Accelerated Innovation (AI): Sustainability for Better Humanity
21–24 May 2025
Bangkok, Thailand
make learn
TIIM
PIConf
Management, Knowledge and Learning
International Conference
Technology, Innovation and Industrial Management
Sustainable Development

Using Open-Source Intelligence and a Top-Down/Bottom-Up Approach to Improve Supply Chain Risk Management in a Government Agency

Rajkamal Kesharwani
Associate Professor, Mercyhurst University, USA
rkesharwani@mercyhurst.edu

Fred Hoffman
Associate Professor, Mercyhurst University, USA
fhoffman@mercyhurst.edu

Abstract

A U.S. government entity sought to incorporate outside expertise when reassessing its approach to supply chain risk management (SCRM). Due to globalization, organizational supply chains often depend on primary, secondary, and tertiary suppliers located around the world. To mitigate risk, the entity selected an academic team from Mercyhurst University that included professors experienced in intelligence, supply chain decomposition, and risk management and a student team experienced in intelligence collection, aggregation, and the use of structured analytic techniques. The Mercyhurst team used OSINT tools, techniques, and tradecraft in a top-down and bottom-up approach to assess the government entity's supply chain. The top-down approach employed such competitive intelligence techniques as benchmarking and "Know Your Customer (KYC)" procedures, while the bottom-up approach examined the existing risk identification and categorization approaches used by the government entity's subordinate organizations, standardized and quantified them, then used Root Cause Analysis to analyze threats and recommend mitigation strategies.

Keywords: Value chain management, supply chain risk management, open-source intelligence, intelligence collection, intelligence analysis, benchmarking