

Collaboration and Supply Chain Integration Strategies in The Textile Industry to Anticipate the Increase in Demand Post Covid-19

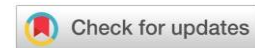
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ABSTRACT

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This research aims to find out what business innovation strategies are being implemented by several textile entrepreneurs to achieve momentum for improving this industry while business risks can be minimized. This phenomenological research was carried out using interviews, observations and document studies at several textile companies in Central Java. The novelty in this research answers the phenomenon that occurred in the textile industry after the COVID-19 pandemic outbreak. The research results show that two strategies are most dominantly used: First, the collaboration strategy, companies collaborate with other companies to share risks and profits. Second, a supply chain integration strategy by controlling companies located upstream and downstream in the textile industry to secure production and control the market.

INTRODUCTION

The COVID-19 pandemic, which has been happening worldwide for approximately two years since this research was written, has had a devastating negative impact on all sectors.

Generally, the whole world faces the same and quite serious problems, especially in the economic sector. Liu et al. explained that international financial institutions, namely the International Monetary Fund (IMF) and the World Bank (World Bank), showed that the global economy was entering a very severe recession (Garcia-Barragan & Liu, 2021).

As a developing country, Indonesia cannot be separated from these economic problems, whether in tourism, investment or trade (Zein et al., 2020).

This is confirmed by the fact that Indonesia experienced a contraction of -5.32% during these two periods (Sparrow et al., 2020). For Indonesia's economic conditions to gradually improve, the government must immediately overcome the Covid-19 virus.

One of the efforts made by the Indonesian government to stop the spread of COVID-19 is to implement Large-Scale Social Restrictions (PSBB) regulations. However, still, the Indonesian economy cannot be said to be improving.

This is because, one of the applications of the PSBB regulations is that the government requires several industries to temporarily suspend their business activities (Sparrow et al., 2020).

Of course, this is a difficult condition for the government or industry players. Therefore, it can be concluded that the Covid-19 pandemic in Indonesia is a serious blow to players in any industry. Many industrial players in Indonesia have experienced losses due to COVID-19, including the textile industry.

As is known, before the spread of COVID-19 in Indonesia, the textile industry was an industry that contributed positively to the national economy.

The export contribution of the textile industry to Indonesia reached 10.52% of total national exports in 2018. Apart from that, the Ministry of Industry also shows that the textile industry employs a workforce of approximately 4.65 million people or 20% of the total workforce in the processing industry (Tsukhlo et al. al., 2019).

However, these phenomena were inversely proportional when Indonesia was hit by Covid-19, and even at the global level also felt the impact (Sundawa et al., 2021).

The Covid-19 pandemic has caused the textile industry to become an industrial sunset; the Central Statistics Agency proves this through the table of gross domestic product (GDP) of the textile and apparel industry for the period 2017 – 2021:

Table 1. Gross Domestic Product (GDP) of the Textile and Apparel Industry

Year	GDP
2017	3,83
2018	8,73
2019	15,35
2020	-8,88
2021	-4,08

Source: Central Bureau of Statistics (2022)

Based on Table 1, it can be seen that the gross domestic product (GDP) in the textile and apparel industry is experiencing fluctuations. If you pay attention, in 2017 - 2019, the textile and apparel industry experienced a positive trend and increased from 3.83 in 2017 to 15.35 in 2019. This positive development was because, in the 2017 to 2019 period, Indonesia was not yet affected by the virus. Covid-19. However, as we enter

2020 and 2021, the textile and apparel industry's gross domestic product (GDP) experiences a very sharp decline and even reaches negative numbers.

In 2020, the GDP figure was -8.88; in 2021, it was -4.08. This means that the minus figure cannot be separated from the COVID-19 outbreak in Indonesia in 2020 and 2021. Another factor is that many of the general public during the pandemic reduced their clothing needs and shifted their attention to health needs and health protocol equipment. This is what worsened the performance of the textile industry in that period.

The government is implementing a new normal system as time passes and the spread of the COVID-19 virus is controlled. Respati and Basyari say the new normal is returning to normal activities, but some requirements apply (Respati et al., 2022). This means that Indonesian people are allowed to carry out their activities as usual but are required to follow applicable health protocols, one of which is the use of masks.

