

Bulk terminals in the Red Sea during Covid-19 and the Russian Ukrainian War

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Abstract:

During the COVID-19 pandemic and the Russian-Ukrainian War, bulk terminals in the Red Sea faced unique challenges and uncertainties. The pandemic's global impact caused disruptions to trade and supply chains, affecting the flow of goods through these terminals. The restrictions and containment measures imposed by various countries affected logistics and led to delays in the movement of bulk commodities. This research makes interviews with main managers in different bulk ports in the Red Sea during the year 2023. In order to gaining a deeper understanding of participants' experiences, and generating rich qualitative data that can be used to inform and enhance research outcomes.

Keywords: Bulk terminals, Red Sea, Covid-19, Russian Ukrainian War.

محطات البضائع الجافة في البحر الأحمر خلال Covid-19 والحرب الروسية الأوكرانية

المستخلص:

خلال جائحة COVID-19 والحرب الروسية الأوكرانية، واجهت محطات البضائع الجافة في البحر الأحمر تحديات وشكوكًا فريدة. تسبب التأثير العالمي للوباء في اضطرابات في التجارة وسلاسل التوريد، مما أثر على تدفق البضائع عبر هذه المحطات. أثرت القيود وتدابير الاحتواء التي فرضتها مختلف البلدان على اللوجستيات وأدت إلى تأخير حركة السلع السائبة. يجري هذا البحث مقابلات مع مديرين رئيسيين في موانئ مختلفة في البحر الأحمر خلال عام ٢٠٢٣. من أجل اكتساب فهم أعمق لتجارب المشاركين، وتوليد بيانات نوعية غنية يمكن استخدامها للإعلام عن نتائج البحث وتعزيزها.

الكلمات الدالة: محطات البضائع الجافة، البحر الأحمر، كوفيد ١٩، الحرب الروسية الأوكرانية.

1. Introduction:

The maritime transport sector holds a crucial position in fostering global trade and economic growth, acting as a vital bridge connecting producers and consumers across diverse regions worldwide. Nearly 90% of the world's commodities, encompassing essential bulk goods like oil, coal, grain, and minerals, heavily rely on shipping for transportation. Thus, the efficient and dependable functioning of maritime transport becomes indispensable in upholding the stability of global supply chains and facilitating the seamless flow of goods and services (UNCTAD, 2020).

The global bulk market plays a vital role in sustaining the world's economy by supplying essential commodities such as minerals, grains, coal, oil, and gas. The term "bulk" refers to the transportation of large quantities of raw materials, usually in an unpackaged or loosely packed form. These materials are primarily transported through specialized vessels called bulk carriers, specifically designed to handle dry bulk goods. The significance of the bulk market lies in its pivotal role in the production of goods and the availability of crucial resources. In this introduction, we will provide an overview of the bulk market, highlighting its importance and the key factors influencing its dynamics.

Indeed, the bulk market exhibits remarkable diversity, encompassing a vast array of commodities traded worldwide. Among these are metals like iron ore and copper, agricultural products such as wheat and corn, and energy resources like crude oil and natural gas. The significance of the bulk market cannot be emphasized enough, as these commodities serve as the foundational elements for numerous industries, including construction, agriculture, and energy. The demand for bulk goods is intricately linked to global economic growth, with emerging markets exerting an increasingly influential role in driving this demand. As the world economy evolves, the bulk market

continues to play a pivotal part in shaping international trade and sustaining vital sectors across the globe.

Transporting bulk goods is efficiently accomplished through specialized vessels designed to handle large quantities of unpackaged or loosely packed goods. These vessels are categorized into two main types: dry bulk carriers and liquid bulk carriers. Dry bulk carriers, the more prevalent type, are utilized for transporting commodities like coal, iron ore, and grains. Conversely, liquid bulk carriers are deployed for transporting liquids such as crude oil and chemicals. The bulk market is marked by intense competition, with numerous players striving to secure their market share.

Notably, the market experiences significant fluctuations in both demand and supply, exerting substantial influence on prices and overall industry profitability. As the bulk market remains dynamic, players must be agile in navigating its ever-changing landscape to thrive in this crucial sector of global trade (Dinwoodie, et al., 2014). The next section will be reviewing Previous studies on COVID-19 on bulk market:

2. Literature review:

The COVID-19 pandemic has left a profound imprint on the global economy, extending its effects to the bulk market industry. As a fundamental component of the international trade system, any disruption to the bulk market's operations reverberates across

businesses and nations that heavily depend on it. The pandemic has triggered a decrease in the global demand for commodities, culminating in a considerable slump in trade volume and revenue for the bulk market. This paper aims to present an inclusive analysis of the repercussions of the COVID-19 pandemic on the bulk market industry worldwide. By examining the challenges, adaptations, and potential paths to recovery, this study seeks to shed light on the resilience and future prospects of this pivotal sector amidst unprecedented times (McCain, et al., 2022).

