

Analisis dan prioritasasi risiko aktivitas reverse supply chain pada industri proses = Risk analysis and prioritisation of reverse supply chain activity in process industry

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Abstrak

Pemrosesan ulang kembali sebuah produk adalah hal yang biasa dilakukan didalam industri proses. Hal tersebut merupakan enabler untuk reverse supply chain di industri proses. Namun penelitian mengenai reverse supply chain di industri proses masih terbatas. Penelitian sebelumnya mengelola risiko reverse supply chain di industri proses secara terpisah yang dapat menyebabkan munculnya permasalahan baru. Penelitian ini mengintegrasikan semua risiko sehingga proses manajemen risiko dilakukan secara menyeluruh. Untuk mengembangkannya, dibutuhkan daftar risiko dari aktivitas reverse supply chain secara menyeluruh di industri proses, dibutuhkan juga kriteria untuk risiko tersebut. Data yang didapat diolah dengan menggunakan AHP (Analytic Hierarchy Process) - PROMETHEE (Preference Ranking Organization Method for Enrichment Evaluation) berdasarkan preferensi dari ahli.

Telah dikumpulkan 8 kriteria dari penelitian sebelumnya, dengan bobot berdasarkan penilaian ahli sebagai berikut: biaya atau investasi tambahan (0.064), pengelolaan volume barang atau produk (0.040), kerugian karena gangguan (0.047), kecepatan recovery bisnis jika terjadi gangguan (0.111), keunggulan daya saing (0.088), lingkungan (0.241), tanggung jawab sosial (0.097), hukum dan undang-undang (0.312).

Selanjutnya, penelitian ini melakukan prioritasasi risiko dengan pendapat ahli dengan menggunakan PROMETHEE.

Penelitian menemukan urutan risiko dari yang paling tinggi ke rendah dimulai dari risiko regulasi, risiko lingkungan, risiko reputasi dan branding, risiko kualitas dan stabilitas, risiko pemindahan dan penanganan, risiko teknis, risiko informasi, risiko penjadwalan dan kapasitas, risiko kuantitas, risiko persediaan dan risiko perlawanan. Dari hasil analisis sensitivitas didapat bahwa 3 kriteria yang paling mempengaruhi hasil akhir PROMETHEE adalah kriteria biaya atau investasi tambahan, kriteria hukum dan undang-undang dan kriteria keunggulan daya saing.

.....Reprocessing a product is a common practice in the process industry. This is an enabler for the reverse supply chain in the process industry. But research on the reverse supply chain in the process industry is still limited. Previous research managed the risk of reverse supply chain in the process industry separately which could lead to new problems.

This research integrates all risks so that the risk management process is carried out thoroughly. To develop it, it requires a list of risks from the overall reverse supply chain activities in the process industry, and also the criteria for these risks. The data obtained is processed using AHP (Analytic Hierarchy Process) - PROMETHEE (Preference Ranking of Organization Method for Enrichment Evaluation) based on expert preferences.

8 criteria have been collected from previous studies, with weights based on expert judgment as follows: investment cost (0.064), volume management (0.040), business interruption value (0.047), business recovery time after interruption (0.111), competitive advantage (0.088), environment (0.241), social responsibility (0.097), legislation (0.312). Furthermore, this study prioritizes risk with expert opinion using

PROMETHEE.

The research found the order of risk from the highest to the lowest starting from regulatory risk, environmental risk, reputation and branding risk, quality and stability risk, transfer and handling risk, technical risk, information risk, scheduling and capacity risk, quantity risk, inventory risk and risk of resistance. From the results of the sensitivity analysis, it was found that the 3 criteria that most affected the final results of PROMETHEE were the criteria for additional costs or investments, legal and legal criteria and criteria for competitive advantage.