This policy aims to revive the wheels of the Indonesian economy through the provisions of the Indonesian Ministry of Industry; the textile industry is one of the priority industries in the Making Indonesia 4.0 program, so it can be interpreted that the new normal policy is something positive (Sparrow et al., 2020).

One of the positive impacts of this policy is that textile industry workers can return to their activities to help with the production process at the company. Agus Gumiwang Kartasmita, as Minister of Industry, appreciated the textile industry, which stated that it is a labour-intensive and export-oriented sector. The Ministry of Industry is determined to maintain the productivity of the textile industry.

"During the pandemic, the textile industry has played an important role in meeting the need to overcome and prevent COVID-19, such as producing masks and personal protective equipment" (Wibowo, 2022).

This is supported by policies and support from the Indonesian government for the textile industry, such as debt restructuring, tax incentives, easing and macroprudential measures to encourage increased credit (Utz et al., 2020).

This policy is a concern for the textile industry to improve and change its title from industrial sunset to industrial sunrise. Support from the Indonesian government has been utilized optimally by the textile industry, and it has been proven that the performance of the textile industry has increased again (Bui et al., 2023). As a result, in the month of Ramadan in 2022, there will be an increase in demand for textiles reaching 30% compared to previous years (Putra & Triyonowati, 2023).

The for textiles may have the potential to continue to increase; this was confirmed by Kartasmita, who explained that investment from the textile industry will continue to grow. The concrete forms of this investment include the fibre, thread and fabric manufacturing industry, making it easier to obtain raw materials for the textile industry in the country and minimising dependence from abroad (Sunj et al., 2023). So that the post-pandemic industrial sunrise momentum can be utilized more optimally, of course,

the internal textile industry must seriously pay attention to several things, such as infrastructure, human resources, raw materials and funding (Kumar et al., 2022).

With the trend in demand for the textile industry increasing post-pandemic, companies should continue to innovate to meet consumer needs. Keeley explained that there are several understandings about innovation, including (1) innovation is not discovery, (2) innovation must create value, (3) there is very little that is genuinely new in innovation, and (4) innovation must focus on something other than the product (Corrales -Estrada, 2019).

Companies need more than just ordinary product performance innovation strategies to win industrial competition because this is very easy to imitate quickly. Therefore, so that company goals can be achieved well, an effective innovation system needs to be created, and several systems support and can be developed for this, including linkages, partnerships, interactions, positive synergy and networking (Horváth & Szabó, 2019).

Business innovation regarding networks benefits a company because it can utilize processes, technology, offers, channels and brands of other companies (Corrales-Estrada, 2019). In this exciting moment for the textile industry, business networks are essential because this can increase competitiveness through collaboration between different business units (Grabowska et al., 2020).

A business network is a form of coordination or collaboration between organizational units to assist business processes (Herman & Nohong, 2022). Meanwhile, to create an influential network, it is necessary to use a strategy called collaboration and supply chain integration (Allaoui et al., 2019).

Today's business developments only sometimes lead to competition, but rather to collaboration. Collaboration is a process between organizations in finding joint solutions to their problems to achieve common goals (Sjödín et al., 2020). Meanwhile, other researchers explain that collaborative practices are carried out through meetings of various parties with their respective interests to create a mutual agreement on a problem, then choose a solution and produce a decision that does not harm either party (Annosi et al., 2021)

Collaboration is the best strategy for establishing company business relationships (Leckel et al., 2020). One effective business strategy is collaboration. Collaboration can produce good networking so that common final goals can be achieved easily (Waizenegger et al., 2020). Collaboration is a company negotiation tool in the form of expertise, access, capital and so on (Hervas-Oliver et al., 2021). Collaboration also provides several benefits, including helping economic growth, increasing company profits and providing optimal service to customers.

A collaborative business model is the right choice for newly developing companies, rather than competing with large companies to win the market (Sjödín et al.,

2020). The creation of solid collaboration also produces several benefits. One of them is supply chain management. Collaboration can create a continuous supply chain for joint business continuity. The supply chain is often considered part of the operational strategy (Frederico et al., 2020). The supply chain is a sub-part of the business, either directly or indirectly, which aims to meet customer needs (Frederico et al., 2020).