The COVID-19 pandemic exerted a substantial impact on the bulk market industry, primarily evidenced by a notable reduction in the global demand for commodities. With countries implementing stringent lockdowns and containment measures, economic activity experienced a slowdown, resulting in decreased consumption of commodities like iron ore, coal, and grain. This decrease in demand severely affected the bulk market, leading to reduced trade volume and revenue.

Furthermore, the pandemic disrupted the global supply chain, causing delays and disturbances in the movement of commodities. The closure of ports, quarantine requirements for crew members, and other restrictions impeded the smooth flow of goods, resulting in delays and heightened shipping costs. These disruptions significantly affected the bulk market, leading to reduced operational efficiency and an increase in operating expenses.

Amidst these challenges, the bulk market industry had to adapt swiftly to navigate the turbulent waters of the pandemic era. By addressing these impacts and devising strategies to overcome the obstacles, the bulk market has been working towards restoring its crucial role in international trade and driving economic recovery.

Indeed, the impact of the COVID-19 pandemic on the bulk market industry was not uniform across regions, and Asia, being a major producer and consumer of commodities, faced significant repercussions. China, being the world's largest importer of iron ore and coal, felt the impact of the pandemic acutely. The implementation of lockdown measures in the country resulted in a decline in the demand for these commodities. This reduction in demand had a ripple effect on other countries that export commodities to China, leading to a downturn in trade volume and revenue for these exporting nations.

The interdependence of economies in the region further amplified the effects of the pandemic on the bulk market. As demand faltered in China, a major player in the global commodities market, it affected commodity prices and trade dynamics worldwide. The slowdown in trade activities and disruptions in the supply chain further added to the complexities faced by the bulk market industry in Asia during this period.

As countries in the region continue to grapple with the aftermath of the pandemic, measures to restore economic growth and revive

the bulk market become critical. Policymakers and industry stakeholders are exploring strategies to mitigate the impact and enhance the resilience of the bulk market in the face of future uncertainties.

COVID-19 outbreak is a disaster in human history, which changed the world system and affected many life sectors such as the world economic sector, which was seriously damaged due to fluctuation and imbalance of demand and supply. Ocean freight is an important means of transporting goods and commodities globally, the year of COVID-19 and its aftermath revealed a wide range of challenges for this type of transportation, such as the high cost of sea freight, which led to an increase in the prices of goods for consumers.

By comparing, the performance of the freight rate in 2019 and 2020 before and after the outbreak of the COVID-19 pandemic, the index of Handysize, Panamax and capsized dry bulk carriers fell by 16.92%, 24.56% and 38.94%, respectively (Clarksons Research Studies, 2022). In addition, the division of Russia's invasion of Ukraine started a new global economic crisis in Europe. And that this war greatly affected global growth, which was suffering from the repercussions of the Corona pandemic, which held back the world's economies through port closure measures, and also explained that the military operations carried out by Russia in Ukraine contributed to the disruption of the

global supply chain, which is still even during the war, it did not recover from the negative effects of the pandemic.

Several studies have examined the impact of COVID-19 on specific commodities within the bulk market. For example, a study by the International Grains Council (IGC) analyzed the impact of the pandemic on the global grain market and found that disruptions to transportation and logistical challenges had significant effects on the trade of grains. Another study by the International Coal Markets (ICM) analyzed the impact of COVID-19 on the coal market and found that the pandemic had caused significant disruptions in the supply and demand for coal, leading to a decline in prices.

In their analysis, Ali and Khan (2020) delve into the repercussions of the COVID-19 pandemic on agricultural wholesale prices in India. The study highlights how supply chains were disrupted, and shifts in consumer behavior affected the prices of agricultural products. Notably, fruit and vegetable prices experienced a decrease, while staple food grain prices saw an increase, attributed to panic buying and supply chain disruptions. In response to these challenges, the government's intervention played a vital role in stabilizing prices and ensuring food security.

Drawing from their findings, the paper offers several recommendations to fortify the agricultural sector and maintain stable prices. Continued monitoring and price stabilization efforts

are crucial in navigating the uncertainties brought about by the pandemic. Additionally, improving supply chain infrastructure can enhance efficiency and mitigate disruptions in the future. Promoting digitalization within the agricultural sector can facilitate seamless trade and enhance transparency. Encouraging crop diversification and implementing contract farming can contribute to agricultural resilience and ensure a diverse supply of produce. Finally, a coordinated approach among stakeholders is paramount in maintaining food security and stable prices during challenging times. By implementing these measures, India can enhance its capacity to cope with future shocks and secure the well-being of its agricultural sector and the overall food supply chain.

