

Survival Strategies for Small and Medium Enterprises (SME's) Due to the Covid-19 Pandemic Through Supply Chain Management: A State of the Art Literature Review

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Abstract

Small and Medium Enterprises (SME's) are feeling the impact of the COVID-19 outbreak. It is characterized by several financial problems, supply chain disruptions, decreased sales and profits. Regarding this issue, the majority of business actors are not ready to face this situation. The purpose of this paper is to review and analyze research related to the implementation of supply chain management systems in Small and Medium Enterprises (SME's) due to the Covid-19 Pandemic. This paper is expected to be a literature material for everyone in developing business strategies, especially for Small and Medium Enterprises (SME's) actors regarding survival strategies for SMEs in facing the crises caused by the Covid-19 pandemic. The method utilized is a literature review, and articles are collected using search engines such as Elsevier, Emerald, AIMI Journal with keywords supply chain management, Small and Medium Enterprises, and Covid-19 Pandemic. Criteria for articles used are those published in 2020. One of the important findings is the implementation of the agile supply chain and its effects on production systems. The results of numerous studies could also assist in generating the design of the new production system which would probably be more excellent than the systems that currently exist. This review can function as a guideline for the implementation of an Agile supply chain management system in numerous SME's. Additionally, it can be utilized to examine the critical parameters affected by the Covid-19 Pandemic.

Keywords

Agile Supply Chain, Small and Medium Enterprises, and Covid-19 Pandemic.

1. Introduction

Hedge and Sabarirajan (2018), Agwu (2018), Chan and Cheng (2019) explain that the existence of MSMEs globally can encourage economic growth in a country. The MSME sector has greater employment opportunities than large businesses because MSMEs do not require complex and large capital costs. Seeing the enormous opportunity for MSMEs to contribute to the country's economy, the Indonesian government created a regulation to protect the existence of MSMEs in society. In addition, the government also delegates the Ministry of Cooperatives and MSMEs to regulate and develop MSME actors. In addition to SMEs having these positive opportunities, it turns out that there are still problems faced by SMEs themselves. As stated in Republika.co.id, up to now, MSMEs still have problems with access to capital, production is still not effective and efficient, and marketing is still traditional/conventional, making it difficult to penetrate the export market (Septyaningsih and Zuraya 2021). In addition, the medium.id daily also added an external problem, namely the lack of awareness of MSME actors to collaborate with other institutions/businesses (Azizah 2021). Establishing partnerships can encourage the creation of a wider network so that the businesses run by MSMEs can improve properly.

Problems that have not been resolved turned out to be new. In March 2020 there was the spread of the Covid-19 virus originating from China. Fabeil et al. (2020), and Putra (2020) explained that the condition of the Covid-19 outbreak had resulted in the decline in the economy of countries in the world. The impact of the Covid-19 virus pandemic caused global economic conditions to contract down by 3% in 2020 (Chan 2020). In addition, the economic condition in Indonesia itself is also affected. As stated by Moody's Investor Service, a rating agency stated that the Indonesian economy will encounter a downturn comprising 4.8% of the total Gross Domestic Product (GDP) (Thomas 2020). The impact of the Covid-19 pandemic is indeed related to health problems but has an impact on all sectors of life. The

impact of the Covid-19 pandemic on the economic sector itself was felt by the actors, not only large economic sectors such as the medium and small-scale economic sectors were also affected (Rosyada and Wigiawati 2020, Shafi et al. 2020). Furthermore, according to Liguori and Pittz (2020), Fitriyani et al. (2020), Fabeil et al. (2020) the impacts felt by micro, small and medium businesses during the Covid-19 pandemic include difficulties in accessing business capital, many employees being laid off because it is not possible to work remotely, declining sales, lack of skills in the field of information technology, disruption of product delivery. In addition, since the implementation of Large-Scale Social Restrictions (PSBB) in various places for the MSME sector such as traditional markets, stalls, trade, tourism, many have closed, so that business actors have experienced a decrease in income (daily Bisnisjakarta.co.id). The government's policy regarding the prevention of the Covid-19 virus pandemic needs to be responded to by the business world, such as MSME players, to carry out a strategy to survive in a new era of life. The defensive strategy in question is to analyze the strategies implemented by small and medium businesses to deal with the crises amid the Covid-19 pandemic. Based on these conditions, this study conducted a review of various literature.

