

IMPLEMENTATION OF SUPPLY CHAIN RISK MITIGATION STRATEGIES USING THE HOUSE OF RISK (HOR) MODEL AT PT EXSO SARANA GLOBALINDO

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Abstract

This study examines supply chain risk mitigation at PT Exso Sarana Globalindo (ESG), a project-based supplier in the energy and marine sector characterized by import–local procurement and multi-region distribution to onshore–offshore sites. The study aims to identify supply chain risk events and risk agents, prioritize dominant risk sources, and develop operational mitigation actions. The research applies Supply Chain Operations Reference (SCOR) process mapping and the House of Risk (HOR) method (stages 1 and 2). Data were collected through semi-structured in-depth interviews, field observations, and internal document review, and analyzed using a descriptive qualitative approach. The results identify 35 risk events across SCOR processes and 18 risk agents. HOR 1 prioritizes risk agents using Aggregate Risk Potential (ARP) and Pareto analysis, yielding 10 priority risk agents that account for 81.80% of total risk exposure. HOR 2 generates 12 preventive actions (PA1–PA12) and ranks them using the effectiveness-to-difficulty ratio (ETDk). The highest-priority actions emphasize cross-functional coordination anchored to a project calendar, material master data standardization, strengthened QC/handling/packing procedures, and site readiness confirmation prior to dispatch, supported by a phased implementation roadmap. The study provides a structured basis for managerial decision-making by focusing mitigation efforts on dominant risk sources and strengthening supply chain governance at ESG.

Keywords: supply chain risk management, SCOR, House of Risk, ARP, risk mitigation, energy–marine projects.

PENERAPAN STRATEGI MITIGASI RISIKO *SUPPLY CHAIN* DENGAN PENDEKATAN MODEL *HOUSE OF RISK* (HOR) PADA PT. EXSO SARANA GLOBALINDO

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Abstrak

Penelitian ini membahas mitigasi risiko supply chain pada PT Exso Sarana Globalindo (ESG) yang beroperasi sebagai pemasok berbasis proyek pada sektor energi dan marine, dengan karakteristik pengadaan impor dan lokal serta distribusi lintas wilayah hingga site onshore–offshore. Tujuan penelitian adalah mengidentifikasi kejadian risiko (risk event) dan penyebab risiko (risk agent), menentukan prioritas sumber risiko, serta merumuskan prioritas aksi mitigasi yang operasional. Penelitian menggunakan pemetaan proses Supply Chain Operations Reference (SCOR) dan metode House of Risk (HOR) tahap 1 dan tahap 2. Data dikumpulkan melalui wawancara mendalam semi-terstruktur, observasi lapangan, dan telaah dokumen internal perusahaan, kemudian dianalisis secara deskriptif-kualitatif. Hasil identifikasi menemukan 35 risk event pada seluruh proses SCOR dan 18 risk agent. HOR 1 menghasilkan pemeringkatan sumber risiko menggunakan Aggregate Risk Potential (ARP) dan analisis Pareto, sehingga diperoleh 10 risk agent prioritas dengan kontribusi kumulatif 81,80% terhadap total paparan risiko. HOR 2 menghasilkan 12 alternatif aksi mitigasi (PA1–PA12) dan pemeringkatan prioritas berdasarkan rasio efektivitas terhadap tingkat kesulitan implementasi (ETDk). Aksi prioritas menekankan penguatan koordinasi lintas fungsi berbasis kalender proyek, pembenahan master data material, penguatan SOP QC/handling/packing, dan pengendalian kesiapan site sebelum dispatch, disertai roadmap implementasi bertahap. Temuan penelitian memberikan dasar pengambilan keputusan mitigasi yang terarah pada sumber risiko dominan serta dapat digunakan sebagai acuan penguatan tata kelola supply chain ESG.

Kata kunci: manajemen risiko supply chain, SCOR, House of Risk, ARP, mitigasi risiko, industri energi–marine.