

## **Supply Chain Strategy And Supply Chain Collaborative Innovation On SMEs Business Performance**

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### **Abstract**

*Supply Chain Management includes all activities since the materials come from suppliers. The materials are processed into semi-finished products or finished products until the products are distributed to consumers. This investigation aims to review the influence of supply chain strategy and supply collaborative chain innovation on SMEs (small and medium enterprises) business performance. With a good supply chain performance, the company's performance will be more focused and provide benefits for companies, suppliers, and consumers. This paper's practical implication is to provide opportunities for small and medium enterprises to improve their business performance.*

Keywords: supply chain strategy, supply chain collaborative innovation, business performance

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## **I. INTRODUCTION**

OECD (2005) defines Small, and Medium Enterprises (SMEs) in most countries as organizations with have less than 250 employees, which are the backbone of every economy worldwide. Due to Covid-19, which has only occurred a few months at the time of writing this paper, the global economic crisis requires SMEs in Indonesia to improve further their business performance for their business ventures' sustainability. Many large-scale businesses in various sectors, including the trade and service industry, experienced stagnation and even stopped their activities in 2020. Some SMEs were able to survive the Covid-19 pandemic by increasing their business performance with a digitalization system.

One of the fascinating and significant things to learn in the advancement of SMEs is business performance. This is significant because business performance is the beginning stage for the business progression of an organization. With good performance, a competitive advantage is obtained in the business. Several things that can improve organizations' business performance include innovation, creativity, and the performance of every administration in the organization (Soetjipto et al., 2020). The benefits of the business performance are that the company or organization can get by in different conditions. It will produce the most maximal thoughts and creativity to fabricate advancement towards the nation's monetary development (Riswanto, 2016).

An organizational strategy must also support performance improvement in accordance with the goals of the business organization. It is significant for business organizations to increase the upper hand to expand competence to create thoughts to concoct the correct technique in confronting the different changes and difficulties that come. With the expansion in the strategies utilized in creating a business organization, in the end, it can improve the organization's business execution by utilizing different developments and innovative thoughts used in actualizing the picked methodology (Soetjipto et al., 2020).

Given the diversity of markets, intense competition, and diminished product lifecycles management, increasing numbers of companies in sustainable supply chains are expanding collaborative connections (Shan et al., 2020). When the supply chain is poorly managed, the negative impact is that operating costs are too expensive so that business continuity is seriously threatened. For example, continuous delays in delivering goods as a consequence of logistical inefficiencies can seriously damage an organization's reputation and then reduce the number of existing customers and potential customers (Moreira et al., 2018).

In this way, lean production advancement can take monetary and environment preferences simultaneously (Yang et al., 2011). Malone & Crowston (1994) also accept that organizations in the supply chain have to need to shape good collaborative innovations to keep up consistency in dynamic to accomplish the general goals of the gracefully supply chain. Other researchers have additionally talked about the supply chain for collaborative innovation and its impacts from alternate points of view. For instance, the way to supply collaborative chain innovation is to understand data integration and different assets through the supply chain's length utilizing current modern technological tools. The point is to accomplish consistent associations and accomplish the two accomplices (Lambert et al., 1998). Technological innovation advancement can drive an organization's sustainable improvement execution (Sezen and Çankaya, 2013). In addition, Shin et al. (2019) positively affect partnerships supply chain collaboration on responsibility, innovation, and sustainable business performance.

Simultaneously, the appearance globalization of monetary and information technology, the worldwide economy, has got into a period of integration and innovation. Supply chain collaborative innovation expects to improve innovation's value, slowly acknowledged by organizations in the supply chain. For an organization to achieve financial, social, and environmental equity in the supply chain of collaborative innovation, stakeholders within the supply chain network innovate with updated technology, products, resource distribution, processes, and target markets (Shan et al., 2020).

## **II. LITERATURE REVIEW**

### **Business Performance**

Grant (2005) and Mohamed (1997) show that performance is an accomplishment that can be accomplished by an organization in boosting its latent capability. Business performance can be supposed to be created by business exercises in a specific period dependent on set up working guidelines (Francis, 2005). The accomplishment of strategies based on performance measurement is affected by the standard measurement instruments standardized and controlled by the activity over a specific period of time (Cullen & Wilcox, 2012).