2. Literature Review

2.1. Definition of MSMEs

Micro, Small, and Medium Enterprises (MSMEs) are a people's economic activity that can contribute to the Indonesian economy by 60% and can absorb up to 90% of workers (Putra 2020). This is because the number of MSMEs is so large compared to large companies so that they can absorb more workers (Koesrianti et al. 2019). Therefore, the existence of MSMEs needs to be encouraged to continue to exist in Indonesian society. The concept of SMEs itself has a classification according to each country, such as the number of employees, profits, capital, market share, and other measures (Agwu 2018). However, several experts have conducted studies on MSMEs separately, such as according to Hamdani (2020) who defines MSMEs as people's economic businesses that have a small and medium scale with the criteria of net worth/sales proceeds and ownership is regulated by law. Rifa'i (2013) explains MSMEs as an economic activity to increase income carried out by the poor or near-poor with the number of employees not more than five people, besides that the employees used are usually their own relatives/family and neighbors. Meanwhile, Yadav and Gulati (2019) define MSMEs based on investment and machinery at the place of business for businesses engaged in manufacturing or the production and processing of goods. Another thing about MSMEs according to Parera (2018) explains that MSMEs are divided into four parts, namely:

1. Livelihood Activities are businesses carried out as an opportunity to earn a daily living, for example, street vendors.
2. Micro Enterprise, is a business that has the nature of craftsmen but does not yet have the soul of an entrepreneur.
3. Small Dynamic Enterprise, is a business that already has an entrepreneurial spirit and accepts contract work and exports.
4. Fast Moving Enterprise, is a business that already has an entrepreneurial spirit and will try to become a big business.

Based on the definition of MSMEs above, it can be concluded that MSMEs are an economic activity carried out by the community to earn income. This definition is still very general because MSMEs themselves have definitions based on the number of employees, profits, capital, market share, and other measures (Agwu 2018).

2.2 Basic Understanding of Supply chain Management

As we know that to increase total productivity, business people must be able to provide cheap, quality, and fast products in the distribution process. To implement these three concepts, the company's internal activities must be addressed, coupled with the participation of all parties, from suppliers processing raw materials, factories converting raw materials into finished products, transportation companies delivering raw materials to factories, and finished products to final consumers. Due to being aware of the prominence of the roles held by the whole parties, a new

concept was ultimately born; it is called supply chain management (SCM). With the birth of the concept of SCM, company managers must make changes if they do not want to lose their business (Watanabe 2001).

This change is caused by:

1. Competition is getting fiercer, most companies, especially those from Asia, are joining the global competition. At first, the competition was dominated by European and American companies, as a result, the competition became increasingly fierce.
2. Consumer demands, consumers are becoming more and more complicated and have too many demands. They demand low prices, high quality for every product offered, timely delivery, and according to their tastes.
3. Product life cycle, the Product life cycle is very short along with changes that occur in the market environment.
4. The world economy, The trend of the world economy has changed from inflation in the 1970s to the 1990s
5. Stockholders' demands, stockholders demand high returns on investment, and companies whose ROI is not high enough cannot obtain sufficient capital for future investment.
6. Information technology advances in the field of information technology occur so fast.

In general, the activities involved in SCM in manufacturing companies are:

- a. Activities to design new products (product development)
- b. Activities to get raw materials (procurement)
- c. Activities planning production and inventory (planning & control)
- d. Activities to do production (production)
- e. Activities carry out delivery / distribution (distribution)

The five classifications are usually reflected in the form of divisions or divisions in manufacturing companies which are often called functional divisions.

Apart from that, manufacturing companies generally have a product development section, a purchasing section or procurement section, a production section, a production planning section which is often referred to as a production planning and inventory control (PPIC) section, and a delivery or distribution section of finished goods.

Managing the supply chain is not easy because it will involve many parties inside and outside the company coupled with various uncertainties that exist along the supply chain and the increasing competition in the market. The first uncertainty is the uncertainty of demand or orders, the second uncertainty is the uncertainty of the supplier in the form of delivery lead times, prices of raw materials or components, quality uncertainty, and the third is internal uncertainty that can be caused by machine damage, imperfect machine performance, absenteeism, time and product quality.

Inventories along the supply chain have major implications for the financial performance of a company because the amount of money embedded in the inventory is usually very large so that inventory is the most important asset owned by the supply chain. Inventory appears in several places with various forms and functions along the supply chain. The task of the supply chain is to establish the right material flow in the sense that it is not too early or not too late, and the amount is according to need.

