

Supply Chain Resilience: Strategies for Mitigating Disruptions and Building Adaptive Networks

Ketahanan Rantai Pasokan: Strategi Mitigasi Gangguan dan Membangun Jaringan Adaptif

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ABSTRACT

This research aims to investigate strategies and best practices for improving supply chain resilience. Through a systematic literature review approach, four main strategic areas have been identified, namely supplier diversification, supply chain visibility, production disruption management, and digital technology integration. The findings show that supplier diversification is a crucial strategy in mitigating negative impacts during periods of disruption, while increasing supply chain visibility and effective management of production disruptions also play an important role. The integration of digital technology stands out as a key factor in managing supply chains effectively, especially in the face of non-tariff barriers in the industry. The practical implications of these findings provide valuable guidance for supply chain practitioners and managers in developing more adaptive and effective strategies in facing the challenges of an increasingly complex business environment.

Keywords: Supply chain resilience, Supplier diversification, Supply chain visibility, Production disruption management, Digital technology integration.

ABSTRAK

Penelitian ini bertujuan untuk menyelidiki strategi dan praktik terbaik untuk meningkatkan ketahanan rantai pasokan. Melalui pendekatan sistematis review literatur, empat area strategis utama telah diidentifikasi, yaitu diversifikasi pemasok, visibilitas rantai pasokan, manajemen gangguan produksi, dan integrasi teknologi digital. Temuan menunjukkan bahwa diversifikasi pemasok merupakan strategi krusial dalam mengurangi dampak negatif selama periode gangguan, sementara peningkatan visibilitas rantai pasokan dan manajemen gangguan produksi yang efektif juga berperan penting. Integrasi teknologi digital menonjol sebagai faktor kunci dalam mengelola rantai pasokan secara efektif, terutama dalam menghadapi hambatan non-tarif dalam industri. Implikasi praktis dari temuan ini memberikan panduan berharga bagi praktisi dan manajer rantai pasokan dalam mengembangkan strategi yang lebih adaptif dan efektif dalam menghadapi tantangan lingkungan bisnis yang semakin kompleks.

Kata Kunci: Ketahanan rantai pasokan, Diversifikasi pemasok, Visibilitas rantai pasokan, Manajemen gangguan produksi, Integrasi teknologi digital

1. Introduction

Supply chain resilience is becoming increasingly important in the context of growing globalization and increasing risks of disruption. An effective supply chain not only considers aspects of logistics and distribution of goods, but also involves good governance in social, economic and political dimensions to ensure the smooth flow of products, information and finance (Simanjuntak & Erwinsyah, 2020). Good supply chain management involves various parties such as suppliers, factories, retailers, consumers, as well as well-managed product, information and financial flows (Prasetya et al., 2019).

Measuring supply chain performance is crucial in ensuring supply chain efficiency and effectiveness. Good management in the supply chain can improve an organization's ability to

achieve company goals (Mufaqih et al., 2017). Apart from that, increasing interaction between supply chain constituents can also increase the organization's ability to achieve the desired goals (Deswati et al., 2020). In the context of globalization, regional cooperation in agricultural supply chains can be key in achieving sustainable food security (Quaralia, 2022). The COVID-19 pandemic has shown how disruptions in global supply chains can threaten regional cooperation and prompted thoughts of moving supply chains to closer countries or renationalizing them (Sidabutar, 2020).

Risk management in the supply chain is also an important aspect that needs to be considered. Risk management in the supply chain can help companies reduce the risk of events and problems that may arise in their supply chain (Winursito et al., 2022). Uncertainty in the supply chain can be considered an opportunity for companies to gain profits if it can be managed well (Purwaditya et al., 2019). Thus, it is important for companies to pay attention to overall supply chain management, including performance measurement, regional cooperation, and risk management, to ensure supply chain resilience in the face of the challenges of globalization and the increasing risk of disruption.

Disruptions in the supply chain can have a significant negative impact on companies and the economy as a whole. Hendricks and Singhal (2003) suggest that long-term disruptions in the supply chain can cause negative impacts that are difficult for companies to recover from quickly (Agusti et al., 2020). Supply chain risk management is also becoming increasingly important because disruptions in the supply chain can be detrimental to overall supply chain performance (Meutia, 2022). The negative impact of supply chain disruptions can also spill over into broader economic aspects. For example, the impact of the Covid-19 pandemic has caused an economic recession which has resulted in increased unemployment and company bankruptcy (Sanjaya et al., 2022; Arianto, 2021). In addition, disruptions in the supply chain can also cause congestion, which in turn will have a negative impact on drivers, the economy and the environment (Widodo et al., 2020).

