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PROACTIVE SUSTAINABLE APPROACHES BY MALAYSIAN FEEDER SERVICE COMPANIES IN THE DISRUPTIVE ERA

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Abstract: Feeder services play a significant role in Malaysian shipping economy. A total of 87.5 per cent of feeder companies have established themselves in Port Klang, as their focal point of service, while the remaining 12.5 per cent have chosen neighbouring Singapore Port as their base. Recently, the industry players have faced many challenges, such as hyper-competition, price wars, the COVID-19 pandemic, and threats of bankruptcy, which leads to the situation known as the disruptive era. While plenty of studies have discussed the issues of feeder services by focusing on the "hub and spoke" design, route design and environmental context, there is lack of research on proactive sustainable approach in the case of Malaysia feeder services. As a result, this paper reviews the impact of the United States-China trade war, COVID-19 pandemic and hyper-competition among feeder service companies in Malaysia. An extensive literature review and online interviews are conducted with feeder service operators, government agencies and port authorities, and the data analysed using Thematic Analysis. The results show that offering competitive freight rates, reliable services and alliance between feeder operators are important in business sustainability. Meanwhile, unstable oil prices, high chartering costs and less creativity in problem-solving are factors that reduce business sustainability. This paper hopes to assist feeder service operators, researchers and government agencies in understanding and planning sustainable strategies for the industry in the disruptive era.

Keywords: Feeder service, proactive, sustainable approach, distruptive era and shipping industry.

Introduction

In the world of ocean shipping, feeder services play an essential role in supporting the industry. The companies provide a transhipment service from a main port or shipping hub to smaller ports. According to Kollerath (2019), a feeder vessel average capacity is around 300 to 500 TEUs. The growth of feeder services is closely linked to the development of container shipping. The maritime sector has always been important to Malaysia as a maritime nation. Few ports in the country have become focal points for the nation's economy, which are directly related to the development of feeder service companies (Rahmatdin *et al.,* 2017). Malaysia as a maritime nation has always tried to increase its competitiveness. The World's Top 20 Container Ports have ranked Port Klang, Selangor, at 13th place in terms of worldwide container activity, while the Port of Tanjung Pelepas, Johor, is at 19th place (Eleventh Malaysia Plan, 2015). The disruptive era in maritime industry can be defined as internal and external incidents that create uncertainty and critical negative consequences (Gurning & Cahoon, 2011). Despite many factors that may lead to disruptive era in maritime shipping, this research focuses on elements related to the United States-China trade war, COVID-19 pandemic and hyper-competition in the Malaysian feeder service industry. The main objective is to conduct an extensive literature review on sustainability issues like hyper-competition, identifying current practices and

challenges in implementing a sustainable approach by Malaysian companies. An online semi-structured interview with experts is conducted using Thematic Analysis. The findings reveal current issues and the approaches taken by Malaysian feeder service operators to develop future growth strategies to maintain a high degree of competitiveness.

Shipping Industry

The shipping industry relates to the transport of cargo between seaports. According to Lun *et al.* (2010), the industry is the foundation of international trade as it provides a cost-effective means to move large volumes of cargo throughout the globe.

Table 1: Total world merchandise: Total trade and share annually

Years	World Merchandise: Total trade and Share Annually (TEU)
2014	19 007 233
2015	16 555 722
2016	16 044 058
2017	17 740 008
2018	19 472 479

Source: (Statistics | UNCTAD, n.d.)

The world trade data is a good indicator of performance in the shipping industry, as the industry grows with the movement of more merchandise. Table 1 shows an uneven number of world merchandise trade in five years. From 2014 to 2016, there was a decrease in world trade, which recovered in subsequent years. The United Nations Conference on Trade and Development (UNCTAD) stated in 2016 that the effects from past financial crises may still linger on in the global economy, and that may be the reason for trade to grow slowly by just 1.2 per cent in 2016 to 2017. Kim and Lin (2009) argued that the global economy grows better when there is an increase in market size and trade openness, thus generating demand for the shipping industry.

World Feeder Shipping

According to Rudić and Hlača (2005), the conceptual term of feeder shipping is to collect and move containers on large ships or mega container ships with a minimal number of port calls. Feeder services have made the entire shipping industry to be economically rational, efficient, profitable, cheaper and timely for the end-user. The launch of mega container ships to serve the global shipping routes and major seaports has created the necessity to temporarily store containers in a specific region before distributing them among shorter sea routes. This, thus, creates a need for feeder shipping in the global network of shipping lines (Polat *et al.,* 2014).

