



## Original Research Article

# The Impact of COVID-19 Pandemic on Thai Processed Seafood Export Supply Chain

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### ABSTRACT

The outbreak of COVID-19 has caused significant impacts on many industries, including the processed seafood industry. The amount of processed seafood exported has declined by 5 to 10 % during the COVID-19 outbreak. Therefore, this article aims to examine the impact of COVID-19 on Thailand's processed seafood export industry and how businesses handle these impacts. To collect the data, the researchers interviewed five processed seafood export supply chain companies, including one supplier, two manufacturers, and two exporters. After collecting the data, the researchers implemented inductive content analysis to identify the impacts of COVID-19 on Thailand's processed seafood export industry. The results reveal that COVID-19 caused adverse effects on processed seafood export from different aspects, including container and labour shortages, higher freight rates, and financial problems. The results also reveal that each company has different approaches for dealing with the impacts from COVID-19, with most focus on continuing their operations.

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## INTRODUCTION

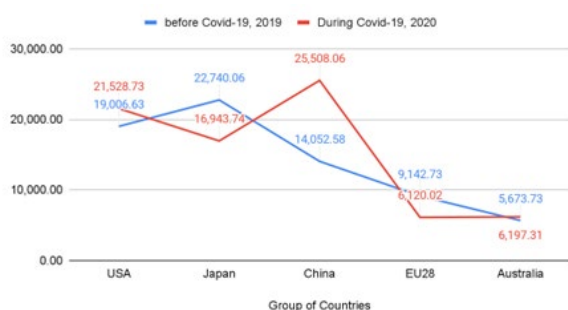
Processed seafood products export is an enormous industry in many countries. Thailand has developed and become one of the biggest fishery exporters. The resources from the Andaman-sea and the Gulf of Thailand amounted to 20 percent of the total processed seafood products export has constantly been growing. Thailand exports processed seafood products to many countries, such as the United States, Japan, China, Europe, and Australia. The export rates in each country have large volumes and are more likely to be growing. However, during the COVID-19 outbreak, the volume of Thai processed seafood products exported decreased by 5 to 10 percent compared to the export volume before COVID-19 (Department of Fisheries, 2021).

Under this significant crisis, supply chain resilience was ultimately important. The goal is to survive and continue their business. To become resilient, firms must be flexible and adapt to a dynamic environment (Pettit *et al.*, 2011). In addition, firms must ensure that they maintain their capabilities to a certain standard (Brusset & Teller 2016). The processed seafood supply chain is not an exception; thus, it is important to investigate its resiliency.

Therefore, this study aims to study the impacts of COVID-19 on the companies in the Thai processed seafood export supply chain and how these companies respond to these impacts.

### Thailand's processed seafood export

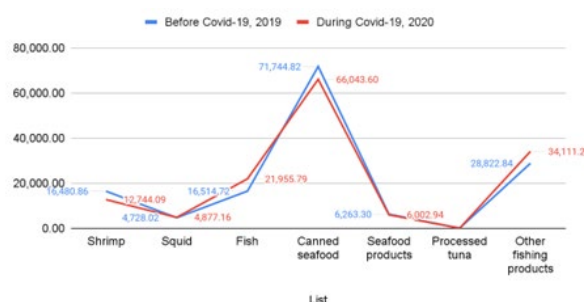
According to the Thailand Department of Fisheries (2021) and Department of International Trade Promotion (2021), in 2018, the seafood processing industry in Thailand totaled more than \$6.6 billion. Almost 90% of the processed seafood was exported to many destinations. The major export products are canned tuna (38.6% of Thailand's processed seafood exports by value), chilled and frozen shrimp (13.1%), cooked and preserved shrimp (9.5%), chilled and frozen squid (5.6%), chilled fish (5.5%), and chilled and frozen fish (4.4%). The United States was the largest country (20.8% of total exports), followed by Japan (20.4%), the European Union (6.7%), Australia (6.2%), and China (5.2%).



**Figure 1.** Export volume comparison between the year 2019 and year 2020 (Bank of Thailand, 2020)

Figure 1 shows the time series comparison of processed seafood export before and during the coronavirus outbreak. There are 5 main importers: the U.S.A, Japan, China, Europe, and Australia. The export volume to Japan has significantly decreased. The volume of exports to Japan before COVID-19 was 22,470.06 tons, but it was only 16,943.74 tons during the outbreak. The export volume to the European market also slightly decreased. Before the outbreak, the export volume was 9,142.73 tons, but it was 6,120.02 tons during the outbreak. On the other hand, the export volume to some countries increased during the pandemic. For example, the export to the USA, the export volume before COVID-19 was 19,006.63 tons, but during the outbreak, the export volume

increased to 21,528.37 tons. The export to Australia as well. Before the COVID-19 outbreak, the export volume was 5,673.53 tons and increased to 6,197.31 tons during the year of the coronavirus outbreak. The export to China was surprisingly increased, the export volume before and during the period rose very high, from 14,052.58 tons to 25,508.06 tons.