Other researchers suggest that supply chain management focuses on organizational networks from suppliers and production to product delivery to end users, namely consumers (Vegter et al. 2020). Apart from that, this supply chain focuses not only on the manufacturing process and suppliers but also on transportation, warehouses, retail, and even consumers. This supply chain aims to optimize all value generated by the company (Shcherbakov & Silkina, 2021). Many companies have studied supply chain integration in detail; this is done because companies that participate in this strategy cannot compete and work independently. For example, raw material suppliers must understand the needs of upstream customers to adapt to the needs of downstream customers to manufacture products that customers are interested in (Chi et al., 2019).

Supply chain integration will provide several benefits for companies, such as increasing the company's competitiveness in an industrial environment that changes over time, increasing company efficiency and responding quickly to market needs (Jones et al., 2022). Medina also confirms et al., who argue that a supply chain can increase a company's ability to collaborate effectively with business partners to move quickly to market changes. Apart from that, it also helps companies reduce business risks, one of which is operational problems and improve company performance to the maximum (Marliana et al., 2023).

Meanwhile, by implementing supply chain integration, companies can share risks and rewards to achieve better performance than individually (Munir et al., 2020). Therefore, with the industrial sunrise phenomenon in the textile industry, networking practices through collaboration and supply chain integration benefit the company's internal affairs. Based on these phenomena and previous explanations, researchers are interested in researching the textile industry in Central Java with the title "Collaboration and Supply Chain Integration Strategies in the Textile Industry in Anticipation of Increased Demand Post-COVID-19"

LITERATURE REVIEW

The resource-based view examines the relationship between resources and capabilities and organizational performance (Barney, 1991). The assumption underlying this view is that large companies with better resources and capabilities can usually outperform small companies with fewer assets (Nason & Wiklund, 2018)

Leveraging a company's resources and capabilities to create a competitive advantage can be achieved with existing assets that are well organized. It is also valuable, rare, unique, and irreplaceable (Baia et al., 2020).

Competitive dynamics theory develops thinking from resource-based theory (M.-J. Chen et al., 2021). How business actors react when facing competition with similar industries and market equilibrium are benchmarks for answering their problems (M. J. Chen & Miller, 2012).

"dynamic capabilities" refers to an organization's ability to integrate, develop, and reconfigure internal and external capabilities to respond effectively to rapid environmental changes. It refers to an organization's ability to integrate, design, and reconfigure. Internal and external capabilities to effectively respond to rapid changes in their environment." This is described as the method used by the company. Network to acquire and improve these dynamic capabilities (Priyono et al., 2020).

The literature confirms that there is a positive relationship between dynamic capabilities and networks and that networks enable organizations to predict and manage vulnerabilities in their environment more effectively, which is why dynamic capabilities. Some argue that this is one of their distinguishing characteristics (Abu-Rumman et al., 2021).

Measurement is also carried out by the level of innovation that business actors have in responding to the problems they face (Glover et al., 2016). Innovation can be carried out by building an entrepreneurial network, which is a formal or informal entrepreneurial association whose members aim to increase the effectiveness and capacity of their businesses (Abu-Rumman et al., 2021).

METHOD

Phenomenological research is an observation and exploration of a person's experience. This is used to provide a complex explanation of the problems that occur (Komara et al., 2023). Qualitative research broadly refers to a category of research with an approach that produces findings without relying on quantitative measurements or statistical analysis (Hendren et al., 2023).

Qualitative research is a method for exploring and understanding the meaning of social problems (Nassaji, 2020). Qualitative methods generally include directed interviews, either individual or group, participant observation, ethnography and several other approaches. Traditionally, qualitative methods have been used in various scientific disciplines to describe how situations occur (Hamilton & Finley, 2019). This is also supported by another opinion explaining that qualitative research uses special tools, including observation, directed interviews, case studies and analysis of various literature (Pandey et al., 2020).

The data collection technique used in this research used in-depth interviews and secondary data observation. In-depth interviews were conducted with six sources, including four textile business owners, one textile industry operational manager and one business consultant. The interview aims to obtain information about network innovation through collaboration strategies and supply chain integration in the textile industry in anticipation of increasing demand after the COVID-19 pandemic.

