

Supply chain management and the Covid-19 outbreak: Optimizing its role for Indonesia

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Abstract

At the beginning of the emergence of Covid-19, there was panic buying in Indonesia which caused an unusual situation in supply management. Although the handling of this epidemic has entered a "new normal", the availability of stocks of electronics, automotive, pharmaceuticals, food, and others is running low and out of control, so supply chain management is needed. The purpose of this article is to try to see the extent of the transformation in supply and demand in Indonesia. With this in-depth literature, the supply chain model is likely to transform globally, given that many companies are confused about management being unable to cope with drastic changes in the market. The demand patterns over the past period indicate a shift from offline to online storefronts. Even though it has now entered a transition to a new normal and shopping outlets are slowly opening up, online shopping or demand patterns are predicted to last a long time. Therefore, supply chain actors, especially farmers, logistics entrepreneurs, and shipping services, inevitably have to be able to quickly adapt to changing patterns in Indonesia. There is an imbalance between the demand and supply sides. Food supply chains tend to be unique in comparison to the supply chains of other products and services.



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Introduction

Covid-19 started in China, the world's second-largest economy. This country is a major exporter of various commodities for other countries. There are at least 51,000 companies that depend on China as a Tier 1 supplier, and even more, and about 5 million companies that make China Tier 2. Once China issued policies to prevent the spread of the virus, the global supply chain was severely shaken, resulting in business operations on a global scale. hampered and income decreased. This situation was exacerbated when this outbreak became a pandemic so that each country has its own problems which also have an impact globally.^{1, 2, 3}

There are two sides to the supply chain management problem caused by Covid-19. First, it was difficult for the company to closely monitor both short and long term demand and inventory due to factories being closed and the economy slowing. On the other hand, retail entrepreneurs experience a shortage of stock because customers tend to buy in large quantities to minimize contact in open spaces.^{4, 5, 6}

With adequate supply chain management, it will be able to reduce human error, distribution, technicality, reduce transportation costs, distribution, and increase quality to an extraordinary level.^{7, 8} The system in the supply chain does not only include factories and suppliers, but is also closely related to logistics flows, warehouses, transporters, consumers, and retailers, but is not limited to marketing, product development, operations, innovation, distribution, services, and finance.^{9, 10}

In the supply chain management process in this situation, an integral approach is needed which includes warehouse storage, transportation, inventory, ordering goods, and quantity of goods. To build an optimal management system, careful planning, supply, manufacture, delivery, and return of sorted items are necessary. For that, we need to present the role and strategic steps of supply chain management in Indonesia during the Covid-19 outbreak in Indonesia.

Economical Supply Chain Management

Recently, the Indonesia government has started conducting "rapid tests" in an effort to obtain early indications of whether a person is positive for Covid-19 or not. The government has prioritized areas which according to the mapping results indicate an indication of being prone to be infected with the Covid-19. The test will be carried out from the house to the house in priority areas. Rapid tests will also be carried out on medical personnel and their families, medical officers and families, people under surveillance (ODP), and patients under surveillance (PDP). The ¹¹ predicts world economic growth to drop by 1.5% in 2020 at the worst possible point.

The government is committed to continuing to work very hard as a form of seriousness in handling Covid-19. This commitment is formulated through the making of public policy (strong public health policy response) related to the handling of the outbreak in the form of drug and medical device supply chain management.



Fig.1: Supply chain strategies and challenges

Source: Adaptated from.¹²

Supply chain network design is a proven modeling approach that reduces errors, saves supply chain costs significantly, and can better improve service quality. Supply chain management has become the dominant disaster mitigation paradigm in recent decades. This decision model is used to solve problems related to the supply chain in a disaster emergency, including anomalies in the case of this outbreak. Therefore, various policies regarding logistics supply chain management that are used in the fight against Covid-19 are very important to do (see Figure 1).