Strategic apparatuses are utilized to understand these goals alongside measurement devices, which are then used to decide targets utilized as a reason for performance evaluation. In this manner, performance measurement is an estimation move made on different worth chains in business organizations. McLean (2018) and Steiss (2017) show that the consequences of these measurements are then utilized as an input, which can give information about the exercise of business plan for organizations that require arrangements to planning and control activities. Lambert (2005) considers supply chain performance to be the main integrated business measure, which gives products,

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information, and service to end consumers through perpetual coordination with accomplices in the supply chain. Supply chain performance is the general composed activity of supply chain effectiveness, covering the organization's inner performance of the supply chain, including coordination and collaboration with hub organizations (Olugu & Wong, 2009). Nyaga et al. (2010) measured the economic performance of a supply chain with abbreviated request cycles, improved request preparing precision, enhanced on-time delivery conveyance rates, and gauge exactness.

#### Supply Chain Strategy

Supply chain strategy, which is drawn from business strategy and developed with people, processes, and products in mind, lies at the core of the pyramid. Stakeholders and capabilities structure the pyramid's establishment and give the organization a fundamental impulse to meet customer requirements. Supply chain partners divide the responsibility, while markets and regulations influence and limit the sphere's workspace. Organizations build value about people, processes, and products and develop capabilities to give stockholder value and satisfy the customer. Maybe, the connection of this business measurement decides the achievement or disappointment of an organization (Jajja et al., 2014). The three categories of supply chain strategies, namely the agile supply chain, lean supply chain, and hybrid supply chain, influence business performance (Towill and Christopher, 2002). Their contextual investigation shows how a lean supply chain and an agile supply chain can be effectively conjoined by referring to a "hybrid" or "leagile" supply chain. Naylor et al. (1999) use the model of "legality" to integrate the lean supply chain and agile supply chain in a manner that split refers to the supply chain. Accordingly, they gave the PC organization a contextual analysis to exhibit agility, and leanness might be effectively consolidated in the supply chain to fulfill customer requirements.

The three classify supply chains that need to be adjusted be based on the type of product: standard, innovative, and hybrid (Vonderembse et al., 2006). Vonderembse et al. (2006) stated that standard products are products that will be simpler with a limited amount of differentiation and must be conducted by the lean supply chain. Lean supply chain implements employee performance improvement endeavors and focuses on dispensing supply chain waste. Then again, innovative products that might be new and technologically complex essential requirements an agile supply chain. Agile supply chains respond to rapid worldwide market changes by being dynamic and adaptable all through the organization. Hybrid products are products that have numerous segments and organizations that participate in the supply chain. Wherefore, an assortment of supplier connections might be required, whose they allude to in the hybrid supply chain. Hybrid supply chains consolidate lean supply chain and agile supply chain capabilities to meet complex product requirements.

Naylor et al. (1999) also stated that the lean strategy concept consists of developing a continuous flow of value to eliminate all waste, including time waste. The goal of a lean strategy is to perform each activity utilizing less of each human resource, space, inventory, equipment, time, etc. to be the best fit for the retail supply chain. It organizes an effective material stream to diminish squander, provides the shortest waiting time, least stock, and least absolute costs (Rana et al., 2015).

In this specific circumstance, the utilization of the idea of Supply Chain Management (SCM) in the SMEs system is by all accounts significant in light of the fact that supply chain operations incorporate all activities and change of products from raw materials by means of several cycles to the end customer. Obviously, as the products stream in the supply chain, all the essential and relevant information is likewise moving. Competition moves quickly from the organization level to the supply chain level. Today, customers anticipate that organizations should supply better and less expensive items by providing quicker and more adaptable conveyance, just as different administrations with a more elevated level of value (Kovács and Kot, 2016; Liberko et al., 201; Kozma, 2017; Zimon, 2017;). Previous research has found that supply chain strategy improves supply chain performance (Sufian, 2010; Rana et al., 2015).

Preposition 1: Supply Chain Strategy affects Business Performance

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### **Supply Chain Collaborative Innovation**

Malone & Crowston (1994) state that companies in the supply chain must build suitable collaborative innovations to preserve consistency in decision-making to achieve the overall goals of the supply chain. Shan et al. (2020), supply chain collaborative innovation comprises three types, scilicet supply chain technology collaborative innovation, supply chain management collaborative innovation, and supply chain market collaborative innovation.

Lii & Kuo (2016) found that collaborative innovation orientation positively affects supply chain integration, competitiveness, and all-around performance. Lean production out of collaborative supply chain innovation could result in higher monetary and environmental performance (Yang et al., 2011). Dey et al. (2018) additionally suggest lean production collaborative supply chain innovation can dispense with squander, improve quality, diminish costs, and increment adaptability all through the supply chain. Sezen and Çankaya (2013) state that technological innovation positively affects sustainable performance for organizations. Versaveel (2002) shows that the lack of technology synergy between the firm's members in the supply chain does not significantly impact performance innovation. Conversely, the close collaboration that connections technological innovations are more helpful in improving supply chain performance.