These resource persons were chosen because they felt representative and had more capacity to answer the research needs regarding the problems that occur in the research object. The following is a table of research sources:

Table 2. Source Profile

No	Name	City	Status
1	Jamal	Pekalongan	Sarong Business Owner
2	Usamah	Pekalongan	Dyeing Business Owner
3	Ahmad. N	Semarang	Clothing Business Owner
4	Hango	Klaten	Fabric Business Owner
5	Danu. I	Karang- Anyar	Operational Manager
6	Kurnia	Solo	Head of Consulting Company Bisnis

Source: Researcher (2022)

RESULT AND DISCUSSION

This research shows that collaboration and supply chain strategies are methods used in business development. This was implemented during difficult times, such as the Covid-19 pandemic. After being reduced for approximately two years after the COVID-19 pandemic, the textile industry has experienced increased product demand. So, network innovation is used to anticipate the rise in demand for textile products.

This network innovation application is carried out with collaboration and supply chain integration. Textile companies chose the collaboration strategy because they can share profits with the collaborating companies, share risks due to limited resources, and anticipate the possibility that the COVID-19 pandemic will continue in Indonesia. Textile companies chose the supply chain integration strategy because they found partners supporting their resources, such as capital, human resources, raw materials, etc.

This is done because the company wants to secure the price of raw materials for yarn so that price fluctuations can be controlled and do not endanger their textile business. So it's not just about establishing a relationship or good relationship but also establishing a partnership or cooperation in business activities.

Only one sub-sector of the textile industry uses a supply chain development strategy. Meanwhile, four other industrial sub-sectors use a collaboration strategy,

namely the sarong, dyeing and apparel sub-sectors. Two approaches are recommended for the business consulting sector: collaboration and supply chain development.

Table 3. Research Findings

Industry	Strategy	
	Collaboration	Supply Chain
Sarong Industry	Reduce, manage and share business risks, especially the availability of raw materials	-
Dyeing Industry (Coloring)	It has become the primary preference of large textile industry companies in assisting production	-
Apparel Industry	It is increasing supplies of raw materials and production capacity and adding value to the services provided.	-
Lurik Industry	-	Increasing the volume of fabric production because they are also building a yarn factory to meet raw material stock needs and are not dependent on imports.
Business consultant	Several textile companies are currently applying collaboration because business actors minimize risks due to limited resources (Finance, Human Resources, Technology and Networking).	Supply chain integration is chosen and carried out by textile companies because it helps capital, human resources, raw materials, etc. The aim is to secure the price of raw materials so that selling prices are stable.

Source: Researcher (2022)

The impact of the COVID-19 virus on Indonesia has caused abysmal economic performance, even at the global level, also feeling the impact (Sirait & Syafri, 2020). One of the industries affected by this is the textile industry. The textile industry is increasing again after declining for over two years during the COVID-19 pandemic. There has been a significant increase in demand for textile products by the public. This is what Jamal experienced as the owner of a well-known sarong brand in Central Java, who said that.:

“...During this pandemic, textiles have become a sunset industry; yes, you could say that. The last two years have been quite difficult for the textile industry. We know that many people have started reducing textile product purchases and focusing on medicines and health protocols. But make no mistake, the need for clothing continues to exist. Moreover, the Indonesian government can now control COVID-19; there are no extended restrictions on activities; the positive effect is that markets and malls are starting to get busy, meaning the need for clothing can increase again, which is an up-and-coming prospect. Textiles have turned into a sunrise industry now. Of course, we must make maximum use of this positive condition; we have to be ready for everything from production to distribution to our consumers. If we don't prepare it all, my company's revenue will become even more miserable...”

To anticipate this increase in demand for textiles, one innovation that can be applied for this is network innovation. In practice, two strategies are most dominantly used in discussing network innovation:

The first is collaboration. Companies collaborate with other companies to share risks and profits. Many companies make partnership efforts or partner with other companies to gain mutual benefits. This cooperation model is called a collaboration strategy (Badraoui et al., 2022).

Still with the same source, Jamal, the owner of a well-known sarong company with two factories in Pekalongan, said that the strategy that can be used and has been applied to reduce business risks is by distributing the production machines he owns to people he trusts.