**Figure 2.** Seafood product export in 2019 and 2020 (Bank of Thailand, 2020)

The figure 2 illustrates the types of processed seafood products exported by Thailand. According to the figure, it can be seen that the level of change in export volumes of each product were not significantly different in comparison between 2019 and 2020 during the outbreak of COVID-19. The amount of shrimp exported before and during the outbreak was 16,480.86 tons, dropping to 12,744.09 tons, respectively. The number of squids exported during the pre-COVID period stood at 4,728.02 tons and increased during the COVID-19 outbreak to 7,877.16 tons. The number of fish exported before the outbreak was 16,514.72 tons, but it grew to 21,955.79 tons during the outbreak. In 2018, before COVID-19, the total value of processed seafood export was 145,802 million THB and it started to decrease to 136,857 million THB in 2019.

Given that the fresh seafood export was not significantly affected by COVID-19, the processed seafood export has got some impacts. Export volumes of canned seafood before and during the outbreak dropped from 71,744.82 tons to 66,043.60 tons, and processed tuna decreased from 106.69 tons to 70.82 tons. For other seafood exports, the export volume increased from 28,822.84 tons in the pre-epidemic period to 34,111.74 tons in the COVID-19 outbreak.

## RESULTS AND DISCUSSION

After analyzing the data collected from different companies in the processed seafood export supply chain, the researchers have categorized the impacts of COVID-19 into operational and financial impacts. The operational impacts emerged from the virus outbreak that caused difficulties in the supply chain operation. The virus infection rate is very high, so there were a lot of labours who got infected during the pandemic. This led to labour shortages along the supply chain, especially when many fishermen got infected. During the pandemic's peak, the fishing boat could not operate since most of the fishermen got infected, leading to a fresh seafood shortage. Therefore, the manufacturers could not procure enough fresh seafood to serve their production line. Due to the severity of the pandemic, many countries have tightened their import regulations, making processed seafood export more difficult. Therefore, the exporters needed to delay or even stop their export to some countries. In addition, the pandemic has caused an imbalance in international trade that led to an empty container shortage. Thus, the carriers could not find enough

containers to serve the exporters. Apart from the operational difficulties, there were financial impacts during the pandemic. The container shortage has raised the freight rate, so the exporter needed to bear this higher cost during the pandemic. Moreover, due to the strict import regulations in many countries, the exporters could not export to some countries so they could lose their revenue.

The companies have implemented various measures to overcome these difficulties. Many companies tried to vaccinate their employees or encourage them to get the vaccine. For example, one of the manufacturers offers paid leave to its employees if they take leave for vaccination. This reduces the virus spreading inside the workplace, which can cause labour shortages. The import regulations are harder to deal with since they are out of the companies' control. Thus, the company could only follow the regulations and try to comply with the new regulations and procedures. In response to the financial difficulties, different companies are joining together to ask for financial support from the government. However, they did not get a positive response from the government. While the freight rate was still high, some exporters decided to reduce the export quantity or select the period that the freight rate was cheapest.

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## CONCLUSION

The COVID-19 pandemic is a significant global crisis that negatively affects every industry. The processed seafood export in Thailand has a huge impact from the pandemic. This paper provides some insight of COVID-19's impacts on the processed seafood export in Thailand. When the virus outbreak happened in Thailand, many labours got infected, resulting in a labour shortage. After becoming a global pandemic, many countries have updated their import regulations or even stopped importing some products from some specific countries. Thus, the exporters must comply with the updated regulation. The companies in this industry had to respond to this crisis. They focused first on preventing the virus from spreading inside their workplace by encouraging their labours to get the vaccination. The prolonged crisis led to financial difficulties, so the companies tried to ask for financial support from the government.

This paper has some limitations. The researchers collect data from only companies in Thailand, which might not represent the situation in other countries or regions. Thus, future studies can be conducted in other areas to investigate similar topics under different conditions and environments. This study does not include any quantitative analysis, so future research could include quantitative methods to examine the effect size of COVID-19 on processed seafood export. In addition, after the pandemic finishes, future research should investigate how the companies resile through this crisis. Moreover, the comparative study of firm's responses during and after Covid-19 could be a potential research question.

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