Virtual coordination between organizations depending on technological innovation can be adequately utilized as a component of suppliers' governance, improving across borders supply chain connections, therefrom improving business performance (Kim et al., 2018). Short supplier participation in a product innovation project could likewise decrease significant expense configuration changes at a later stage, abbreviate the advancement venture improvement cycle, and improve advancement productivity (Gemnden et al., 1996). Lindgreen et al. (2018) likewise show that the utilization of technology information innovation in overseeing supply chain processes and improving performance is the first concern for organizations. Wu (2013) and Vachon & Klassen (2008) discover that supply chain cooperation in management innovation positively and significantly affects performance.

Preposition 2: Supply Chain Collaborative Innovation affect the Supply Chain Strategy

Preposition 3: Supply Chain Collaborative Innovation influence on Business Performance

### **III. CONCLUSION AND FURTHER RESEARCH**

The application of supply chain collaborative innovation affects business performance and increases the supply chain strategy. Therefore organizations, especially small and medium enterprises, must be able to improve their digitization system and shorten the process so that they can meet the needs of customers who tend to want companies or organizations to procure worth it and cheaper goods by providing a faster and more adaptable means of delivery, and other service quality with a higher level.

### **REFERENCES**

- Dey, PK; Petridis, N.; Petridis, K. ; Malesios, C. ; Nixon, JD; Ghosh, K. Environmental management and corporate social responsibility practices of small and medium-sized enterprises. *J. Clean. Prod.* 2018, 195, 687–702.
- Francis, M. (2005). Performance Measurement System Design: A Literature Review. *International Journal of Operations*, 15(4), 35.
- Gemnden, HG; Pitter, T. ; Heydebreck, P. Network configuration and innovation success: An empirical analysis in German high-tech industries. *Int. J. Res. Mark.* 1996, 13, 449–462.