The responsibilities of this trusted person include opening a new factory with the machines provided, managing the rights and obligations of all employees, accommodating capital needs and so on. The form of this collaboration is that all production results from the new factory are sent to Jamal for the sarong-making process.

“...That way, more people will be interested in becoming entrepreneurs and think that becoming a textile entrepreneur is easy. The most important thing is that we must build many relationships to know which relationships can support our business, whether supporting raw material issues, production processes or needs. Financial. I didn't think of it all, but they can help me as a fellow entrepreneur, not an employee. At least, they can minimize and manage risks and gain profits from this textile business. For example, now I don't bother thinking about raw materials because, due to collaboration with my colleague, the person concerned has to deposit all the raw materials with me and continue with the production process; what ends up? Raw materials are now easy to get, besides I don't depend on imports from abroad, it's more economical. I'll share that before using the collaboration strategy, we sometimes had difficulty with raw materials. What is certain is that it is very convenient for the textile industry; whatever the market needs, we can meet that demand because our raw material supply is relatively safe....” (Jamal, Sarong business owner).

Apart from that, other forms of collaboration carried out by the textile industry involve the middle sector in textile businesses, one of which is the Dyeing business. Dyeing companies focus on the colouring or dyeing process, which can be carried out on various kinds of textile materials, for example, fibre, thread, fabric or garments (Periyasamy & Tehrani-Bagha, 2022). As the owner of a Dyeing business in Pekalongan, Usamah really feels the positive impact of implementing collaboration strategies in his business. He argued:

“...When I first started my business, I was very romantic. This dyeing business can only run in collaboration with other companies in the textile industry. As soon as there was Covid in Indonesia, I was wrong. I work extra hard to advance my dyeing

business. But once I learned and applied collaboration, everything was much more accessible. In the past, I only focused on internal orders, too few for my workforce, with a minimal workload. Automatically, my business income is less. However, I am now very comfortable developing my dyeing business. Apart from focusing on finding customers, I am also increasing my relationships. As a result, apart from the orders we carry out internally, many textile companies in Central Java now collaborate with me for the dyeing or colouring process. This collaboration will last longer; apart from my dyeing business being helped by additional revenue, partner companies will also be allowed to meet the demand for ready-made clothing. The best solution for joint business continuity...” (Usamah, dyeing business owner).

In line with the previous opinion, collaboration strategies benefit textile industry players. This was also conveyed by the owner of an apparel business in Semarang, Ahmad N, who explained:

“...Currently, I am ready for whatever the market demands; why? Because other textile entrepreneurs have now helped me. We collaborate from raw materials to finished clothing, not to mention the form of our collaboration to the transfer of knowledge of any process, whether sizing and twisting, weaving to dyeing finishing; they are ready to help. What does this mean? When our business has a shortage, my partners are prepared to help. Most importantly, since COVID-19 has been under control, the demand for apparel has increased drastically; imagine if I needed to prepare my internal business processes properly. So, I no longer need to worry about shortages of raw materials or difficulties in the printing process. We offer a new service, namely custom t-shirts, to our customers. What model do you want, and what quantity do we ask for? We don't have any problems....”.

Based on information obtained from sources, Kurnia, as the head of a business consulting company that handles large-scale companies in the textile sector, concluded that the tendency for collaboration strategies to be chosen by several textile companies at this time is because these business actors want to minimize risks, this is due to limitations. Owned resources. Apart from that, external factors are also a consideration, such as the possibility that the COVID-19 pandemic in Indonesia could continue so that business risks can be divided. (Kurnia, Head of Business Consulting Company).

“...Today's textile companies, especially in Central Java, use a lot of collaboration because every company has weaknesses, whether it's a matter of expertise, channels, finances or resources, which can potentially cause business risks. Therefore, business risks can be shared through this collaboration because cooperation is established. So, the two companies can handle their business continuity being disrupted because the problems one company has are already taken by the expertise of other companies who collaborate. Apart from that, collaboration is also an effective way to

anticipate COVID-19 if it continues in Indonesia....” (Kurnia, Head of Business Consulting Company).