A sustainable green supply chain strategy is proposed as a step to reduce the negative impact of industry on the environment and strengthen the industrial system to support social and economic development (Luthfi, 2023). Apart from that, sustainable supply chain management can also have a positive impact on the company's total quality management strategy, which in turn will influence the company's business performance (Maisaroh, 2021). Thus, disruptions in the supply chain not only impact company performance but can also have far-reaching economic consequences, including recessions, unemployment, corporate bankruptcies, and environmental problems. Therefore, company managers need to pay attention to supply chain risk management and implement sustainable supply chain strategies to reduce the negative impacts that may arise.

To enhance supply chain resilience, it is crucial to implement best practices and strategies that can help businesses maintain profitability and competitive positioning in the face of challenges and competition. Several studies provide valuable insights into effective supply chain management strategies. Research by Salim et al. (2021) focuses on the implementation of government policies in managing the broiler chicken supply chain in Indonesia, aiming to formulate and identify strategies for policy intervention implementation to enhance supply chain management (Salim et al., 2021). Furthermore, Yekty & Solovida (2021) emphasize the significance of social capital and entrepreneurial strategies in sustainable supply chain management to achieve competitive advantages within the supply chain (Yekty & Solovida, 2021). Additionally, Stifany et al. (2020) highlight the importance of the Supply Chain Operations Reference (SCOR) model as a strategic tool to describe, communicate, implement, control, and measure complex supply chain processes to achieve good performance (Stifany et al., 2020).

Moreover, Laulita (2021) discusses how integrating suppliers into the supply chain can significantly improve supply chain performance, especially when considering the moderating

effect of transformational leadership styles in maintaining long-term relationships with suppliers in multinational companies (Laulita, 2021). In conclusion, by drawing on these studies, businesses can develop and implement robust supply chain strategies that integrate government policies, social capital, operational models like SCOR, and supplier collaboration to enhance supply chain resilience and performance.

In an era of globalization and growing uncertainty, supply chain resilience has become a top priority for companies in the face of various types of disruptions that can disrupt their operations. The research question that arises is: "What strategies and best practices can companies implement to increase supply chain resilience to various types of disruptions?" To answer this question, this research aims to identify and analyze strategies and best practices that companies can use to improve the resilience of their supply chains. Through a holistic analytical approach, this research will explore various factors that influence supply chain resilience, including risk mitigation, operational flexibility, collaboration with suppliers and business partners, and the application of advanced information and communications technology. With a deeper understanding of effective strategies and practices, it is hoped that companies can implement appropriate measures to strengthen the resilience of their supply chains and face existing and future challenges more resiliently. It is hoped that the results of this research will provide practical guidance for practitioners and supply chain managers in developing effective strategies to deal with increasingly complex uncertainties in today's business environment.

Supply chain disruptions can arise from various sources, including natural disasters like hurricanes, earthquakes, and floods, which damage infrastructure, disrupt transportation, and cause power outages. Cyber attacks on suppliers or logistics providers can also disrupt the supply chain by causing delays, data breaches, or loss of critical information. Additionally, political instability such as wars or government instability can lead to transportation disruptions, border closures, or trade restrictions, impacting the supply chain. Moreover, technological failures like power outages or equipment failures can cause production delays or transportation disruptions.

To mitigate these disruptions, organizations can adopt several strategies. Redundancy, maintaining multiple suppliers or inventory, can help offset the impact of disruptions. Flexibility, achieved through multiple suppliers, flexible contracts, and the ability to swiftly change suppliers or production processes, enables the supply chain to adapt to changing conditions. Insurance policies covering supply chain disruptions, such as business interruption insurance, can mitigate financial impacts. Expediting, involving faster shipping methods, increased inventory levels, or express delivery services, helps the supply chain respond promptly to disruptions. Understanding power-based behaviors in the supply chain aids in identifying strategies to mitigate their negative effects on resilience. Implementing these strategies enables organizations to construct more resilient supply chains capable of withstanding disruptions and recovering swiftly when disruptions occur (Mackay, et al. 2020; Rwakira, 2015).

The aim of this research is to achieve several main objectives. First, is identifying strategies and best practices that companies can use to improve the resilience of their supply chains. This involves gathering data from multiple sources and detailed analysis to reveal the most effective approaches to dealing with supply chain disruptions. Second, this research aims to analyze the effectiveness of strategies and best practices that have been identified in various industries. In doing so, there will be a better understanding of how the strategy can be adapted to the unique needs and dynamics of each industry. Lastly, the aim of this research is to provide practical recommendations to companies regarding concrete steps they can take to improve the resilience of their supply chains. These recommendations will be based on empirical findings from the research and will provide valuable guidance for practitioners and supply chain managers in addressing the challenges faced by their companies. Thus, the aim of this

research is not only to focus on theoretical understanding, but also on the practical application of research results in real business contexts.

