

# **Insights from the COVID-19 pandemic regarding maritime supply chains with a focus on Southeast Asia**

Maritime transport plays a pivotal role in economies and societies by carrying more than 80 percent of global trade in terms of cargo volume. Almost all countries and individuals benefit from the services of maritime transport through the delivery of key resources required by industries and goods for consumers such as computers, mobile phones, and home appliances; and the raw materials and components used to make these devices are mostly transported by sea.

Shipping is part and parcel of international supply chains. The concept of maritime supply chains emerged during the last decade and has evolved to be a concept intertwined with maritime transport and supply chain management. By definition, a maritime supply chain is a connected series of activities pertaining to shipping services which are concerned with planning, coordinating and controlling marine cargoes from the point of origin to the point of destination. The keyword is 'connected'. Any disruptive event may disconnect a chain. The COVID-19 pandemic tremendously affected economies, societies, trade, and many other aspects around the world, including disruptions to maritime supply chains.

With a specific focus on the maritime sector in Southeast Asia, this article will discuss the underlying challenges, shipping companies' responses, and the ways forward to enhance maritime resilience in light of potential infectious disease outbreaks in the future.

## **Underlying challenges of operating and managing maritime supply chains in Southeast Asia**

Maritime trade forms a crucial part of Southeast Asia's economies. The region is strategically located between East Asia, the Middle East and Mediterranean Europe, so the maritime industry in Southeast Asia not only serves the region's demands but

also large economies outside it. For example, the port of Singapore and the Malaysian port of Tanjung Pelepas are major transshipment hubs connecting the east and the west. In addition, Southeast Asia is experiencing strong growth in maritime trade. The latest statistics as of March 2024 show that the region houses a huge population of over 690 million people in nations with growing economies. Maritime trade volume has expanded rapidly over past years and there is very high potential for further growth.

Although plenty of opportunities lie ahead, Southeast Asia is characterised by three features which make operating and managing maritime supply chains challenging, especially during disruptive events such as the COVID-19 pandemic.

First, the maritime sector in most Southeast Asian countries, except for Singapore, is relatively labour-intensive. Productivity tends to be lower than using capital-intensive methods such as automation. Quality and reliability of service also vary, due to varying skills and knowledge of workers. During the pandemic, labor-intensive maritime operations, such as seaport terminal stevedore services, were badly hit due to medical absence and quarantine orders. Congestion, delays and missed shipping connections happened frequently and extensively. When a node in a maritime supply chain is disrupted, the impact cascades to other parties leading to wider consequences. For instance, delays in terminal cargo handling cause delays in ships' departure from ports; then cargoes cannot be delivered to their destinations on time. Many ports in Southeast Asia experienced these problems during the pandemic.

Second, in terms of geography, Southeast Asia has numerous islands leading to sparse population distribution across vast areas. For example, Indonesia is the world's largest archipelago, with a total of more than 17,000 islands, of which approximately 6,000 are inhabited. The Philippines consists of more than 7,600 islands of which approximately 2,000 are inhabited; and Malaysia has more than 870 islands. As such, economic and trade activities are very diverse and imbalanced across different remote areas. Many regional shipping services connecting remote islands are required, however port infrastructure and facilities in these islands are usually inadequate. Furthermore, shipping traffic cannot achieve economies of scale and it is costly to operate shipping services in archipelagic countries. This problem was worsened during the COVID-19 pandemic when shipping services were reduced or even halted, compromising accessibility to the islands and thereby people's access to basic goods.

Third, Southeast Asian countries are diverse in economic status, social and political systems. When maritime trade flows and operations span across multiple countries in the region, there are lots of differences which result in higher complexity. For example, Southeast Asia is a major region supplying seafarers. Owing to the pandemic, many hundreds of thousands of seafarers on board commercial vessels were unable to be repatriated because of travel restrictions imposed by various countries. Numerous seafarers were forced to remain on vessels much longer than the eleven months agreed by International Labour Organization as the maximum length of seafarers' contracts. There were no consistent guidelines or policies to deal with the issue. This was not only a humanitarian problem but also a serious maritime safety and security concern as seafarers overworked for a prolonged period might increase shipping accident rates.

## **Blank sailings were responsive measures but led to greater volatility**

The pandemic was considered a catastrophic event, i.e. low probability occurrence and high consequence, which has not only distressed supply chains but has also threatened human life. The extent of volatility and level of disruption to shipping was unprecedented and the pandemic exposed serious vulnerabilities in maritime supply chain resilience.

Many countries including those in Southeast Asia adopted lockdown measures to reduce the spread of the virus. Industrial and trade activities declined dramatically. The direct impact on the maritime industry was a sharp reduction in shipping demand and a corresponding widespread effect of excess shipping capacity.

Shipping companies adopted aggressive 'blank sailings' as a shipping capacity and cost reduction measure. Blank sailing is a shipping industry practice where liner shipping services skip certain ports that are originally included in the scheduled shipping route or simply cancel the whole shipping service if cargo booking is insufficient. For instance, shipping companies from major global shipping alliances 2M, Ocean Alliance, and THE Alliance exercised blank sailings in various liner shipping routes during the pandemic, especially in 2020 and 2021. There were 990 blank sailings globally in the first half of 2020 alone.