The COVID-19 pandemic had a significant impact on Australia's agriculture, forestry, and fisheries trade, resulting in a mix of negative and positive consequences. On the negative side, the pandemic caused disruptions in the supply chain, logistical hurdles, and reduced demand from certain trading partners. However, there were positive impacts as well, including an upswing in the demand for food products and opportunities for exploring new trade partners. Among the affected sectors, the forestry industry experienced the most significant blow due to the decline in housing construction, whereas the fisheries sector remained relatively unaffected (Greenville et al., 2020). Next

figure illustrates world tonnage on order selected by ships types from 2000 to 2021

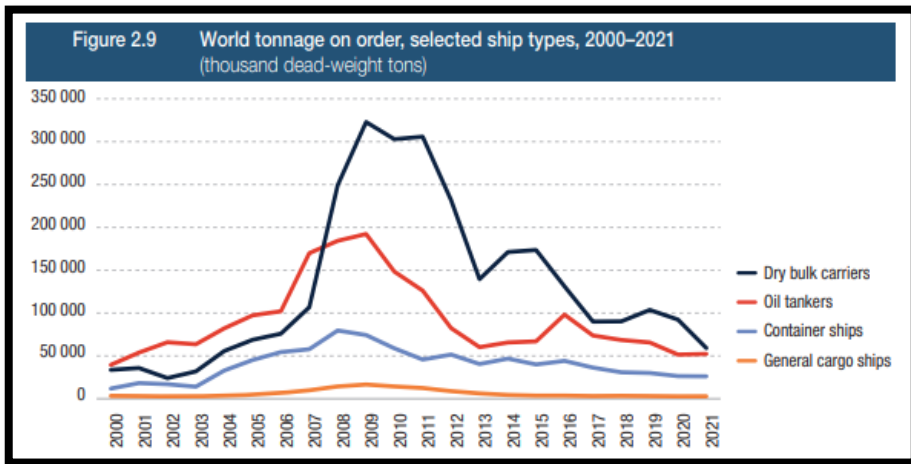


Figure (1): World tonnage on order selected by ships types from 2000 to 2021.

Source: UNCTAD, 2021.

Michail, and Melas, (2020) suggests that the industry should focus on building resilience and flexibility to prepare for future shocks and invest in digitalization and innovation to improve supply chain management. Governments and international organizations should provide support, including financial assistance and risk management tools, to help the industry navigate through the pandemic. The safety and well-being of workers should also be a priority.

COVID-19 epidemic has had a significant impact on the global shipping and port industry, with China being one of the most affected countries. The outbreak led to disruptions in the global supply chain, reduced demand for shipping services, and a decline in trade volumes, which affected the operations of the shipping and port industry in China. The paper finds that the COVID-19 epidemic has had a significant impact on the shipping and port industry in China (Yong-feng, et al., 2020).

Driouech, et al., (2021) mentioned that COVID-19 pandemic has disrupted the agri-food logistics system, leading to food losses and waste. The lockdowns and restrictions on the movement of people and goods have led to a decline in demand for certain products. In addition, they find that COVID-19 pandemic has had a significant impact on food losses and waste in agri-food logistics. The paper recommends that governments and industry stakeholders should work together to promote technology and innovation in the agri-food logistics system to reduce food losses and waste.

In contrast; Özen, et al., (2022) aims to examine the positive effects of the COVID-19 pandemic on food preparation and expenditure habits in three different countries, namely the United States, Italy, and India. However, while the negative impacts have been widely discussed, the positive effects of the pandemic on food preparation and expenditure habits have received less attention. The paper finds that the COVID-19 pandemic has had positive effects on food preparation and expenditure habits in the

three countries studied. The pandemic has led to an increased focus on cooking at home, the adoption of healthier eating habits, and a reduction in food waste.

Akhbaria, (2022) recently has mentioned that the war between Ukraine and Russia put the world economy in economic and financial instability for the two countries and led to political tension in the world. In addition, in terms of economic losses, they reached about a trillion dollars in the form of a global GDP contraction of about 1% by the end of 2022, and this will lead to an increase in global inflation by 3%. And the noticeable rise in oil around the world, which recorded 130 dollars per barrel in March 2022, and also the increase in basic food commodities, especially wheat, by 40% to reach 396 dollars per ton, and also the increase in corn prices by 21%, as a result of the disruption of the movement of agricultural exports in Ukraine, The Black Sea was classified as a dangerous area due to an increase in the insurance prices required for shipping goods, shipment delays, and port congestion. Ship charter prices by 20% because of the rise in marine fuel because it is linked to oil prices.

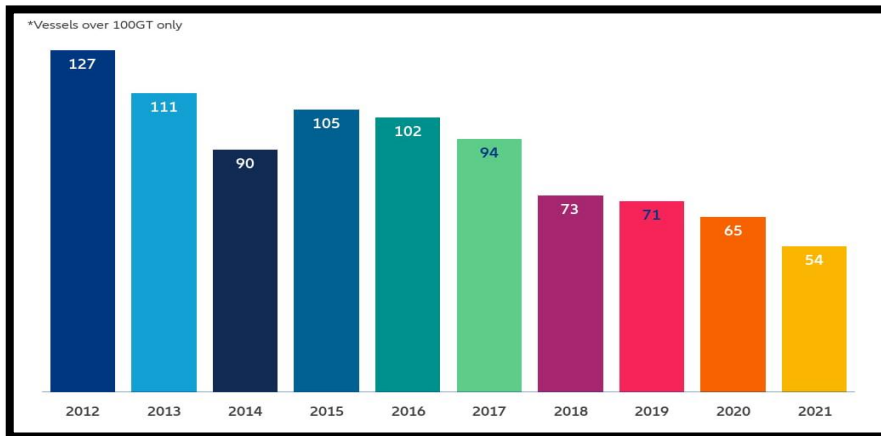


Figure (1) Total shipping losses by year.

