

Understanding The Role Of Agility In Supply Chain Management: A Systematic Literature Review

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ABSTRACT

The era of globalization has pushed companies around the world to deal with increasingly rapid market dynamics. In this context, companies have to maintain competitive advantage through agile supply chain management. This article discusses the concept of agility in supply chain management, describes its effect on company performance, as well as the strategies needed to deal with market changes. Through a comprehensive literature review, this article explores the definitions, dimensions, and factors influencing implementation, as well as flexibility and responsibility to customer demand, operational efficiency, and market competitive advantage. The research method used is a Systematic Literature Review (SLR), which allows the collection and analysis of relevant data related to the research topic. The results of this literature review illustrate the relationship between supply chain agility and company performance, as well as its implications in a rapidly changing global business context.

Keywords: *Agility, Supply Chain Management, Market Change.*

1. INTRODUCTION

The era of globalization that knows no borders, encourages companies around the world to face the increasingly rapid dynamics of the global market (Sayudin, 2023). Barney and Hesterley stated that the rapid development of the market causes the level of competition between companies around the world to be tighter, so companies must be able to create competitive advantages to generate economic value for companies that are better than competitors (Ilmiyati & Munawaroh, 2016). Different types of uncertainty and change require different capabilities for effective and efficient organizational responses (Fayezi et al., 2017). Companies need to increase resilience in their supply chains so that they are ready to face any potential changes, detect changes, and respond to changes in real-time, so as to provide superior value (Li et al., 2017). Business actors cannot move alone without other parties to help, both in the activities of generating ideas to the production operational process effectively and efficiently. Thus, giving rise to a concept of dexterity (*Agility*) in supply chain management is very important (Aprilia et al., 2021). Every company tries to make strategic planning that involves the concept of agility in their supply chain so that it is expected to minimize risk and take appropriate action against the uncertainty that occurs.

Agility is an important feature in the supply chain (Li et al., 2019). According to (C. J. Chen, 2019) *agility* it can be defined as a company's ability to enable them to operate effectively in an ever-changing market environment, full of uncertainty and instability. Supply chain agility arises from a company's ability to identify changes, opportunities and threats quickly (Guner et al., 2018). The concept of agility is defined as a dynamic ability of an organization that can help manage uncertainty and change in the environment (Mrugalska & Ahmed, 2021). The concept in supply chain management is able to integrate the management of various management functions between organizations into an integrated system by applying the effectiveness of suppliers, manufacturers, warehouses, and stores (Subekti, 2020). As for some of the capabilities that must be possessed, namely the ability to access relevant data quickly (accessibility), the ability to make decisive action decisions (firmness), the ability to carry out actions that have been decided (*speed*), and the ability to modify any tactics and operations (flexibility). Implementation of supply chain operational capabilities has a simultaneous impact on industry business performance, especially in the creative industry creative industry (Hadi & Parubak, 2016).

The application of the concept of agility in the supply chain based on the previous explanation will certainly have a significant impact on companies to maintain their business in the midst of rapid market trend changes, so that problems arise regarding the challenges that will be faced by organizations in maintaining their competitive advantage through conventional supply chain management models, especially in the face of market uncertainty. This study aims to investigate the application of the concept of agility in the context of the supply chain through a comprehensive literature review, and includes it to explore the definitions, dimensions, and factors that influence its implementation as well as flexibility and responsibility to customer demand, operational efficiency, and market competitive advantage.

This research generally consists of four parts. First, an introduction that introduces the background and purpose of the literature review is carried out including the urgency of the supply chain. Furthermore, a literature review was discussed about the concept of agility, its role, and supply chain strategy in dealing with market problems. Third, the research method used is in the form of a literature study and explains the stages of the study carried out and the fourth part is Results and Discussion, where in this section various literature is collected and generalized into tables by considering various sections ranging from Title, Author, Method, Number of citations, Results, Practical implications, and Shortcomings of the literature written then from the literature summary a conclusion is drawn about agility in the chain Supply.

2. RESEARCH METHODS

The method used in this study is a systematic literature review (SLR) to collect and analyze relevant data related to the research topic. SLR is a systematic and structured research method that allows researchers to identify, review, evaluate, and also interpret existing research in a particular domain (Putra & Afrilia, 2020). This approach involves clearly defined steps to find, evaluate, and synthesize evidence from previous studies. The results of this SLR analysis are then synthesized and presented in the form of narratives or tables that summarize the main findings from the literature that has been reviewed.

3. RESULTS AND DISCUSSIONS

Researchers collected 80 articles related to the topic. However, after the review, it was determined only 29 articles relevant to the topic (see Table 1).

