ANALISIS RISIKO RANTAI PASOK *GENERAL TRADING COMPANY* DI INDONESIA

TESIS

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WAHMIN RAIS

2120932017

DOSEN PEMBIMBING

1. **Prof. Ir. Nilda Tri Putri, Ph.D**
2. **Ir. Elita Amrina, Ph.D., IPU**

PROGRAM STUDI MAGISTER TEKNIK INDUSTRI

DEPARTEMEN TEKNIK INDUSTRI

FAKULTAS TEKNIK

UNIVERSITAS ANDALAS

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ABSTRAK

General Trading Company (GTC) memiliki peran strategis sebagai penghubung antara produsen dan konsumen dalam rantai pasok lintas sektor, khususnya pada sektor industri strategis seperti energi, infrastruktur, dan manufaktur. Kompleksitas jaringan pemasok, ketergantungan terhadap sistem logistik, serta ketidakpastian lingkungan bisnis menyebabkan GTC rentan terhadap berbagai risiko rantai pasok, terutama risiko keterlambatan pengiriman dan gangguan distribusi. Penelitian ini bertujuan untuk mengidentifikasi, menganalisis, dan memprioritaskan risiko dalam rantai pasok GTC di Indonesia serta merumuskan strategi mitigasi risiko yang tepat guna meningkatkan resiliensi dan efisiensi operasional perusahaan.

Penelitian ini menggunakan pendekatan manajemen risiko berbasis ISO 31000 dengan metode Failure Mode and Effect Analysis (FMEA) yang dikombinasikan dengan logika fuzzy (Fuzzy FMEA) untuk mengatasi subjektivitas dan ketidakpastian dalam penilaian risiko. Objek penelitian meliputi 30 General Trading Company di Indonesia yang bergerak pada perdagangan fisik lintas sektor. Data diperoleh melalui kuesioner, wawancara pakar, serta validasi risiko menggunakan Content Validity Index (CVI). Penilaian risiko dilakukan berdasarkan parameter severity, occurrence, dan detection, yang selanjutnya dihitung menggunakan Risk Priority Number (RPN) dan Fuzzy Risk Priority Number (FRPN) untuk menentukan prioritas risiko utama.

Penelitian ini mengidentifikasi 23 faktor risiko rantai pasok pada GTC di Indonesia yang berasal dari risiko internal dan eksternal, meliputi risiko pandemi dan kesehatan, geopolitik, ekonomi, teknologi, keberlanjutan, permintaan, pasokan dan logistik, serta risiko operasional internal. Hasil penelitian menunjukkan bahwa risiko dengan prioritas tertinggi dalam rantai pasok GTC di Indonesia didominasi oleh risiko risiko keterlambatan pengiriman, ketidakpastian pemasok, gangguan logistik, serta permasalahan operasional di gudang. Penerapan Fuzzy FMEA terbukti mampu memberikan pemeringkatan risiko yang lebih representatif dibandingkan FMEA konvensional. Strategi mitigasi yang direkomendasikan meliputi diversifikasi pemasok, peningkatan koordinasi dan monitoring logistik, perbaikan distem manajemen persediaan, serta penguatan prosedur operasional standar. Penelitian ini diharapkan dapat memberikan kontribusi praktis bagi perusahaan GTC dalam pengelolaan risiko rantai pasok serta kontribusi akademik dalam pengembangan penerapan Fuzzy FMEA pada sektor perdagangan umum di Indonesia.

Kata kunci: *General Trading Company*, Risiko Rantai Pasok, Fuzzy FMEA, *Fishbone,Diagram,* ISO 31000.

ABSTRACT

General Trading Companies (GTCs) play a strategic role as intermediaries between producers and consumers within cross-sector supply chains, particularly in strategic industrial sectors such as energy, infrastructure, and manufacturing. The complexity of supplier networks, high dependence on logistics systems, and uncertainty in the business environment make GTCs vulnerable to various supply chain risks, especially delivery delays and distribution disruptions. This study aims to identify, analyze, and prioritize risks within the supply chains of GTCs in Indonesia, as well as to formulate appropriate risk mitigation strategies to enhance operational resilience and efficiency.

This study adopts a risk management approach based on ISO 31000, utilizing Failure Mode and Effects Analysis (FMEA) combined with fuzzy logic (Fuzzy FMEA) to address subjectivity and uncertainty in risk assessment. The research objects consist of 30 General Trading Companies in Indonesia engaged in crosssector physical trading activities. Data were collected through questionnaires, expert interviews, and risk validation using the Content Validity Index (CVI). Risk assessment was conducted based on the severity, occurrence, and detection parameters, which were subsequently calculated using the Risk Priority Number (RPN) and Fuzzy Risk Priority Number (FRPN) to determine key risk priorities.

This study identifies 23 supply chain risk factors affecting GTCs in Indonesia, encompassing both internal and external sources, including pandemic and health-related risks, geopolitical, economic, technological, sustainability, demand, supply and logistics risks, as well as internal operational risks. The results indicate that the highest-priority risks in the supply chains of GTCs in Indonesia are dominated by delivery delays, supplier uncertainty, logistics disruptions, and operational issues in warehousing activities. The application of Fuzzy FMEA was proven to provide a more representative risk prioritization compared to conventional FMEA. The recommended mitigation strategies include supplier diversification, enhanced coordination and logistics monitoring, improvements in inventory management systems, and the strengthening of standard operating procedures. This study is expected to provide practical contributions for GTCs in managing supply chain risks, as well as academic contributions to the development of Fuzzy FMEA applications in the general trading sector in Indonesia.

***Keywords**: General Trading Company; Supply Chain Risk; Fuzzy FMEA; Fishbone Diagram; ISO 31000.*