The emergence of SCM is motivated by traditional practices in business and changes in the business environment (Zabidi 2001). The products and services that we use are the results of a long series of processes that go through several physical and non-physical stages. A product will reach the hands of end-users after at least experiencing several processes from the search for raw materials, production processes, and distribution or transportation processes. In those processes, numerous parties are involved; they relate to one another which is commonly termed as the supply chain (Sheikh 2002).

The competitive advantage of SCM is how it is capable of managing the product flow in a supply chain. In brief, the SCM model applies how a network of production and distribution activities from one part/division to produce products according to consumer demands. The principle of SCM in a company is prominently the synchronization and coordination of activities related to the flow of products or materials through several parts including product planning, marketing, accounting, and so on. In supply chain management applications, all parts must work together for

coordination and collaboration, the spirit of collaboration and coordination between divisions in the supply chain must not sacrifice the interests of each individual, both short and long term.

Coverage Areas Supply chain management in a company generally includes all activities related to product development, procurement of raw materials (procurement), planning & control activities (planning & control), production activities (production), shipping/ distribution (distribution). The five activities are denoted in the form of division of departments or divisions in manufacturing companies which are often referred to as functional divisions because these parts are grouped based on their functions. The SCM network is a crucial activity that must be carried out in SCM. Supply chain strategy implementation only takes place effectively if the supply chain has a network with the appropriate configuration (Punjawan 2005) because network configuration can determine whether a supply chain will be responsive or efficient. The supply chain network is the result of several strategic decisions. First decisions about the location of production facilities, warehouse facilities, and purchasing decisions. The second is the decision regarding outsourcing, which is to do certain activities themselves or be subcontracted to other parties. The third is the decision on the flow of goods to these physical facilities. Each decision should be based on many considerations such as economic, social, security, political, cultural, and environmental conditions.

Inventory management in the supply chain has major implications for the company's financial performance. Apart from that, inventory is one of the most important production factors for a company, and inventory appears in various places with various forms and functions along the supply chain.

2.3 Concept of Agile Supply chain Management

As conveyed by Yusuf et al. (1999) agility is the successful exploration of a competitive base that is fast, flexible, proactive innovation, quality, and profitability through the integration of resource restructuring and the utmost knowledge practices to provide products and services grounded in consumer needs and desires. Meanwhile, Hooper et al. (2001) remarked that agility is the company's capability to develop and exploit the internal and external capabilities of the organization to succeed in competition in an unpredictable business environment. According to Ramasesh et al. (2001), agility is a multidimensional attribute in different manufacturing systems that will give different degrees of agility on different dimensions. The prominent objectives of the agile supply chain are: (1) to generate values and customer contentment beyond competitors; (2) to pursue mass customization at the cost of mass production; and (3) to enhance the roles and involvement of human resources in terms of utilizing the information technology. To become a company that has a long-term competitive advantage, a company must prioritize customer satisfaction on product quality, delivery time, speed of time for new product introductions, consumer complaints, and position in the market.

3. Methods

The method used is a literature review. Articles are collected using search engines such as Emerald and AIMI Journal with keywords supply chain management. Criteria for articles used are those published in 2020. All types of research were included without regard to the size of the study sample and the methods used. The purpose of this literature review is to obtain information about the survival strategies used to face crises due to the covid-19 pandemic through the agile SCM system.

4. Data Collection

Table 1 presents the results of the literature review from various journals regarding supply chain management due to the covid-19 pandemic.