Table 1. Distribution of Articles

Journal	Number of Article	Journal	Number of Article
European Journal of Business and Management,	1	Kybernetes	1
International Journal of Production Research	2	European Journal of Operational Research,	1
Supply Chain Management: International Journal.	1	Journal of Corporate Information Management	1
Journal of Operations Management,	2	International Journal of Production Economics,	3
Journal of Agroindustrial Technology and Management	1	International Journal of Production Operations and Management	2
Journal of Manufacturing Technology Management	2	Production Planning and Control,	1
International Journal of Logistics Management	1	Management Decree	1
ACM International Conference Proceedings Series	1	Measurement: Journal of the International Confederation of Measurement	1
Global Business Review	1	Planning &; Tourism Development	1
Intern. Journal of Production Economics,	1	Supply Chain Management,	1
JSEP (Journal of Social and Agricultural Economics)	1	Operations and Supply Chain Management: International Journals	1
Journal of Infrastructure	1		

Table 2. Classification based on research methodology, focus, and contribution.

No	Authors	Method	Focus
1	(Aprilis et al., 2020)	Quantitative	Supply chain orientation and supply chain agility.
2	(Yusuf et al., 2014)	Quantitative	supply chain agility, proactivity, quality, innovation, delivery, and speed.

No	Authors	Method	Focus
3	(Eckstein et al., 2015)	Quantitative	SCA, cost, operational, adaptability, and supply chain performance.
4	(Tse et al., 2016)	Quantitative	Integration impacts supply chain agility.
5	(Gligor, 2015)	Quantitative	Supply Chain Agility <i>Vigilance</i> and <i>Supply Chain Fit</i>
6	(Yunita et al., 2022)	Qualitative	Agility, sustainability and national poultry industry supply chain.
7	(Aslam et al., 2020)	Quantitative	Supply chain agility, SC-Ambidexterity and SC-Resilience
8	(Um, 2017)	Quantitative	Partnerships, variation management strategies, and supply chain agility.
9	(Tseng et al., 2020)	Quantitative	Social media ,KMC and agility.
10	(Dubey et al., 2015)	Quantitative	SCA, adaptability and human performance and logistics performance.
11	(Ayoub & Abdallah, 2019)	Quantitative	SCA, export performance, supply chain responsiveness, and supply chain innovativeness
12	(Brusset, 2016)	Quantitative	External and internal managerial, and supply chain agility.
13	(Aprilia et al., 2021)	Quantitative	Agility, performance customer loyalty and satisfaction.
14	(Gligor et al., 2015)	Quantitative	Supply chain agility and company's financial performance.
15	(Machfudiyanto & Syahreza, 2022).	Qualitative	Agility and efficiency.
16	(Fosso Wamba & Akter, 2019)	Quantitative	Supply chain agility (SCAG) supply chain analytics capability (SCAC) and firm performance
17	(Dehgani & Jafari Navimipour, 2019)	Quantitative	Information technology and SCA.
18	(Chan et al., 2017)	Quantitative	SCA, strategic and flexibility and performance.
19	(Giannakis & Louis, 2016)	Qualitative	big data, supply chain agility, and global supply chain complexity.
20	(Wu et al., 2017)	Quantitative	Collaboration and information, supply chain agility performance.
21	(Nath & Agrawal, 2020)	Quantitative	Agility, operational performance and social sustainability.
22	(Altay et al., 2018)	Quantitative	<i>Supply chain agility</i> (SCAG) , pre-disaster supply chain performance (PRE-DP)
23	(Shekarian et al., 2020)	Quantitative	Investment in agility, supply chain responsiveness
24	(Dubey et al., 2021)	Quantitative	Collaboration and supply chain agility.
25	(C.-J. Chen, 2019).	Quantitative	Information technology and trust in supply chain and supply chain agility.
26	(Sangari et al., 2015)	Quantitative	Learning, partner collaboration, commitment, management support, agility integration, and supply chain agility.
27	(Mandal & Saravanan, 2019)	Quantitative	Entrepreneurial orientation, supply chain, technology, and markets and increasing tourism agility.
28	(Al-Shboul, 2017)	Quantitative	Supply chain agility, and company performance.
29	(Khan & Wisner, 2019)	Quantitative	Supply chain integration, company performance, and supply chain agility.

Table 2 provides a diverse picture of supply chain agility. Most studies use survey methods or questionnaires with analytical techniques such as *structural equation modeling* (sem) and *partial least square structural equation modeling* (pls-sem) in testing the relationship between variables. Some studies also apply regression analysis and other statistical techniques. The results show the lack of studies applying qualitative methods.

4. CONCLUSION

Supply chain agility was found to have a positive impact on company performance, especially in the manufacturing industry. The importance of supplier selection and infrastructure investment was also highlighted as key factors in improving supply chain agility. However, some studies limit their coverage to only certain industries, such as coffee shops or oil and gas, while other factors such as technological advances or government regulations are not thoroughly considered. In addition, some studies highlight the positive relationship between supply chain agility and various aspects of company performance such as financial performance, exports, and supply chain responsibility. However, some studies also acknowledge the limitations of empirical data and the generalizability of findings. The importance of supply chain agility in improving company performance and providing direction for managers to improve their supply chain agility.

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