Responsive shipping supply adjustment was effective to counter weaker shipping demand from a commercial perspective. Shipping operators could lower operating

costs when they cancelled or reduced shipping services that were under-utilised. However, the reduction of shipping capacity was too drastic, leading to problems such as unpredictable shipment schedules, late product delivery, and higher inventory level and cost. This kind of issue in shipping was severe especially in archipelagic countries like those in Southeast Asia, as discussed earlier, where it was even more difficult to connect to the remote islands given the massive extent of cancelled or altered shipping services. In addition, intensive blank sailings resulted in a rapid increase in freight rates. Container shipping freight rates during the pandemic soared to much higher levels than pre-pandemic freight rates. The shipping market became extremely volatile. The extent of influence was beyond the maritime sector. Manufacturers, traders, logistics service providers and other market players served by, or affected by, shipping found it difficult to cope with the uncertainty.

## **How to better mitigate risk and enhance maritime resilience in Southeast Asia and other regions**

Governments and organisations would probably not be able to prevent similar kinds of blank sailings by shipping operators in the event of another pandemic or unexpected disruptive event. Ship scheduling and service offering are commercial and market-driven decisions that determine the revenue and profits of shipping companies. These decisions are hardly influenced by public entities.

However, government authorities and industry associations could take a preemptive approach. For instance, authorities overseeing maritime transport, trade, logistics and other related matters as well as industry associations should have dialogues with shipping operators to understand major changes in shipping capacity for enhanced preparedness. For example, inventory planning may be adjusted more quickly and accurately. Potential changes in policies and regulations to address the issue of crew changes should also be discussed. Better communication among maritime supply chain stakeholders would facilitate information sharing, leading to higher transparency, supply chain visibility and more informed decisions. The huge impacts of the pandemic underpin the importance of proactive contingency planning. Every organisation should have a dedicated unit responsible for contingency and business continuity plans as part of their enterprise risk management. The recommendation here for enhancing an existing contingency plan is being proactive.

This requires disruption detection, monitoring and prompt action. Training on how to better handle catastrophes would be needed. When there are signs of potential disruptions, managers should alert various departments for adaptive preparation. An incident response plan specifies the necessary steps for mitigating the risks. A disaster recovery plan outlines the actions to restore critical systems and operations. Nevertheless, as each incident is unique, these plans should be flexible enough to navigate through unexpected scenarios. Also, an incident's situation, such as what happened in the COVID-19 pandemic, could change at different times. Thus, the plans and actions should also be adaptive and dynamic in order to be effective. For example, seaport terminal operators may prepare a contingency and incident response plan in particular for tackling various degrees of port congestion when a disruptive event occurs.

Another recommendation is the digitisation of shipping documents and work processes, as well as developing a digital economy to a large extent, because shipping is connected to many industry and trade sectors. A good example from Southeast Asia is 'DigitalPORT@SG', an initiative set up in 2020 to create a unified one-stop electronic portal in Singapore for all ship-related services and transactions, including port clearance documents, immigration and health clearances, ship calls, and booking of marine services, which aims to boost operational efficiency and lower costs. The initiative is further developed to integrate with the current online portals of the two major terminal operators PSA and Jurong Port as well as other commercial platforms. Another example is Vietnam's 'National single-window system', which is an integrated electronic information system through which all import and export documents are submitted and handled by the platform. It eases customs clearance and enhances operational efficiency and transparency. Note that both 'single-window' initiatives in Singapore and Vietnam are led by the governments working with the private sector. The importance of government leadership in national digitisation projects is evident and crucial.

Beyond the national level, the Association of Southeast Asian Nations (ASEAN), an inter-governmental organisation of 10 countries in Southeast Asia, aims for an ASEAN single window system connecting each Member State's national single window; with the goal of having a single, synchronised portal for cargo customs clearance to facilitate trade in the region. Because of the need to synchronise with numerous stakeholders and systems, the need for coordination cannot be underestimated. Ultimately, collaboration among the ASEAN Member States will be critical for success. ASEAN has been working on enhancing maritime accessibility

and connectivity among the member countries for a long time. As a recommendation, having a committed task force on driving the ASEAN Single window to enable effective coordination would be instrumental to lead this massive programme to fruition.

The overall benefits of digitisation and streamlining processes in relation to disruption management will enable business continuity when physical operations are disallowed due to lockdowns, quarantine and similar orders. However, digitisation projects usually involve substantial changes to current workflows and incur investment cost. Hence, digitisation initiatives require policies and standards to enable implementation. Led by the International Maritime Organization (IMO), the maritime industry is heading in the direction of implementing maritime single windows to substantially reduce paper documents and associated redundant work processes for ship clearance. This year has already marked a major milestone in this effort. From 1 January 2024, IMO's Facilitation (FAL) Convention mandates the use of a single window for digital data exchange in ports around the world. When it comes to accelerating and implementing any initiatives, enforcement is more effective than purely being self-driven. Paradoxically, even though the pandemic was disastrous, it is regarded as an accelerator of digitisation because digital solutions are considered more critical by maritime stakeholders post-pandemic.

A common, critical point for enabling the above recommendations is better training and education to enhance awareness and readiness of future infectious disease outbreaks. The efforts involve multiple levels from policy makers to commercial executives; from top management to front-end workers; from highly experienced professionals to novices. For example, training in the area of maritime risk management for executives working in the port and shipping sectors is recommended.

The pandemic marked an unprecedented event in human history. It is important that maritime stakeholders learn from the experiences of the pandemic to be better prepared for future disruptions. Proper documentation of the lessons obtained and way forward will be helpful for the younger generation.

*Image: Migrant fishers in Thailand, 2023. Credit: Pichit Phromkade/ILO Asia-Pacific.*

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