Source: Lloyd's List Intelligence Casualty Statistics, 2022.

There is great agreement in transportation sector that the repercussions of the current situation in Russia and Ukraine will play a major role in freight rates. Disrupted regional logistics, the crippling of port operations in Ukraine, the destruction of vital infrastructure, increased insurance costs, and higher fuel prices, have all contributed to the logistical obstacles arising in the world. Therefore, shipping distances increased and along transit times and costs rises. Nevertheless, it is clear that the disruptions and the higher ton-mile demand caused by the war in Ukraine contribute strongly to higher shipping costs; as shown in the next figure (2):

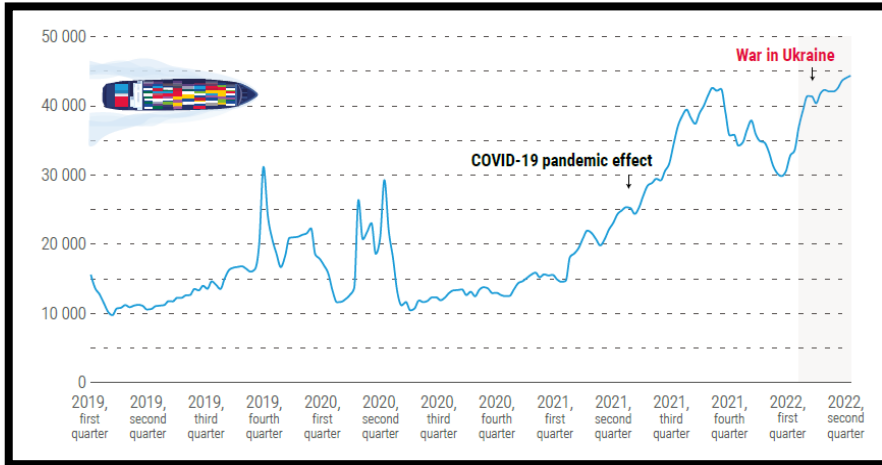


Figure (2) Rising of shipping cost.

Reference: Clarksons Research Studies, 2022.

The war in Ukraine is increasing ongoing disruptions to global logistics and supply chains, contributing to further elevated levels of delay across the global maritime transportation system. Port congestion remains a major contributor to elevated freight and strong market conditions in many shipping segments. It is unclear to what extent this will reduce commodity supplies coming from Ukraine and Russia, but trade restrictions, airspace closures, contractor uncertainty, and security concerns are complicating all trade routes going through Ukraine and Russia, a key sector of the Eurasian Land Bridge. Spot freight rates continue at historically very high levels, although they have been declining over the last weeks despite the logistics issues caused

by the Ukraine crisis, mostly due to seasonal reasons. Rates to charter container ships are at historical highs (Canuto, 2022).

The suspension of maritime transport and shipping traffic in the Sea of Azov due to the war between Russia and Ukraine, and Russia is considered among the largest exporters of wheat in the world via the Black Sea, but because of the war, the oil recorded a significant increase in price to exceed or break The barrier of 100 dollars per barrel, and on the other hand, traders began not to import goods from Ukraine because of the war, but traders see that there are some countries that can be imported from, such as Egypt and Turkey, and that these countries are aware of the high cost of shipping by about 10 to 15 % due to the increase in the price of oil.

In this context, suffering and crisis between Ukraine and Russia represented a conflict for the global economy that led to growth and price hikes, a slowdown in growth and an increase in inflation, the most important of which was an increase in the price of commodities such as food and energy, and conflicts exist especially In trade and supply chains, Russia and Ukraine are among the largest wheat producing countries, but because of the war the supply chains were cut off, and this led to a significant increase in world prices, especially natural gas and oil, not only oil, but also in the cost of food such as wheat. Russia accounts for 30% of world wheat exports,

Chains et al., (2022) recently noted in the last stage that the war between Russia and Ukraine caused not only a psychological impact, but also the economies of the countries, which were affected by it, and spread a state of fear in terms of supply chains that provide foodstuffs and other commodities, but also the basic tools that It supports the industrial and agricultural sector in the country and has led to the collapse. On the other hand, sanctions have been imposed on the Russian economy, and this has led to the suspension of companies' activity in companies that amount to more than 750 companies spread around the world, including in North America and Europe. The publisher expects that there is a decrease in the economic value of the inflation rate from 25% to 30%.