2. Research methodology:

This research will adopt a systematic method of literature review to investigate strategies for reducing disruptions in supply chains and building adaptive networks to increase resilience. Reference sources will be searched through international databases such as Scopus, Web of Science, and IEEE Xplore, using relevant keywords such as "supply chain resilience", "supply chain disruptions", "adaptive networks", "mitigating disruptions", "supply chain strategies", and "resilience building techniques". Accepted articles must meet pre-established inclusion criteria, including relevance to the research topic, the presence of substantial information on supply chain resilience strategies, and publication in leading and reputable scientific journals. Articles that do not meet the inclusion criteria will be rejected from the study. Through this approach, it is hoped that this research can present a comprehensive and reliable review of strategies for reducing disruptions in supply chains and building adaptive networks to increase resilience.

3. Results and Discussions

3.1 Definition and Concept of Supply Chain Resilience:

Supply chain resilience is a crucial concept in modern business operations, especially in the face of increasing disruptions and uncertainties. It refers to the ability of a supply chain to anticipate, prepare for, respond to, and recover from disruptions while maintaining its essential functions (Wieland & Durach, 2021). Resilience in the supply chain involves various dimensions such as preparedness, alertness, agility, and the ability to mitigate risks effectively (Li et al., 2017; Scholten et al., 2014). It is essential for firms to develop resilience to supply chain disruptions to ensure continuity in their operations (Ambulkar et al., 2014).

The distinction between resilience and robustness in the context of supply chains is crucial. Resilience focuses on the ability to bounce back and adapt to disruptions, while robustness emphasizes the ability to withstand shocks without changing (Brandon-Jones et al., 2014). Both concepts are interconnected and play a vital role in ensuring the stability and sustainability of supply chains. Factors contributing to the development of firm resilience to supply chain disruptions include supply chain integration, the maturity of risk management processes, and the implementation of mitigating strategies (Ambulkar et al., 2014; Sugathadasa et al., 2020; Um & Han, 2020). Additionally, the role of inbound logistics capabilities, such as reengineering processes, is highlighted as a key factor in building a resilient supply chain (Thị et al., 2023).

Moreover, the concept of supply chain resilience extends beyond mere recovery from disruptions. It involves leveraging disruptive events for growth and post-disruption development, leading to the idea of building an antifragile supply chain (Nikookar, 2024). This approach emphasizes not only surviving disruptions but also thriving in their aftermath. In conclusion, supply chain resilience is a multifaceted concept that encompasses preparedness, adaptability, risk mitigation, and the ability to leverage disruptions for growth. Firms that prioritize building resilience in their supply chains are better equipped to navigate uncertainties and maintain operational continuity in the face of various disruptions.

Supply chain disruptions can have significant impacts on supply chain performance, affecting various aspects such as production lead-time, transportation delays, interruptions in raw material supplies, and restricted access to workplaces (Asif et al., 2019). These disruptions can be classified into internal and external responsibility events, highlighting the importance of understanding different categories of disruptions (Alora & Barua, 2020). In the face of disruptions, supply chains may experience a ripple effect where disruptions propagate and impact overall performance (Park et al., 2021). Furthermore, disruptions can lead to severe

domino effects, especially with trends like global sourcing and reduced supplier numbers making supply chains more vulnerable (Shao & Sun, 2010).

Different types of disruptions, such as supply and transportation disruptions, can affect supply chain operations (Hishamuddin et al., 2015). The relationship between supply chain disruptions and organizational performance has been studied extensively, emphasizing the need to differentiate among various disruption types (Parast & Subramanian, 2021). Market disruptions are increasingly emerging in supply chains, posing challenges to supply chain performance (Wang et al., 2016). Additionally, disruptions can lead to lasting consequences with ripple effects felt downstream in the supply chain, impacting the wealth and reputation of enterprises (Ma et al., 2020).

In times of major crises like the COVID-19 pandemic, supply chain disruptions become more frequent, underscoring the vulnerability of supply chains to unexpected events (Klimm et al., n.d.). Strategies to manage disruption risks include having redundant suppliers, increasing responsiveness, enhancing flexibility, reinforcing cooperation, and adopting crisis management planning (Liu et al., 2007). Understanding the interrelated nature of supply chain disruption risks and designing resilient supply chain systems are crucial for mitigating the impacts of disruptions (Habermann et al., 2015; Larin et al., 2021; Ambulkar et al., 2014). In conclusion, supply chain disruptions are a critical concern for firms operating in today's global marketplace, with disruptions having the potential to significantly impact supply chain performance, organizational resilience, and overall business operations. Mitigating disruption risks and building resilient supply chain systems are essential strategies for navigating the challenges posed by various types of disruptions.