The existential philosophy of supply chain management is to integrate the flow of materials, information, and products from initial suppliers to end customers. Through supply chain management, it is hoped that the ration of drugs, materials, and medical devices and between regions can be carried out fairly and transparently because it is closely related to the potential, conditions, and needs of different regions.¹³

Supply Chain Capabilities in Indonesia

In areas with a high level of vulnerability, it is necessary to provide early distribution of drugs and medical equipment including personal protective equipment (PPE) to reduce imbalance with a very urgent demand in large quantities. Thus, there are no more doctors and nurses who only use PPE without paying attention to the WHO protocol.

Apart from being a disaster management instrument, supply chain management also aims to accelerate the distribution of medicines and medical devices to the regions. Supply chain management is also able to improve the convergence of the quality of Covid-19 handlers in all regions well. Thus, the supply chain will also have a significant influence on increasing the convergence speed of service quality for this outbreak in Indonesia.

In this case, local governments have the authority to make policies directed at developing regional competencies in dealing with the Covid-19 problem in Indonesia. In addition, supply chain management must be used as best as possible by local governments in handling this outbreak, because the regions (cities and villages) know best about the needs, conditions, and situation of the Covid-19 pandemic.^{14,15} Their needs regarding food and non-

food include health support in this connection is very important because at least it is a vital need in driving the economy at the micro-level. It can be imagined if supply chain management does not work properly so that it can have an impact on systematic chaos. For example, peoples will not comply with protocols for preventing Covid-19, panic buying, and anarchist actions that can trigger a prolonged recession.

The Dialectical Model of Supply Chain Management

The dialectical model can be applied in explaining the role of the logistics supply chain network in the policy of handling the Covid-19 outbreak. The results of the logistics supply chain policy in handling Covid-19 were all carried out in order to meet all the needs of the larger community by utilizing all the resources owned by the central and local governments.^{16, 17} All of these policies must be dialectically supported by all local governments in Indonesia, because the implementation of logistics supply chain management in handling this problem can be carried out properly. Good communication is communication that is two-way, which means there is a harmonious understanding between the Indonesian government and the public in market policies. This is not only related to the pattern of demand and supply for the consumption of goods and services that were very urgent during Covid-19 (but there are things that must be applied in eradicating production and distribution activities) so that the security aspect continues to operate even though Indonesia has entered the 'new normal' phase. Alertness to this outbreak remains an important reference in order to reduce the level of transmission.

The supply chain policy for handling Covid-19 can continue to change, following various innovations suggested by external parties, in this case, the WHO and innovations made by internal government parties and their staff. This happened because all of them were oriented towards the safety of the Indonesian people. The public can benefit when the country can implement a supply chain network scenario, evaluate and proactively implement positive changes in response to all possible Covid-19 outbreaks.

Countries can also introduce new products that are being purchased. For example, when in the last days the President of Indonesia (Jokowi) ordered 2 million

Avigan and 3 million chloroquine, to treat patients who were positive for Covid-19.¹⁸ In fact,¹⁹ predict that Covid-19 has significant implications for a supply recession a global chain of producers.

In this case, the president has carried out rapid supply chain planning so that it is also responded quickly by medical personnel, hospitals, and all parties who can help take concrete steps to solve the problem of the Covid-19 case. This is where the so-called dialectic of dynamic supply chain management has happened.²⁰ The public is awaiting the aspect of speed in making supply chain management decisions. It also shows that supply chain management is not stagnating, but there is always innovation by looking for a variety of valid information that can be used to resolve Covid-19.

The steps taken by the president show that there are seven dimensions in managing the Covid-19 drug

supply chain with the President as an actor in supply chain management, the president's function as a top manager in supply chain management planning, a government structure that has the power to order and carry out people's mandates, the existence of instructions from the president to all parties involved so that all patients can be handled properly, various rules of behavior for handling disasters in a directed and integrated manner, the relationship between the government, the Covid-19 handling task force, producers, distributors, and patients, the Government's strategy in handling this outbreak by fast, precise, and directed.²¹ has introduced a dialectical model in supply chain management as an analysis in the public policymaking process. This model is described in Figure 2 which aims to analyze the relationship between actors, community interests, and policy transformation in the face of the unpredictable dynamic nature of disasters.