Although the Russian Federation and Ukraine are not deeply integrated into global container shipping, the conflict and trade restrictions have also affected this shipping sector. Container carriers cut ship carrying capacity assigned to the Russian Federation, which cause suspending operations at Ukrainian seaports, as shown in the next figure (3):

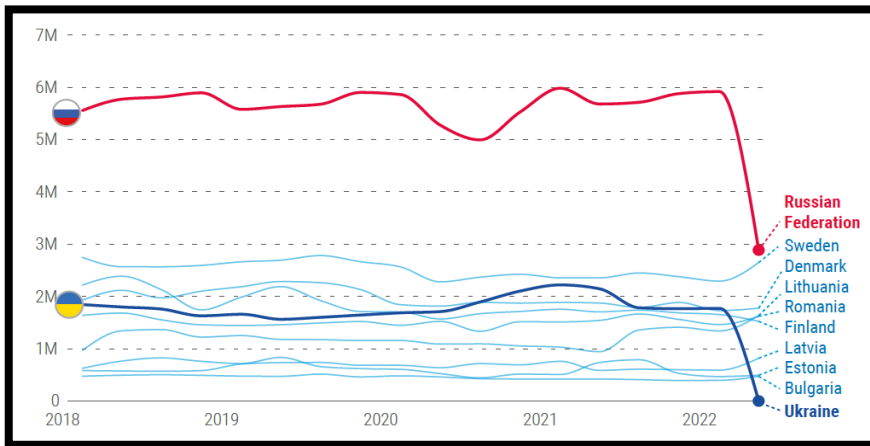


Figure (3) Container shipping deployment for the Russian Federation and Ukraine.

Reference: Clarksons Research Studies, 2022.

The main reason for the war between Russia and Ukraine is that Russia's security fear is that Ukraine will not join NATO and not expand from the eastern side, considering that Russia's entry into NATO will lead to an imbalance of power and Security on the western side of Russia and the reduction of Russia's geographical influence Supply and a lack of economic growth around the world, and also the other side that the confidence of workers in Germany declined due to a shortage of diesel equipment and shipping equipment that passes through the North Sea, and all because of the repercussions of the war with its coincidence with the new mutation Omicron, which also forced the country The economic embargo, especially the impact of China also on exports.

The impacts of the war in Ukraine are being felt not only regionally, but also around the world because of the region's significant contribution to food and energy supplies. In relation to food, there are production and export challenges: these are already associated with reduced availability and price rises. Food and energy import bills are already at record levels, and it seems inevitable that these will continue to rise. This will have widespread impacts that could be far-reaching, but the consequences for poorer and vulnerable people, will be particularly severe.

3. Research problem:

The bulk freight market has encountered numerous challenges in recent times, with the COVID-19 pandemic standing out as a major obstacle. The pandemic's disruptions to global trade have significantly impacted the demand for commodities, causing ripples in the bulk market. Moreover, geopolitical tensions, trade disputes, and evolving regulations have all added to the complexity of the bulk market's landscape. Notably, the recent Suez Canal blockage caused significant delays and disruptions to global shipping, including the bulk market's operations.

A critical aspect of the bulk market's volatility lies in its heavy reliance on the prices of commodities such as coal, iron ore, and grain. These prices are subject to fluctuations due to factors like supply and demand dynamics, weather events, and geopolitical

tensions. Moreover, political instability and changes in government policies can also exert considerable influence on the bulk market. Shifts in trade policies, environmental regulations, and taxation can impact both the demand for commodities and the cost of transporting them, further shaping the market's trajectory.

4. Research methodology:

The methodology used in this study includes an interview with main managers in different bulk ports in the Red Sea. Interviews offer several advantages in research, making them a valuable data collection method. Some of the key advantages include:

- Allow researchers to gather detailed and comprehensive information directly from participants. This depth of understanding helps in capturing nuanced perspectives and gaining insights that might be missed through other data collection methods.
- Can be adapted to the context and needs of individual participants, providing a flexible approach to data collection. Researchers can explore different topics or follow-up on interesting points, enabling them to delve deeper into specific areas of interest.

- Researchers can seek clarification on responses provided by participants, reducing ambiguity and ensuring a clearer understanding of their perspectives.
- Personal connections.
- Allow researchers to explore participants' experiences within their social, cultural, and contextual settings, providing a more comprehensive understanding of the research topic.
- Interviews empower participants to express their opinions, feelings, and experiences in their own words, giving them a voice in the research process.
- Interviews are considered to be a high-validity data collection method, as they provide rich and detailed information that can be rigorously analyzed.

Interview questions related to decision-making in ports regarding their actions to the COVID-19 pandemic and the war between Russia and Ukraine:

1. How did the COVID-19 pandemic affect the decision-making process in your port? What measures did you take to protect your employees and ensure the safety of the goods being transported?
2. How did the war between Russia and Ukraine affect your port's operations? What steps did you take to mitigate the impact of the Russian war on your business?