Factors contributing to supply chain resilience have been extensively studied in academic literature. Several key factors have been identified through empirical research. Ambulkar et al. (2014) focused on defining and validating firm resilience to supply chain disruptions, highlighting factors that enhance resilience in firms (Ambulkar et al., 2014). Brandon-Jones et al. (2014) emphasized the role of supply chain connectivity, information sharing resources, and visibility capabilities in improving resilience and robustness (Pettit et al., 2013; . Polyviou et al., 2019) highlighted the significance of internal social capital in improving supply chain resilience, supporting the need to identify organizational factors for resilience (Polyviou et al., 2019; . Jafarnejad et al., 2019) identified agility, collaboration, information sharing, trust, risk management culture, adaptability, structure, funding, and environmental conditions as major factors affecting supply chain resilience in the medical equipment industry (Jafarnejad et al., 2019; . Nikookar & Yanadori, 2021) identified manager-level factors contributing to supply chain resilience, expanding the understanding of resilience theory (Nikookar & Yanadori, 2021). Furthermore, Dong (2020) found that the reliability of suppliers, the number of transport vehicles, and the risk control ability of employees are critical factors limiting the resilience of agricultural supply chains (Dong, 2020; . Wieland & Durach, 2021) redefined supply chain resilience as the capacity to persist, adapt, or transform in the face of change, emphasizing the dynamic nature of resilience (Wieland & Durach, 2021; . Um & Han, 2020) suggested that supply chain resilience capability plays a crucial role in managing global supply chain risks (Um & Han, 2020). In conclusion, factors contributing to supply chain resilience encompass a wide range of elements such as organizational culture, relationship management, agility, information sharing, and risk management practices. Understanding and enhancing these factors are essential for building resilient supply chains capable of withstanding disruptions and adapting to changing environments.

3.2 Strategies and Best Practices to Improve Supply Chain Resilience:

In understanding the dynamics of supply chain management, it is imperative to draw insights from various reputable sources that categorize strategies and best practices. Supplier diversification emerges as a pivotal strategy to mitigate adverse impacts during disruptions,

such as those experienced during crises like COVID-19 (Wang et al., 2023). Studies emphasize the importance of implementing risk mitigation measures, such as diversifying suppliers, to effectively manage uncertainties within supply chains (Ali & Ashraf, 2023). Notably, dual sourcing, a facet of supplier diversification, has gained traction as a procurement strategy to navigate uncertain supply scenarios and retail competition (Chen & Guo, 2014). Enhancing supply chain visibility emerges as another critical strategy, with collaboration across geographically diverse suppliers being favored to bolster resilience (Xu et al., 2020). Multiple sourcing, which entails diversifying reliance on various suppliers, is underscored as a resilience strategy that enhances both visibility and flexibility within the supply chain (Rehman & Ali, 2021).

Addressing production disruptions requires strategic measures like contingent sourcing and demand switching, particularly relevant for firms managing multiple products over a single season (Tomlin, 2009). In decentralized supply chains with endogenous supply process reliability, supplier diversification remains widely regarded as the optimal strategy for managing disruptions (Tang et al., 2014). Furthermore, the integration of digital technology emerges as a transformative force in supply chain management. Studies emphasize the importance of closing the marketing capabilities gap to contend with the disruptive effects of technology-empowered customers and media proliferation (Day, 2011). Leveraging digital technology through strategic sourcing strategies, such as direct procurement and outward processing arrangements, proves instrumental in managing industries subject to non-tariff barriers (Wang et al., 2011).

By categorizing these strategies based on supplier diversification, supply chain visibility, production disruption, and digital technology, organizations can develop a comprehensive approach to enhancing their supply chain resilience and efficiency. Through an amalgamation of these insights, firms can fortify their operations against disruptions while simultaneously fostering adaptability and efficiency within their supply chains.

Research Framework

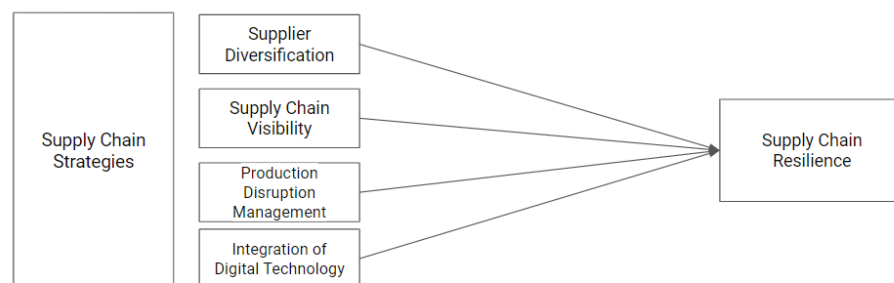


Figure 1 Research Framework

Hypothesis

H1: Supplier diversification has a positive effect on supply chain resilience. The greater the level of supplier diversification implemented by a company, the higher the level of supply chain resilience.

