PEMILIHAN SUPPLIER CHILLER DALAM RANGKA PENDIRIAN TOKO BARU PT.XYZ DENGAN METODE RANK ORDER CENTROID DAN MULTY-OBJECTIVE OPTIMIZATION ON THE BASIS OF RATIO ANALYSIS (MOORA)

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ABSTRAK

Pemilihan supplier memiliki peran strategis dalam rantai pasok karena berpengaruh terhadap biaya, mutu, dan kelancaran operasional perusahaan. PT XYZ yang sedang melakukan ekspansi toko baru membutuhkan *supplier chiller* yang tepat agar kegiatan operasional dapat berjalan optimal. Penelitian ini dilakukan dengan tujuan menentukan alternatif supplier terbaik melalui pendekatan kuantitatif menggunakan metode *Rank Order Centroid* (ROC) dan *Multi-Objective Optimization on the Basis of Ratio Analysis* (MOORA). Metode ROC digunakan untuk menetapkan bobot pada setiap kriteria sesuai dengan tingkat prioritasnya, sedangkan metode MOORA dimanfaatkan untuk mengevaluasi serta melakukan perangkingan supplier berdasarkan hasil normalisasi dan perhitungan skor. Data penelitian diperoleh melalui wawancara dengan pihak perusahaan serta penelaahan dokumen terkait. Dari hasil identifikasi, terdapat lima kriteria utama yang dipakai, yaitu harga, garansi, aspek teknis, waktu pengiriman, dan kuota impor. Berdasarkan pembobotan, harga menjadi kriteria dengan bobot terbesar, disusul oleh teknis dan garansi. Hasil analisis MOORA menunjukkan bahwa Sigma Bimed dengan hasil 0,483 menempati urutan pertama sebagai *supplier* terbaik, sedangkan Sanden Intercool berada di peringkat kedua dengan hasil 0,416. Temuan ini membuktikan bahwa integrasi metode ROC dan MOORA mampu mendukung pengambilan keputusan yang lebih objektif, mengurangi unsur subjektivitas, serta meningkatkan akurasi.

Kata kunci: ROC, MOORA, *Supplier*

SELECTION OF CHILLER SUPPLIER FOR THE ESTABLISHMENT OF A NEW STORE AT PT XYZ USING THE RANK ORDER CENTROID METHOD AND MULTI-OBJECTIVE OPTIMIZATION ON THE BASIS OF RATIO ANALYSIS (MOORA)

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ABSTRACT

Supplier selection holds a strategic role in the supply chain as it directly influences cost, quality, and the smoothness of company operations. PT XYZ, which is currently expanding by establishing new stores, requires the right chiller supplier to ensure that operational activities run optimally. This research aims to determine the best supplier alternative through a quantitative approach using the Rank Order Centroid (ROC) and Multi-Objective Optimization on the Basis of Ratio Analysis (MOORA) methods. The ROC method was applied to assign weights to each criterion based on its priority level, while the MOORA method was used to evaluate and rank suppliers through normalization and score calculation. Data for this research were obtained from interviews with the company's procurement division and supporting documentation. The study identified five key criteria for supplier evaluation, namely price, warranty, technical aspects, delivery time, and import quota. Based on the weighting results, price was found to have the highest weight, followed by technical aspects and warranty. The MOORA analysis revealed that Sigma Bimed, with a score of 0.483, ranked first as the best supplier, while Sanden Intercool secured the second position with a score of 0.416. These findings demonstrate that the integration of ROC and MOORA methods is effective in supporting decision-making processes, as it reduces subjectivity and increases accuracy.

***Keywords**: ROC, MOORA, Supplier*