Discussing network innovation is sometimes just collaboration. One of the other strategies that can be used is implementing a supply chain integration strategy. Supply chain integration itself is the second dominant strategy in network innovation. This strategy is carried out by controlling companies located upstream and downstream, especially in the textile industry, aiming to secure production capacity and control the market. Keeley explained that supply chain integration is a company's effort to combine and integrate information and production processes that were previously owned by other companies and then incorporated into one company to control supply chain value. This is done so that business risks that have the potential to arise due to factors outside their control can be minimized (Keely, 2013). This explanation was corroborated by Kurnia, who said that:

“...Our client, the largest textile company in Central Java, has integrated upstream to downstream businesses in its supply chain. The aim is precise: to meet production capacity according to market demand....” (Kurnia, Head of Business Consulting Company).

Similar to the opinion above, another textile industry entrepreneur, Hanggo, owner of the Lurik factory in Central Java, also applies this strategy and has an opinion:

“...We have expanded and acquired factories to increase our fabric production capacity. Apart from that, we are starting to focus on the yarn industry, as well as to support our production. Finally, we also applied to the bank for capital requirements because we plan to submit a proposal to investors to construct a yarn factory shortly. Our goal in establishing a yarn factory is not to be too affected by the fluctuating prices of yarn so that the selling price of our products can be stable and, most importantly, the raw materials for our production are in safe stock. Whatever the customer's needs, we can fulfil these requests....”

This was also done by one of the textile companies in Karanganyar with Danu I, the operational manager at the company, who stated:

“...Many textile companies currently focus on developing factories to produce raw textile materials, and we want to be included. At the beginning of 2023, we will start building a factory to make yarn and fabric. The Bank will accept our application for funds for our needs. The Bank will be in the middle or end of 2024. We plan to propose it again to the Bank and allocate it to procure machines for the new factory later. So the purpose is clear: for the raw material production process from spinning to weaving. There is a reason we focus on the raw materials industry, apart from developing our business. Secondly, in the textile industry, we must rely on something other than raw materials from external parties; why? Because it would be hazardous if we relied on outside parties, the price could be more stable, and ultimately, the cost of our production also fluctuates, so

sometimes the sales team has a dilemma in determining the selling price of our products. Second, what makes us worried is that we often find that suppliers' stocks are sometimes empty while production continues, so we end up importing, and that also takes quite a long waiting time, and the price is sometimes more expensive...”.

The phenomenon of supply chain integration strategy is often chosen and carried out by textile companies because they have succeeded in finding partners who support their business processes. According to Kurnia, business process support includes various things, including capital, human resources, raw materials and so on. Companies or textile entrepreneurs do this to secure the price of raw materials such as thread, which often fluctuates so that the cost of raw material for the thread can be controlled. The selling price is always stable, and the continuity of the textile business can be well maintained (Kurnia, Head of Consulting Company Business).

“...The main reason textile companies apply supply chain integration is to maintain dependence on raw materials from external parties, apart from supplies which are sometimes not always ready; another reason is prices, which always go up and down. Therefore, they are starting to be concerned about building factories to produce raw materials so that prices can be controlled and selling prices are also stable...” (Kurnia, Head of a Business Consulting Company).

CONCLUSION

Based on the results and discussion above, this research can be concluded as follows: First, after a hiatus of approximately two years following the COVID-19 pandemic, the textile industry market experienced increased product demand. Second, innovation is used to anticipate an increase in demand for textile products using network innovation.

Third, in network innovation, there are two dominant tactics carried out by companies, namely collaboration tactics and supply chain integration. Fourth, collaboration tactics were chosen by textile companies because they can share profits with the collaborating companies, share risks due to limited resources and anticipate the possibility that the COVID-19 pandemic will continue in Indonesia.

Meanwhile, fifth, supply chain integration tactics are chosen by textile companies because they find partners who support their resources, such as capital, human resources, raw materials and so on. This is done because the company wants to secure the price of raw materials for yarn so that price fluctuations can be controlled and do not endanger their textile business.

Suggestion

Suggestions for this research include creating a model based on a more robust empirical theory and adding other references related to research on the topic of ten types of innovation in the textile industry.

Meanwhile, further research can be developed by adding indicators in the form of innovations in the textile industry, such as processes, product performance, services, channels and brands. And finally, to get better generalizations, you can increase the number of respondents or sources..

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