H2: Supply chain visibility has a positive effect on supply chain resilience. The higher the level of supply chain visibility a company has, the higher the level of supply chain resilience.

H3: Production disruption management has a positive effect on supply chain resilience. The better the company manages production disruptions, the higher the level of supply chain resilience.

H4: Digital technology integration has a positive effect on supply chain resilience. The greater the level of integration of digital technology in a company's supply chain practices, the higher the level of supply chain resilience.

4. Conclusions

This research presents a comprehensive overview of strategies and best practices for improving supply chain resilience. Based on a systematic literature analysis, the four main areas identified are supplier diversification, supply chain visibility, production disruption management, and digital technology integration.

From the research results, supplier diversification has proven to be an important strategy in reducing negative impacts during periods of disruption, especially in facing crises such as the COVID-19 pandemic. This diversification can be done through dual sourcing practices and expanding supplier networks to overcome supply uncertainty and increasingly fierce retail competition. Additionally, increasing supply chain visibility through collaboration with geographically diverse suppliers is considered crucial in strengthening resilience. Effective production disruption management strategies, such as contingency sourcing and demand shifting, were also found to play an important role especially for companies facing significant demand variations.

The integration of digital technology also stands out as a key factor in managing supply chains effectively, especially in the face of non-tariff barriers in the industry. Through digital technology, organizations can close marketing capability gaps and leverage digital tools for efficient supply chain management.

These findings provide valuable insights for practitioners and supply chain managers in developing more adaptive and effective strategies in facing the challenges of an increasingly complex business environment. The practical implications of this research help organizations strengthen their operations and improve supply chain performance.

5. References

- Agusti, F., Marimin, M., & Mulyati, H. (2020). Analisis risiko rantai pasok pestisida pada pt. agricon. *j.tek.ind.pert.*, 151-168. <https://doi.org/10.24961/j.tek.ind.pert.2020.30.2.151>
- Ali, H. and Ashraf, I. (2023). Quality assessment, a process of evaluating the quality product.. <https://doi.org/10.31219/osf.io/qknm5>
- Alora, A. and Barua, M. (2020). The effect of supply chain disruptions on shareholder wealth in small and mid-cap companies. *Supply Chain Management an International Journal*, 26(2), 212-223. <https://doi.org/10.1108/scm-05-2020-0200>
- Ambulkar, S., Blackhurst, J., & Grawe, S. (2014). Firm's resilience to supply chain disruptions: scale development and empirical examination. *Journal of Operations Management*, 33-34(1), 111-122. <https://doi.org/10.1016/j.jom.2014.11.002>
- Arianto, B. (2021). Dampak pandemi covid-19 terhadap perekonomian dunia. *Jurnal Ekonomi Perjuangan*, 2(2). <https://doi.org/10.36423/jumper.v2i2.665>
- Asif, M., Chhetri, P., & Padhye, R. (2019). Do political disruptions affect supply chain performance? a qualitative case study of the textile supply chain in pakistan. *Journal of International Logistics and Trade*, 17(3), 77-88. <https://doi.org/10.24006/jilt.2019.17.3.002>
- Brandon-Jones, E., Squire, B., Autry, C., & Petersen, K. (2014). A contingent resource-based perspective of supply chain resilience and robustness. *Journal of Supply Chain Management*, 50(3), 55-73. <https://doi.org/10.1111/jscm.12050>