3. How did you balance the need to continue port operations with the health and safety concerns of your employees and the community during the pandemic and the Russian war?
4. What role did communication and collaboration with other ports and relevant authorities play in your decision-making process during the COVID-19 pandemic and the Russian war?
5. How did you prioritize which goods and shipments to handle during COVID-19 pandemic and the Russian war, given the disruptions to global supply chains?
6. What lessons did you learn from the COVID-19 pandemic and the conflict, and how will you apply these lessons to future decision-making in your port?
7. What challenges did you face in implementing the measures to control the spread of COVID-19, such as social distancing, sanitization, and quarantine protocols, and how did you overcome these challenges?
8. How did you address the concerns and expectations of your stakeholders, such as customers, employees, investors, and the local community, during the COVID-19 pandemic and the Russian war?
9. How did you balance the short-term needs of your business with the long-term goals and sustainability of your port, in light of the COVID-19 pandemic and the conflict?

10. What role did technology and innovation play in your decision-making process during the COVID-19 pandemic and what new solutions or practices did you adopt?
11. The next section will review answers from different managers (Financial manager, General manager, Commercial manager, Human resources manager and an operational manager) in different bulk ports in the Res Sea.

5. Empirical analysis:

5.1 Financial manager:

1. The COVID-19 pandemic affected our decision-making process by requiring us to prioritize the health and safety of our employees and customers while also ensuring the continuity of port operations. We implemented measures such as remote work, social distancing, increased sanitization, and mandatory mask-wearing to protect our employees. We also worked closely with shipping companies and authorities to establish health protocols for cargo ships and ensure the safety of transported goods.
2. The war between Russia and Ukraine had minimal impact on our port's operations as we are located in a different region. However, we monitored the situation closely and took necessary steps to mitigate any potential disruptions to our

business, such as diversifying our cargo sources and collaborating with other ports in the region.

3. We balanced the need to continue port operations with health and safety concerns by implementing strict protocols and guidelines to protect our employees and customers while ensuring the timely delivery of goods. We communicated regularly with our stakeholders and authorities to ensure alignment and collaboration in decision-making.
4. Communication and collaboration with other ports and relevant authorities played a crucial role in our decision-making process during the COVID-19 pandemic and the Russian war. We shared best practices, exchanged information on health protocols, and collaborated on supply chain issues to ensure the efficient and safe movement of goods.
5. We prioritized handling essential goods and critical shipments during the COVID-19 pandemic and the Russian war, while also considering the availability of resources and infrastructure. We worked closely with shipping companies to ensure smooth operations and minimize disruptions to global supply chains.
6. The COVID-19 pandemic and the conflict taught us the importance of flexibility, resilience, and collaboration in decision-making. We will apply these lessons in the future by implementing contingency plans, investing in technology and

innovation, and strengthening our partnerships with stakeholders and authorities.

7. Implementing measures to control the spread of COVID-19 posed several challenges, such as ensuring compliance with protocols and managing the mental and emotional well-being of employees. We overcame these challenges by communicating clearly, providing support and resources, and fostering a culture of teamwork and responsibility.
8. We addressed the concerns and expectations of our stakeholders during the COVID-19 pandemic and the Russian war by providing timely and transparent communication, prioritizing health and safety, and ensuring the continuity of port operations. We also actively sought feedback and input from stakeholders to improve our decision-making process.
9. We balanced the short-term needs of our business with the long-term goals and sustainability of our port by investing in technology and innovation, improving efficiency and productivity, and promoting environmental sustainability. We also collaborated with stakeholders and authorities to ensure alignment and mutual benefit.
10. Technology and innovation played a crucial role in our decision-making process during the COVID-19 pandemic, such as implementing remote work, digitalization, and automation. We also adopted new solutions and practices,

such as contactless cargo handling and online documentation, to improve efficiency and safety.

5.2 General manager:

1. The COVID-19 pandemic has had a significant impact on the global economy and trade, and ports have not been immune to these effects. Port managers have had to balance the need to keep port operations running with the safety of their employees and the community. Some measures that could be taken to protect employees and ensure safety of goods include implementing social distancing measures, providing personal protective equipment, sanitizing facilities, and establishing quarantine protocols for incoming vessels and personnel.
2. The conflict between Russia and Ukraine could affect port operations by disrupting trade routes, causing delays in shipments, and increasing costs. Port managers could mitigate these impacts by diversifying their trade routes, finding alternative suppliers and customers, and establishing contingency plans for potential disruptions.
3. Balancing the need to continue port operations with the health and safety concerns of employees and the community can be challenging. Port managers could prioritize safety by implementing measures such as remote work, staggered shifts, and increased sanitization protocols. Effective

communication with stakeholders is also crucial in promoting understanding and cooperation.

