang dalam menjaga standar kualitas bahan baku untuk mendukung produktivitas produk SIR 10 dan SIR 20 secara berkelanjutan.

Kata Kunci: Smart Decision System, MOORA, ROC, RUP, Evaluasi Pemasok, PT Remco Rubber Indonesia (SDQ) Palembang

ABSTRACT

PT Remco Rubber Indonesia (SDQ) in Palembang faces challenges in evaluating the performance of 417 active suppliers recorded from July through December 2025, due to a data management process that remains conventional, manual, and highly prone to human error. This study aims to develop a web-based Smart Decision System that integrates the Rank Order Centroid (ROC) and Multi-Objective Optimization on the Basis of Ratio Analysis (MOORA) methods to create an objective, precise, and real-time supplier evaluation system. The system was developed using the Rational Unified Process (RUP) methodology with an iterative approach, involving field observations, expert judgment interviews with export supervisors, and a literature review. ROC was applied to scientifically determine the weights of the criteria (Tonnage, Frequency, Quality, and Cut), while MOORA was used for matrix normalization and calculating supplier optimization scores. The research results show that the developed system successfully automated the data evaluation process for these 417 suppliers, enabling ranking reports to be generated instantly without the need to wait for monthly data to accumulate. The implementation of this system has been proven to significantly improve operational efficiency, minimize subjectivity in assessments, and provide a reliable managerial tool for PT Remco Rubber Indonesia (SDQ) Palembang in maintaining raw material quality standards to support the sustainable productivity of SIR 10 and SIR 20 products.

Keywords: *Smart Decision System, MOORA, ROC, RUP, Supplier Evaluation, PT Remco Rubber Indonesia (SDQ) Palembang*