- Chen, J. and Guo, Z. (2014). Strategic sourcing in the presence of uncertain supply and retail competition. *Production and Operations Management*, 23(10), 1748-1760. <https://doi.org/10.1111/poms.12078>
- Day, G. (2011). Closing the marketing capabilities gap. *Journal of Marketing*, 75(4), 183-195. <https://doi.org/10.1509/jmkg.75.4.183>
- Deswati, R., Rosyidah, L., & Apriliani, T. (2020). Pengaruh manajemen rantai pasok terhadap performa usaha budi daya udang vaname di provinsi bali dan jawa timur. *Buletin Ilmiah Marina Sosial Ekonomi Kelautan Dan Perikanan*, 6(2), 113. <https://doi.org/10.15578/marina.v6i2.8474>
- Dong, W. (2020). Research on supply chain resilience of agricultural products based on ahp-fce model. *Learning & Education*, 9(3), 114. <https://doi.org/10.18282/l-e.v9i3.1594>
- Firmansyah, M. A., & Maemunah, S. (2021). Lean management and green supply chain management implementation on the manufacturing and logistics industry at an Indonesia. *Business and Entrepreneurial Review*, 21(1), 11-22.
- Habermann, M., Blackhurst, J., & Metcalf, A. (2015). Keep your friends close? supply chain design and disruption risk. *Decision Sciences*, 46(3), 491-526. <https://doi.org/10.1111/deci.12138>
- Hishamuddin, H., Sarker, R., & Essam, D. (2015). A simulation model of a three echelon supply chain system with multiple suppliers subject to supply and transportation disruptions. *Ifac-Papersonline*, 48(3), 2036-2040. <https://doi.org/10.1016/j.ifacol.2015.06.388>
- Jafarnejad, A., Momeni, M., Hajiagha, S., & Khorshidi, M. (2019). A dynamic supply chain resilience model for medical equipment's industry. *Journal of Modelling in Management*, 14(3), 816-840. <https://doi.org/10.1108/jm2-11-2018-0195>
- Klimm, M., Valdes-Vasquez, R., & Arneson, E. Localized supply chain disruptions: a case study on the effects of the covid-19 pandemic on a commercial roofing project.. <https://doi.org/10.29007/qd51>
- Larin, O., Tarasov, D., Миротин, Л., Рублев, В., & Капский, Д. (2021). Resilient supply chain management model. *SHS Web of Conferences*, 93, 03005. <https://doi.org/10.1051/shsconf/20219303005>
- Laulita, N. (2021). Pengaruh integrasi pemasok pada kinerja rantai pasok dengan moderasi gaya kepemimpinan transformasional rantai pasok pada perusahaan manufaktur di batam. *Journal of Industrial and Manufacture Engineering*, 5(1), 20-29. <https://doi.org/10.31289/jime.v5i1.3724>
- Li, X., Wu, Q., Holsapple, C., & Goldsby, T. (2017). An empirical examination of firm financial performance along dimensions of supply chain resilience. *Management Research Review*, 40(3), 254-269. <https://doi.org/10.1108/mrr-02-2016-0030>
- Liu, L., Ji, J., Liu, X., Chen, J., & Bao, X. (2007). Transportation disruptions in supply chain.. <https://doi.org/10.1109/wicom.2007.1545>
- Luthfi, A. (2023). Analisis penerapan strategi rantai pasok hijau berkelanjutan pada sistem industri.. <https://doi.org/10.31219/osf.io/y68qj>
- Lubis, A. F. (2020). THE STATE DETERMINES LEGAL SYSTEM WITH INTERNATIONAL HUMAN RIGHTS INSTRUMENTS. *INTERNATIONAL JOURNAL OF MULTI SCIENCE*, 1(04), 87-94.
- Lubis, A. F. (2020). The Competence of the Judiciary in Cases of Document Forgery Conducted by a TNI Soldier Before Joining TNI. *Tabsyir: Jurnal Dakwah dan Sosial Humaniora*, 1(3), 01-09.