4. Communication and collaboration with other ports and relevant authorities can provide valuable insights and support in decision-making. Sharing best practices and coordinating responses can help mitigate the impact of the pandemic and the conflict on port operations.
5. Prioritizing which goods and shipments to handle during disruptions to global supply chains requires careful consideration of factors such as urgency, perishability, and criticality. Port managers could work with customers and partners to identify priority shipments and establish contingency plans to minimize disruptions.
6. The COVID-19 pandemic and the conflict between Russia and Ukraine highlight the importance of resilience and adaptability in port operations. Port managers could apply lessons learned from these events by diversifying their trade routes, investing in technology and innovation, and establishing robust contingency plans.
7. Implementing measures to control the spread of COVID-19 can be challenging, especially in ports where physical distancing may be difficult to maintain. Port managers could overcome these challenges by providing clear guidelines and

training, increasing sanitization protocols, and establishing contingency plans for outbreaks.

8. Addressing the concerns and expectations of stakeholders requires effective communication and transparency. Port managers could keep stakeholders informed of developments and actions taken to address concerns, and seek feedback and input from stakeholders.
9. Balancing short-term needs with long-term goals and sustainability requires a strategic approach. Port managers could prioritize investments in technology and innovation, establish robust contingency plans, and work with stakeholders to ensure a sustainable and resilient future for the port.
10. Technology and innovation can play a crucial role in addressing the challenges posed by the COVID-19 pandemic and the conflict between Russia and Ukraine. Port managers could adopt new solutions such as remote monitoring and automation, digital documentation and payments, and blockchain-based supply chain management to increase efficiency and resilience.

5.3 Commercial manager:

1. The COVID-19 pandemic had a significant impact on our decision-making process in Aden port. We took a range of

measures to protect our employees and ensure the safety of the goods being transported. We implemented strict hygiene protocols, including regular disinfection of surfaces and mandatory wearing of masks. We also implemented social distancing measures and reduced the number of employees working on-site. We made sure that all employees were educated on COVID-19 and how to prevent its spread. We also collaborated with relevant authorities to ensure that all necessary precautions were taken.

2. The war between Russia and Ukraine did not have a direct impact on our port's operations, as we are not located in that region. However, we were aware of the potential for disruption to global supply chains, and we worked closely with our partners and customers to mitigate any potential impact. We monitored the situation closely and kept our stakeholders informed of any developments.
3. Balancing the need to continue port operations with the health and safety concerns of our employees and the community during the pandemic and the Russian war was a challenging task. We had to make difficult decisions and constantly adapt our procedures to ensure that we could continue to operate safely. We also communicated regularly with our employees and the community to keep them informed of any changes to our operations and to address any concerns they may have had.

4. Communication and collaboration with other ports and relevant authorities played a crucial role in our decision-making process during the COVID-19 pandemic and the Russian war. We worked closely with other ports and shipping lines to ensure that goods could be transported safely and efficiently. We also collaborated with government agencies to ensure that our procedures were in line with national guidelines and regulations.
5. Prioritizing which goods and shipments to handle during the COVID-19 pandemic and the Russian war was a complex task, given the disruptions to global supply chains. We worked closely with our partners and customers to ensure that essential goods could be transported, while also ensuring that we could operate safely and efficiently.
6. The COVID-19 pandemic and the conflict taught us the importance of agility and flexibility in decision-making. We also learned the value of collaboration and communication with stakeholders. These lessons will guide our future decision-making and help us to adapt quickly to changing circumstances.
7. Implementing measures to control the spread of COVID-19 posed a significant challenge, particularly in a busy port environment. We had to ensure that all employees were educated on COVID-19 and how to prevent its spread, and

we had to implement strict hygiene protocols and social distancing measures. We overcame these challenges by working closely with our employees and by constantly adapting our procedures to ensure that we could operate safely and efficiently.

8. Addressing the concerns and expectations of our stakeholders during the COVID-19 pandemic and the Russian war was a top priority. We communicated regularly with our stakeholders to keep them informed of any changes to our operations and to address any concerns they may have had. We also implemented measures to ensure the safety of our employees and the community, and we worked closely with our partners and customers to mitigate any potential impact on their business.
9. Balancing the short-term needs of our business with the long-term goals and sustainability of our port was challenging, given the COVID-19 pandemic and the conflict. We had to make difficult decisions and constantly adapt our procedures to ensure that we could continue to operate safely and efficiently, while also considering the long-term impact of these decisions on our business.
10. Technology and innovation played a significant role in our decision-making process during the COVID-19 pandemic. We adopted new technologies and practices to ensure that we

could operate safely and efficiently, such as remote monitoring and digital documentation. We will continue to explore new technologies and practices to enhance our operations and improve our sustainability in the future.

5.4 Human resources manager:

1. The COVID-19 pandemic had a significant impact on the decision-making process in our port. As a human resources manager, one of our top priorities was to protect our employees and ensure their safety. We implemented several measures, including mandatory mask-wearing, temperature checks, social distancing protocols, increased sanitation and cleaning procedures, and remote work arrangements for non-essential staff. We also provided regular communication and education to our employees on the importance of following safety protocols and staying informed about the latest developments.
2. The war between Russia and Ukraine did not have a direct impact on our port operations, as we are located in a different region. However, we monitored the situation closely and remained in communication with other ports and relevant authorities to ensure that we were prepared to handle any potential disruptions.
3. Balancing the need to continue port operations with the health and safety concerns of our employees and the

community during the pandemic and the Russian war was a challenging task. We prioritized the safety and well-being of our employees while maintaining our essential services to the community. We made sure that our safety protocols were in line with the recommendations of the World Health Organization and local health authorities.