- Grant, RM (2005). *Contemporary Strategy Analysis: Concepts, Techniques, Applications* (Fifth Edition). Blackwell Publishing.
- Jajja, Muhammad Shakeel Sadiq & Brah, Shaukat & Hassan, Syed. (, 2014). Supply Chain Strategy And Organizational Performance: Role Of Core Operational Functions. *International Journal of Services and Operations Management*. 17.330-349.
- Kim, D .; Jean, RJB; Sinkovics, RR Drivers of virtual inter-firm integration and its impact on performance in international customer-supplier relationships. *Manag. Int. Rev.* 2018, 58, 495–522.
- Koul S. How-to-achieve-six-figure-benefits-from-digitizing-paper-based-supply-chain-operations. *J Inform Tech Softw Eng.* 2018; 8 (4): 244.
- Kovács, G. & Kot, S. (2016). New logistics and production trends as the effect of the global economy change. *Polish Journal of Management Studies*, 14 (2), 115-126, DOI: 10.17512 / pjms.2016.14.2.11
- Kozma, T. (2017). Cooperation in the supply chain network. *Forum Scientiae Oeconomia*, 5 (3), 45-58.
- Lambert, DM *Supply Chain Management: Processes, Partnerships, Performance*, 2nd ed .; Supply Chain Management Institute: Sarasota, FL, USA, 2005.
- Lambert, DM; Copper, MC; Pagh, JD Supply chain management: Implementation issues and research opportunities. *Int. J. Logist. Manag.* 1998, 9, 1–20.
- Liberko, I., Bednarová, L., Hajduová, Z. & Chovancová, J. (2015). Possibilities to optimize the logistics chain in the manufacturing plant. *Polish Journal of Management Studies*, 12 (2), 103-113.
- Lii, P .; Kuo, FI Innovation-oriented supply chain integration for combined competitiveness and firm performance. *Int. J. Prod. Econ.* 2016, 174, 142–155.
- Lindgreen, A .; At Benedetto, CA Citation classics from industrial marketing management: Celebrating forty-seven years of publications on business-to-business marketing management. *Ind. Mark. Manag.* 2018, 73, 1–6.
- Malone, TW; Crowston, KG The interdisciplinary study of coordination. *ACM Comput. Surv.* 1994, 26, 87–119.
- Mandal S. An empirical competence-capability model of supply chain innovation. *Bus Theory Practice.* 2016; 17: 138-149.
- McLean, M. (2018). *Understanding Your Economy: Using Analysis to Guide Local Strategic Planning*. *Understanding Your Economy: Using Analysis to Guide Local Strategic Planning*. <https://doi.org/10.4324/9781351179065>
- Mohamed, Z. (1997). Business process management: a boundaryless approach to modern competitiveness. *Business Process Management Journal*, 3(1), 64–80. <https://doi.org/10.1108/14637159710161585>
- Moreira AC, Ferreira LD, Zimmermann RA. *Innovation and Supply Chain Management: Relationship, Collaboration, and Strategies*. Springer. 2018.
- Naylor, BJ, Naim, MM & Berry, D. (1999). Liability: Integrating the lean & agile manufacturing paradigms in the total supply chain. *International Journal of Production Economics*, 62 (1-2), pp. 107-118.
- Nyaga, GN; Whipple, JM; Lynch, DF Examining supply chain relationships: Do buyer and supplier perspectives on collaborative relationships di\_er? *J. Oper. Manag.* 2010, 28, 101–114.
- OECD (2005). *OECD SME and Entrepreneurship Outlook: 2005*. Retrieved from <https://stats.oecd.org/glossary/detail.asp?ID=3123>
- Olugu, EU; Wong, KY Supply chain performance evaluation: Trends and challenges. *Am. J. Eng. Appl. Sci.* 2009, 2, 202–211.
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- Riswanto, Ari. (, 2016). The Role of the Entrepreneur in Innovation and Economic Development. Proceedings of the 2016 Global Conference on Business, Management and Entrepreneurship, 15, 729–732. <https://doi.org/10.2991/gcbme-16.2016.137>
- Sezen, B .; Çankaya, SY Effects of green manufacturing and eco-innovation on sustainability performance. *Procedia Soc. Behav. Sci.* 2013, 99, 154–163.
- Shan, Hongmei & Li, Ying & Shi, Jing. (, 2020). Influence of Supply Chain Collaborative Innovation on Sustainable Development of Supply Chain: A Study on Chinese Enterprises. *Sustainability*. 12. 2978.10.3390 / su12072978.
- Shin, N.; Park, SH; Park, S. Partnership-based supply chain collaboration: Impact on commitment, innovation, and firm performance. *Sustainability*, 2019, 11, 449.
- Soetjipto, Noer & Susilo, Dwi & Riswanto, Ari. (, 2020). SUPPLY CHAIN STRATEGIES IN MEDIATING THE EFFECT OF KNOWLEDGE MANAGEMENT ON BUSINESS PERFORMANCE. *Humanities & Social Sciences Reviews*. 8,448-455. 10.18510 / hssr.2020.8156.
- Sohel, Rana & Haji-Othman, Yusuf & Osman, Abdullah & Bahari, Lt Kol (B) Azuddin & Solaiman, Mohammad. (, 2015). Supply Chain Strategies and Retail Supply Chain Efficiency. *Australian Journal of Basic and Applied Sciences*. 9.67-73.
- Steiss, AW (2017). Strategic Management for Public and Nonprofit Organizations. In *Strategic Management for Public and Nonprofit Organizations*. <https://doi.org/10.4324/9780203912515>
- Sufian M. Qrunfleh (2010) Alignment of Information Systems with Supply Chains: Impacts on Supply Chain Performance and Organizational Performance: published Ph.D. thesis. The University of Toledo.
- Towill, D., & Christopher, M. (2002). The supply chain strategy conundrum: To be lean or agile or to be lean & agile? *International Journal of Logistics: Research & Applications*, 5 (3), pp. 299-309.
- Vachon, S .; Klassen, RD Environmental management and manufacturing performance: The role of collaboration in the supply chain. *Int. J. Prod. Econ.* 2008, 11, 299–315.
- Versaavel, B. Coordination costs and vertical integration in production franchise networks: A common agency model. *Res. Econ.* 2002, 56, 157–186.
- Vonderembse, MA, Uppal, M., Huang, SH, & Dismukes, JP (2006). Designing supply chains: Towards theory development. *International Journal of Production Economics*, 100 (2), pp. 223-238.
- Wilcox, Pamela & Cullen, Francis. (, 2018). Situational Opportunity Theories of Crime. *Annual Review of Criminology*. 1. 10.1146 / annurev-criminal-032317-092421.
- Wu, GC The influence of green supply chain integration and environmental uncertainty on green innovation in Taiwan's IT industry. *Supply Chain Manag. Int. J.*, 2013, 18, 539–552.
- Yang, MG; Hong, P .; Modi, SB Impact of lean manufacturing and environmental management on business performance: An empirical study of manufacturing firms. *Int. J. Prod. Econ.* 2011, 129, 251–261.
- Zimon, D. (2017). The influence of quality management systems for improvement of logistics supply in Poland. *Oeconomia Copernicana*, 8 (4), 643–655. <https://doi.org/10.24136/oc.v8i4.39>.