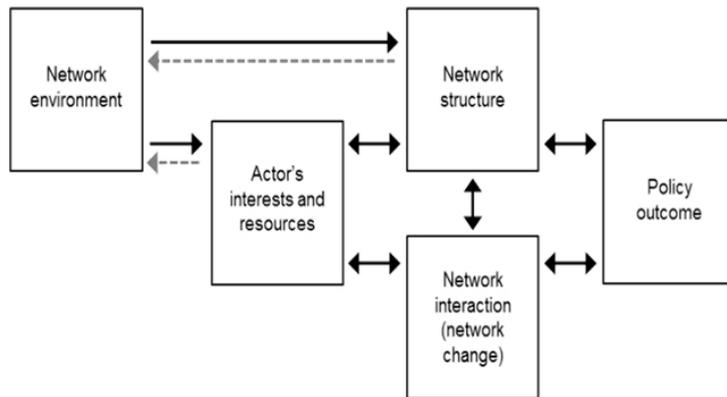


Fig.2: Policy networks and policy outcomes

Source: Adapted from.^{21, 22, 23}

Endogenous and Exogenous Factors

There are 2 explanatory factors to describe the relationship between the network created by the government and the context of supply chain management, namely endogenous and exogenous factors. Endogenous factors that can influence policy are ideology, politics, and the availability of resources (material and health resources). The exogenous factors include the global economic base and new knowledge in the form of new findings related to the Covid-19 drug.²⁴

The results of policies made by the Indonesian government also influence the form of policy networks, both directly and indirectly. In other words, supply chain management in the response to Covid-19 is also motivated by the structural interest of the state in facilitating the community at the time of handling this outbreak as well as a very strategic learning process for the community and all affected parties.

Thus, government policies in supply chain management in the disaster management process of the Covid-19 outbreak can affect various exogenous factors. The results of policies made by the government can lead to changes in networks or the balance of existing resources. Supply chain management ideas can also impact broader social structures that place the interests of saving human lives above economic and other interests. Then, supply chain management can also affect the standard operating procedures used by medical personnel, paramedics, and other support personnel.^{25, 26, 27}

Here it is very clear that there has been a reciprocal relationship (dialectic) in supply chain management based on policies made by the Government. Hopefully, supply chain management in handling Covid-19 is increasingly being carried out by the government and its staff, so that it can control the spread of this outbreak.

Conclusion

Until now, Indonesia have relaxed their social distancing policies, which means that factories have begun to reopen and operations are running normally. The tension caused by the supply chain jamming began to decrease. Even the impact of Covid-19 is expected to gradually improve in 2021.

However, the occurrence of outbreaks like this cannot always be predicted. Understanding the risks and opportunities of supply chain and good customer service in times of crisis cannot be realized without the assistance of this technology. Therefore, the implementation of technology is very useful in maximizing the supply chain efficiently.

The characteristics of the conventional (offline) supply chain path tend to belong, namely, from farmers, logistics players such as warehouses, then to collectors, markets, stalls then end to consumers. The existence of an online demand pattern makes the supply chain shorter, e.g generally from farmers, logistics players, and directly to consumers by delivery services.

Due to the shorter supply chain, one thing that needs to be paid attention is the proper handling of products, especially for perishable food ingredients such as meat and fish. Improper product handling can increase the potential for food loss in Indonesia. Especially with the implementation of mobility restrictions, so there is the possibility of delays in delivery. The supply chain is becoming increasingly vulnerable to being disrupted, all of which lead to loss of income to shake up logistical issues (food security, medicine, and other industrial problems).

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Conflict of interest

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