- Ma, S., He, Y., & Gu, R. (2020). Dynamic generic and brand advertising decisions under supply disruption. *International Journal of Production Research*, 59(1), 188-212. <https://doi.org/10.1080/00207543.2020.1812751>
- Mackay, J., Munoz, A., & Pepper, M.P. (2020). Conceptualising redundancy and flexibility towards supply chain robustness and resilience. *Journal of Risk Research*, 23, 1541 - 1561.
- Maemunah, S. (2017). The Effect Of Information And Communication Technology (Ict) And Business Strategy On Business Performance In Small And Medium Businesses. *Business and Entrepreneurial Review*, 17(1), 53-66.
- Maemunah, S. (2018). The effect of corporate reputation and sustainable innovation strategy on business performance in automotive companies. *Business and Entrepreneurial Review*, 18(1), 65-74.
- Maemunah, S., & Susanto, P. H. (2019). The effect of attitude and purchasing of millennials consumers towards brand love in sports wear brands. *International Journal of Advanced Science and Technology*, 29(5), 515-523.
- Maemunah, S., & Syakbani, B. (2021). Strategic logistics on halal products. *Valid: Jurnal Ilmiah*, 18(2), 128-135.
- Maemunah, S., & Cuaca, H. (2021). Influence of epidemic COVID-19 on business strategy, information technology and supply chain agility to firm performance in medical device industry. *Linguistics and Culture Review*, 5(S1), 661-669.
- Maisaroh, M. (2021). Dampak penerapan rantai pasokan berkelanjutan terhadap keunggulan kompetitif pada umkm konveksi di desa nogotirto. *Matrik Jurnal Manajemen Dan Teknik Industri Produksi*, 22(1), 85. <https://doi.org/10.30587/matrik.v22i1.2382>
- Meutia, A. (2022). Risk management.. <https://doi.org/10.31219/osf.io/3zgsw>
- Mufaqih, I., Indarti, N., Ciptono, W., & Kartikasari, A. (2017). Pengaruh integrasi, berbagi informasi, dan penundaan pada kinerja rantai pasokan: studi pada usaha kecil menengah batik di indonesia. *Jurnal Siasat Bisnis*, 21(1), 19-36. <https://doi.org/10.20885/jsb.vol21.iss1.art2>
- Nikookar, E. (2024). Building an antifragile supply chain: a capability blueprint for resilience and post-disruption growth. *Journal of Supply Chain Management*, 60(1), 13-31. <https://doi.org/10.1111/jscm.12313>
- Parast, M. and Subramanian, N. (2021). An examination of the effect of supply chain disruption risk drivers on organizational performance: evidence from chinese supply chains. *Supply Chain Management an International Journal*, 26(4), 548-562. <https://doi.org/10.1108/scm-07-2020-0313>
- Park, Y., Blackhurst, J., Paul, C., & Scheibe, K. (2021). An analysis of the ripple effect for disruptions occurring in circular flows of a supply chain network*. *International Journal of Production Research*, 60(15), 4693-4711. <https://doi.org/10.1080/00207543.2021.1934745>
- Pettit, T., Croxton, K., & Fiksel, J. (2013). Ensuring supply chain resilience: development and implementation of an assessment tool. *Journal of Business Logistics*, 34(1), 46-76. <https://doi.org/10.1111/jbl.12009>
- Polyviou, M., Croxton, K., & Knemeyer, A. (2019). Resilience of medium-sized firms to supply chain disruptions: the role of internal social capital. *International Journal of Operations & Production Management*, 40(1), 68-91. <https://doi.org/10.1108/ijopm-09-2017-0530>

- Prasetya, A., Retnoningsih, D., & Koestiono, D. (2019). Kinerja manajemen rantai pasok (supply chain management) keripik kentang di industri kecil kota batu. *Habitat*, 30(2), 44-53. <https://doi.org/10.21776/ub.habitat.2019.030.2.6>
- Purwaditya, A., Widodo, K., & Ainuri, M. (2019). Mitigasi risiko pada rantai pasok hulu ikan scombridae segar di pelabuhan perikanan pantai tegal, jawa tengah. *Jurnal Sosial Ekonomi Kelautan Dan Perikanan*, 13(2), 219. <https://doi.org/10.15578/jsekp.v13i2.7096>
- Quaralia, P. (2022). Kerjasama regional dalam rantai pasokan pertanian untuk mencapai ketahanan pangan berkelanjutan: studi kasus asean. *Padjadjaran Journal of International Relations*, 4(1), 56. <https://doi.org/10.24198/padjir.v4i1.37614>
- Rehman, O. and Ali, Y. (2021). Enhancing healthcare supply chain resilience: decision-making in a fuzzy environment. *The International Journal of Logistics Management*, 33(2), 520-546. <https://doi.org/10.1108/ijlm-01-2021-0004>
- Rwakira, B.T. (2015). Supply chain resilience:a case study analysis of a supply network in a developing country context.
- Salim, I., Syahlani, S., & Putra, A. (2021). Strategi implementasi kebijakan pemerintah pada manajemen rantai pasokan ayam broiler di indonesia. *Jurnal Agro Ekonomi*, 38(2), 77. <https://doi.org/10.21082/jae.v38n2.2020.77-90>
- Sanjaya, T., Rosid, A., & Ardin, G. (2022). Dampak ekonomi pandemi covid-19 terhadap pelaku usaha di indonesia. *Jurnal Anggaran Dan Keuangan Negara Indonesia (Akurasi)*, 4(1), 86-109. <https://doi.org/10.33827/akurasi2022.vol4.iss1.art160>
- Scholten, K., Scott, P., & Fynes, B. (2014). Mitigation processes – antecedents for building supply chain resilience. *Supply Chain Management an International Journal*, 19(2), 211-228. <https://doi.org/10.1108/scm-06-2013-0191>
- Shao, L. and Sun, X. (2010). A supply chain disruption problem with node's failure and recovery.. <https://doi.org/10.1109/iciii.2010.214>
- Sidabutar, V. (2020). Kajian posisi kerjasama indonesia dalam kerangka rcep terhadap kinerja ekspor dan investasi pasca covid-19. *Ekonomi Dan Bisnis*, 7(2), 197-216. <https://doi.org/10.35590/jeb.v7i2.2126>
- Simanjuntak, A. and Erwinsyah, R. (2020). Kesejahteraan petani dan ketahanan pangan pada masa pandemi covid-19: telaah kritis terhadap rencana megaproyek lumbung pangan nasional indonesia. *Sosio Informa*, 6(2). <https://doi.org/10.33007/inf.v6i2.2332>
- Stifany, N., Supriyadi, S., & Shofa, M. (2020). Integrasi anp dan omax dalam pengukuran kinerja rantai pasok industri kimia. *Profisiensi Jurnal Program Studi Teknik Industri*, 8(2), 94-104. <https://doi.org/10.33373/profis.v8i2.2767>
- Sugathadasa, P., Perera, H., & Liyanage, A. (2020). Effective management of manufacturing supply chain risks: a sri lankan perspective. *Engineer Journal of the Institution of Engineers Sri Lanka*, 53(3), 63. <https://doi.org/10.4038/engineer.v53i3.7421>
- Tang, S., Gurnani, H., & Gupta, D. (2014). Managing disruptions in decentralized supply chains with endogenous supply process reliability. *Production and Operations Management*, 23(7), 1198-1211. <https://doi.org/10.1111/poms.12160>
- Thi, B., Khanh, L., Minh, H., Thuy, L., & Tien, D. (2023). Impacts of inbound logistics capabilities on supply chain resilience: insight from vietnamese textile industry. *Measuring Business Excellence*, 27(3), 501-518. <https://doi.org/10.1108/mbe-09-2022-0113>
- Tomlin, B. (2009). Disruption-management strategies for short life-cycle products. *Naval Research Logistics (Nrl)*, 56(4), 318-347. <https://doi.org/10.1002/nav.20344>