Table 1. Study of supply chain management in the era of covid-19 pandemic

Author	Title	Results and Conclusions
Attaran (2020)	Digital technology enablers and their implications for supply chain management	This paper highlights the prominence of the technology for supply chains and logistics, determines the trends and challenges that support digital supply chain performance, and explores the implementation and managerial challenges of generating a new integrated paradigm of the digital supply chain.
Kovács, Gyöngyi; Falagara Sigala, Ioanna (2020)	Lessons learned from humanitarian logistics to manage supply chain disruptions	This article exhibits lessons learned from humanitarian supply chains which assist in mitigating and overcoming supply chain disruptions. Those lessons are associated with preparedness, mobilization, standardization, innovation, and collaboration. Simultaneously they brace organizations, supply chains, and societies, in which they accomplish it to deal with the present and future disruptions.
Smaïl Benzidia and Makaoui (2020)	Improving SMEs performance through supply chain flexibility and market agility: IT orchestration perspective	This study was aimed at: (1) investigating a key element of successful business performance: the capacity to orchestrate information technologies (IT) resources; (2) exploring the effect resulting from the supply chain flexibility and market agility and their role in SME performance, including responsiveness to customer needs and the speed of new product launches. The empirical results exhibited meaningful guidelines for SMEs that intend or plan to invest in e-procurement tools to strengthen competitiveness and performance.
Elarbi et al. (2020)	Drug-inventory-management-model for a multi-echelon pharmaceutical supply-chain: a case study of the Tunisian pharmaceutical supply-chain	This paper proposed a multi-period and multiproduct mathematical model utilized to maximize drug inventory management in a multi-echelon pharmaceutical supply chain. This model was subsequently developed by utilizing stochastic-based scenario programming, which was accomplished because the drug demand was uncertain. Additionally, a numerical analysis was carried out to make a comparison between the proposed model and the present situations of the Tunisian PSC.
Sasaki and Sakata (2020)	Business partner selection considering supply-chain centralities and causalities	This study argued causal relationships should also be extracted from the network, in which it is carried out to make the logistic flow serve as the predictor denoting or estimating business partners. This study utilized a hybrid BN model incorporating both the network model and the traditional linear model. In addition, calculating and utilizing the trigram conditional probability based on the Bayes' theorem was accomplished in this study.

Table 1. Study of supply chain management in the era of covid-19 pandemic (cont.)

Author	Title	Results and Conclusions
Krause et al. (2020)	Fighting to survive: How supply chain managers navigate the emerging legal cannabis industry	This study determines how the primary supply chain decision-makers of the companies make and apply strategic decisions in an environment marked by fast-changing regulations. In the meantime, the public frequently views this new market as a step for new business owners to gain profit quickly. The results of this study exhibited numerous depictions. Significant corporate expertise and funding, including black-market cannabis experience, did not serve as a tool utilized to predict the success. Incorporating the underpinnings of dynamic managerial capabilities, such as managerial cognitive capital, human capital, and social capital, this study examined how VAP companies had managed their production and supply chains to eventually thrive, retain their survival, or get stuck in failure.
Ketchen et al. (2020)	Toward a theory of supply chain entrepreneurial embeddedness in disrupted and normal states	This paper gives an introduction on the concept of supply chain entrepreneurial embeddedness (SCEE), in which it was defined as the degree to which a huge firm creates integration among small entrepreneurial business abilities (e.g., creativity, ingenuity, resourcefulness, rapid decision-making, and swift execution) within its supply chain. It is theorized that SCEE is likely to be implemented through at least three mechanisms – acquiring (i.e., purchasing one or more small entrepreneurial firms), allying (i.e., building cooperative alliances with such firms) and assimilating (i.e., imitating how such firms act).
Harland (2020)	Discontinuous wefts: Weaving a more interconnected supply chain management tapestry	This paper is a more interconnected approach to supply chain management to tackle these present and future global crises, weaving together an understanding of supply markets, public procurement, humanitarian aid supply chain management, network, and systems thinking, and global stewardship, with the more conventional conceptualizations of firm based supply chain management. Questions are posed to depict the present discontinuous wefts of knowledge to explore how weaving a more interconnected, systems thinking-based approach to supply chain management might stimulate research to support coordination of future global supply preparedness.

Table 1. Study of supply chain management in the era of covid-19 pandemic (cont.)