4. Communication and collaboration with other ports and relevant authorities played a critical role in our decision-making process during the COVID-19 pandemic and the Russian war. We exchanged information and best practices with other ports, and we stayed informed about the latest developments from relevant authorities.
5. To prioritize which goods and shipments to handle during the COVID-19 pandemic and the Russian war, we relied on the guidance from our customers and relevant authorities. We focused on essential goods and critical supply chains, and we adjusted our operations to accommodate changes in demand.
6. From the COVID-19 pandemic and the conflict, we learned the importance of preparedness, adaptability, and resilience. In the future, we will continue to prioritize the safety and well-being of our employees and the community while maintaining our essential services to our customers.
7. Implementing the measures to control the spread of COVID-19 posed several challenges, including ensuring compliance

with safety protocols, addressing employee concerns and anxiety, and adapting to remote work arrangements. We overcame these challenges through effective communication, education, and collaboration with our employees and stakeholders.

8. We addressed the concerns and expectations of our stakeholders, such as customers, employees, investors, and the local community, by providing regular communication and updates on our safety protocols, operational changes, and response efforts. We also remained transparent and responsive to feedback and concerns.
9. We balanced the short-term needs of our business with the long-term goals and sustainability of our port by focusing on essential services and critical supply chains while also investing in technology, infrastructure, and employee development.
10. Technology and innovation played a crucial role in our decision-making process during the COVID-19 pandemic. We adopted new solutions and practices, such as remote work arrangements, contactless processes, and online communication tools, to adapt to the new reality. We also invested in technology and innovation to enhance our operational efficiency and customer experience.

5.5 Operational manager:

1. The COVID-19 pandemic had a significant impact on our decision-making process. We implemented measures such as social distancing, sanitization protocols, and screening employees for symptoms. We also encouraged remote work where possible and provided personal protective equipment for employees who had to be physically present. We also worked closely with health authorities to monitor the situation and adjust our protocols as needed.
2. The war between Russia and Ukraine had an impact on our port's operations, as we had to take extra precautions to ensure the safety of our employees and shipments. We worked with relevant authorities and implemented additional security measures to mitigate the risk of any potential threats.
3. Balancing the need to continue port operations with health and safety concerns was a challenge during both the pandemic and the conflict. We made sure to prioritize the safety of our employees and the community, while also ensuring the continuity of critical supply chains. We also had to adapt our operations to meet changing circumstances, such as shifting demand for certain goods.
4. Communication and collaboration with other ports and relevant authorities were critical during both the pandemic and the conflict. We exchanged information on best practices

and shared intelligence on potential risks to our operations. This helped us make more informed decisions and respond more effectively to changing circumstances.

5. Prioritizing which goods and shipments to handle during the pandemic and the conflict required careful planning and coordination. We focused on essential goods and critical supply chains, while also considering the availability of resources and the capacity of our operations to handle different types of cargo.
6. We learned several lessons from the pandemic and the conflict, such as the importance of agility and flexibility in responding to rapidly changing situations. We also learned the value of collaboration and information-sharing with other ports and relevant authorities, as well as the need to prioritize the safety of our employees and the community.
7. Implementing measures to control the spread of COVID-19 presented several challenges, such as ensuring compliance with protocols and managing the increased demand for certain resources, such as personal protective equipment. We overcame these challenges through communication, education, and collaboration with our employees and stakeholders.
8. We addressed the concerns and expectations of our stakeholders by keeping them informed of our actions and decisions, while also taking their feedback into account. We

also provided resources and support to our employees and engaged with the local community to understand their needs and concerns.

9. Balancing short-term needs with long-term goals and sustainability required us to prioritize investments in technology and infrastructure that would improve efficiency and resilience. We also focused on developing our workforce to be more adaptable and innovative, in order to meet changing market demands.
10. Technology and innovation played a crucial role in our decision-making process during the pandemic, as we looked for ways to increase efficiency and reduce the need for physical interaction. We adopted new solutions such as remote monitoring and automation, and invested in technologies that would help us adapt to changing circumstances in the future.

6. Conclusion and recommendations:

During the COVID-19 pandemic and amidst the backdrop of the Russian-Ukrainian War, bulk terminals in the Red Sea faced complex challenges. The pandemic caused disruptions to global trade and led to shifts in demand for commodities, impacting the flow of goods through these terminals. The uncertainties surrounding the conflict added an additional layer of complexity, influencing trade routes and geopolitical dynamics in the region.

Bulk terminal operators had to navigate through supply chain disruptions, fluctuating demand, and changing regulations, while also monitoring the evolving geopolitical situation. Despite these adversities, efforts were made to ensure the continuity of operations and maintain the critical role of the Red Sea terminals in facilitating international trade and the transportation of bulk commodities.

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