ALY 6080 Annotated Bibliography (Article 1)

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ALY 6080 Annotated Bibliography (Article 1) **1**

Introduction **3**

The Article I choose **3**

The Abstract and Introduction **3**

Findings and Conclusion **4**

References **4**

Introduction

In this assignment, I will go through an article and submit a two-paragraph summary of one article.

The Article I choose

Our sponsor is working on green solutions. Therefore, I choose to work on the green supply chain. The first Article I chose is “A hybrid model for analyzing the risks of the green supply chain in a fuzzy environment.” by Ehsan Pourjavad & Arash Shahin.

The Abstract and Introduction

This study's objective is to suggest a novel method for ranking the hazards associated with green supply chains (GSC) in a hazy setting. The GSC is acknowledged as an organizational philosophy that aids businesses in improving ecological efficiency and minimizing adverse environmental impacts to increase their market share and financial capacity. Adopting and implementing green initiatives successfully is essential for companies to establish and keep a competitive edge. Numerous investigations have been made to assess the dangers of the green supply chain. Also, to address risk mitigation measures for GSCM, a Situation Actor Process-Learning Action Performance (SAP-LAP) based model was proposed.

Several risk sources were examined to project evaluations for their management in GSC. It is seen as a glaring research gap in improving GSC performance. This study aims to identify hazards related to the GSC and rank practical actions to lessen the impact of the risks. Most studies have concentrated on assessing the risks, but there is no method for gauging risk reactions. For example, a quantitatively based approach was proposed to examine the risks associated with green components in terms of European Union criteria for decreasing the ecological impacts.

Several risk categories with varying degrees of importance have an impact on the issue of prioritizing responses to GSC threats. One of the most excellent techniques for locating the most crucial green criteria is the Decision-Making Trial and Evaluation Laboratory (DEMATEL). This study defines the main risk factors using a fuzzy DEMATEL. A sensitivity analysis is carried out to determine the value of risk criteria in ranking responses to GSC risks in the pipe industry. The primary contributions of the suggested strategy include identifying crucial risk criteria for evaluating responses, choosing the best possible answers to implement green initiatives effectively, and assessing the impact of risk criticisms on response prioritization.

Findings and Conclusion

The suggested approach is verified through a case study in the Iranian pipe business (Kooshan Etesal Company). Specialists invited 15 academic experts and 15 supply chain specialists to assess the risk responses in light of the risk criteria. The case example's applicable risk remedies include "multiple supplier policy," "training employees to improve their competency with regards to the environment," and "increasing product recovery in the green supply chain." Using DEMATEL and TOPSIS in a fuzzy environment, a fuzzy MCDMCDM strategy was proposed for analyzing and choosing the optimum answers to risks related to the acceptance and successful implementation of green initiatives.

Although GSC plays a significant part in enhancing businesses' environmental performance, its effectiveness is jeopardized by the dangers posed by green efforts. A pipe business case study examining ten risk responses based on six risk categories and twelve risk criteria validated the suggested approach. Among the defined solutions to reduce the risks of GSC, "multiple supply policy" obtained the highest ranking. With improved GSC performance, several societal benefits can be realized, including increased environmental regulation compliance and supply chain green efficiency.

References

Journal of Industrial and Production Engineering. (2020). *A hybrid model for analyzing the risks of green supply chain in a fuzzy environment*. [online] Available at: https://www.tandfonline.com/doi/full/10.1080/21681015.2020.1833995 [Accessed 3 Oct. 2022].