Author	Title	Results and Conclusions
Wieland (2020)	Dancing the Supply Chain: Toward Transformative Supply Chain Management	Building on panarchy theory, this article re-explains the supply chain as a social-ecological system and leaves behind a modernist view of SCM, substituting it with a more contemporary vision of “dancing the supply chain.” A panarchy emerged as a structure of adaptive cycles which are associated with dissimilar levels on scales of time, space, and meaning. It takes the place or demonstrates the intricacy of the world effectively compared to reductionist and static theories ever could, giving the basis for transformative SCM.
Wiedmer et al. (2020)	Resource Scarcity Perceptions in Supply Chains: The Effect of Buyer Altruism on the Propensity for Collaboration	This study aimed at examining the extent to which buyers’ perceptions of scarcity threats give effects on the decisions to show actions altruistically toward the prominent supplier and to select to work together with a salient supplier so that the scarcity can be mitigated. The study utilized a scenario-based role-playing experiment, in which the respondents serve as the purchasing managers. The results exhibit or denote the intricacy of resource scarcity management and depict that as a matter of fact, buyers are less prone to work together with critical resource suppliers when confronted with resource scarcity.
Shafi et al. (2020)	Impact of Covid-19 Pandemic on Micro, Small, and Medium-Sized Enterprises Operating in Pakistan	The study recommends strategies for business actors such as (1) Paying attention to the health and safety of employees who work amid the covid-19 pandemic; (2) Providing accurate and responsible information and communication; (3) Providing opportunities for traders to continue to operate by following health protocols; (4) Doing work online that can be done remotely and purchasing goods by delivery order; (5) Perform payment activities through online banking; (6) The government provides financial assistance and subsidies for employees and business actors; (7) Cooperating with other business actors; (8) Conducting dialogue between business actors and work organizations; (9) Looking for other opportunities to keep the business running.
Liguori and Pittz (2020)	Strategies for Small Business: Surviving and Thriving in the Era of Covid-19	Business strategies that can be carried out by micro, small, and medium businesses in the era of the covid-19 pandemic are (1) Transforming businesses online; (2) Conduct intensive communication with customers, if possible contact the customer personally; (3) Communicating transparently to employees if someone is dismissed/laid off because with transparent communication, employees will understand the business conditions; (4) Establish good relations between business actors to obtain business development innovations.

Table 1. Study of supply chain management in the era of covid-19 pandemic (cont.)

Author	Title	Results and Conclusions
Fabeil et al. (2020)	The Impact of Covid-19 Pandemic Crisis on Micro Enterprises: Entrepreneurs' Perspective on Business Continuity and Recovery Strategy	That the Covid-19 pandemic is a type of threat that suddenly comes. There is no formal strategic management in running a business amid the Covid-19 pandemic. They only changed the process of sending goods online. In addition, they use government assistance funds to increase capital in running their business.
Fitriyani et al. (2020)	Strategi Manajemen Bisnis Pasca Pandemi Covid-19	Small and medium business actors can develop their business sustainability by toughening in the areas of marketing management, human resources, finance, and operations.
Rosyada and Wigiawati (2020)	Strategi Survival UMKM Batik Tulis Pekalongan di Tengah Pandemi Covid-19 (Studi Kasus Pada "Batik Pesisir" Pekalongan)	To run a business during this Covid-19 pandemic, small and medium-sized business actors carry out business strategies in terms of; (1) Product differentiation; (2) Innovation and creativity in providing friendly service to customers; (3) Marketing using advertising, sales promotion, direct marketing, giving discounts, and doing online advertising.

5. Results and Discussion

According to the research from some of the literature that has described the methods that are most often used in supply chain management, most of them use a framework to implement agility in supply chain management. The scientific and managerial implications obtained from the results of this literature review are to be able to survive amid the covid-19 pandemic. The following are things that can be used to implement agile supply chain for business actors in Small, and Medium Enterprises: Sensitive to the possibilities that will happen in the future, create a sustainable business plan and risk management, increase the use of businesses online, review supply chain processes from supplier to customer, increase the skills of employees in information and technology, strengthening in the areas of marketing management, learn from the problems encountered in the supply chain, assess and change the process from beginning to the end. The limitation of the study was implemented by analyzing some of the existing literature and more research is still needed regarding the efficiency and effectiveness of supply chain management and performance during the covid-19 pandemic and also results are based on descriptive analysis only. Further studies can use research-based quantitative analysis to measure the level of supply chain problems and the efficiency of government regulations to face supply chain management problems especially on Small and Medium Enterprises in the era of a pandemic.

6. Conclusion

Based on the literature review, it was found that to be able to compete and survive in crisis due to the covid-19 pandemic, companies must be able to achieve agility conditions, namely being responsive and flexible in meeting changing market demands. Companies need to focus on activities to increase added value for consumers through product differentiation, innovation, and creativity in providing friendly service to customers, conducting intensive communication with customers. Additionally, it is a requisite to improve competitiveness by enhancing the efficiency and effectiveness of internal business such as purchasing, warehousing, material processing, and distribution that tend to require a lot of time and large financial resources.

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