- Um, J. and Han, N. (2020). Understanding the relationships between global supply chain risk and supply chain resilience: the role of mitigating strategies. *Supply Chain Management an International Journal*, 26(2), 240-255. <https://doi.org/10.1108/scm-06-2020-0248>
- Wang, N., Fang, X., & Liang, L. (2016). Supply chain performance under pull or push contracts in the presence of a market disruption. *International Transactions in Operational Research*, 24(4), 713-736. <https://doi.org/10.1111/itor.12281>
- Wang, Q., Zhou, H., & Zhao, X. (2023). The role of supply chain diversification in mitigating the negative effects of supply chain disruptions in covid-19. *International Journal of Operations & Production Management*, 44(1), 99-132. <https://doi.org/10.1108/ijopm-09-2022-0567>
- Wang, Y., Gilland, W., & Tomlin, B. (2011). Regulatory trade risk and supply chain strategy. *Production and Operations Management*, 20(4), 522-540. <https://doi.org/10.1111/j.1937-5956.2010.01167.x>
- Widodo, S., Cahyo, Y., Winarto, S., & Candra, A. (2020). Analisa kelayakan simpang empat tak bersinyal menggunakan manual kapasitas jalan indonesia (study khusus di jl. raya barat arah ke jl. anggrek, wonorejo, kalipang, sutojayan, blitar, jawa timur). *Jurnal Manajemen Teknologi & Teknik Sipil*, 3(1), 152. <https://doi.org/10.30737/jurmateks.v3i1.900>
- Wieland, A. and Durach, C. (2021). Two perspectives on supply chain resilience. *Journal of Business Logistics*, 42(3), 315-322. <https://doi.org/10.1111/jbl.12271>
- Wieland, A. and Durach, C. (2021). Two perspectives on supply chain resilience. *Journal of Business Logistics*, 42(3), 315-322. <https://doi.org/10.1111/jbl.12271>
- Winursito, Y., Nugraha, I., Sari, R., Islami, M., & Dewi, S. (2022). Analisis risiko pada rantai pasok di pt x dengan pendekatan house of risk (hor). *Juminten*, 3(2), 37-48. <https://doi.org/10.33005/juminten.v3i2.329>
- Xu, Z., Elomri, A., Kerbache, L., & Omri, A. (2020). Impacts of covid-19 on global supply chains: facts and perspectives. *Ieee Engineering Management Review*, 48(3), 153-166. <https://doi.org/10.1109/emr.2020.3018420>
- Yekty, K. and Solovida, G. (2021). Pengaruh strategi kewirausahaan dan modal sosial terhadap kinerja keuangan serta non-keuangan melalui manajemen rantai pasokan berkelanjutan. *Jurnal Wahana Akuntansi*, 16(1), 52-73. <https://doi.org/10.21009/wahana.16.014>