Malaysia Feeder Service Industry

The feeder services industry in Malaysia is an incredibly significant sector, if not a crucial commodity, for the transport of containers within the Asian region and globally. According to Rahmatdin *et al.* (2017), the country's feeder services are split into two major categories: coastal and international. Table 2 lists some major local feeder service providers and their routes. Port Klang is the focal point of the industry, where 87.5 per cent of feeder companies in the region is based, compared with 12.5 per cent in Singapore Port.

Table 2: Malaysian feeder service providers

Company name	Routes
MTT Shipping Sdn Bhd	Peninsular Malaysia to Sabah and Sarawak
Perkapalan Dai Zhun Lines (PDZ)	Peninsular Malaysia to Sabah and Sarawak
Regional Container Lines (RCL)	East Asia, Southeast Asia and the Middle East
Evergreen Marine Corp (MALAYSIA) Sdn Bhd	East Asia, Southeast Asia, Southern Asia
X-Press feeder (Sea Consortium Sdn Bhd)	East Asia, Southeast Asia, East Asia, Southern Asia and Oceania
Bengal Tiger Line (M) Sdn Bhd	Southern Asia and Southeast Asia
Q-Express Line (QEL)	Southern Asia and Southeast Asia

Source: (Rahmatdin *et al.,* 2018)

Malaysia Feeder Ports

The Malaysian feeder services are interdependent on the transhipment productivity of cargo movement in ports. As mentioned, Port Klang is the focal point of most feeder service companies. A recent study by Jeevan *et al.* (2018) stated that approximately 94.8 per cent of Malaysian trade relies on mutual intra-regional maritime networks. The Straits of Malacca is a vital sea lane that connects between the Indian Ocean and the South China Sea which contributes significantly to the economic growth of the country.

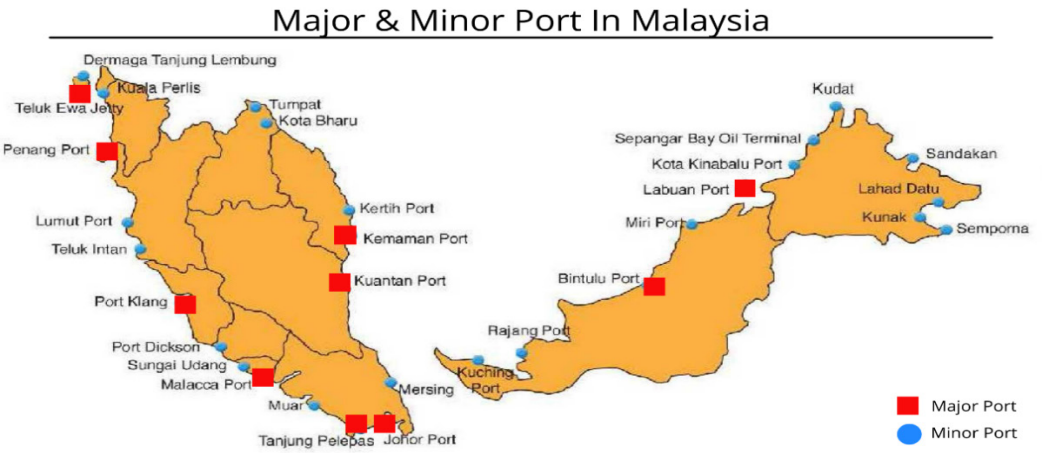

Figure 1: Major and minor ports in Malaysia

Source: (Ministry of Transport Malaysia, 2021)

In the past, few ports in Malaysia have emerged as a regional hub for feeder services. A feeder port is defined as a secondary port (minor port) that handles a combination of feeder trade and direct intra-regional or intra-continental trade (Lam & Iskounen, 2008). Usually, these ports do not manage mainline vessels on long-distance routes between continents, and will handle lesser trade volume than major ports.

Sustainable Shipping Industry

The sustainable shipping industry is regarded as one of the major challenges of the 21st century. Sustainability includes a simultaneous balance of the economic, environmental and social dimension in policy, decision-making and general management of organisational activities (Cheng *et al.,* 2015). There are three pillars of sustainable development mentioned by UNCTAD (2015) on sustainable freight transport, which can be applied in shipping industry.

1. Economic: Trade competitiveness, transport costs, energy efficiency, quality and reliability, Infrastructure investment and fiscal burden, freight productivity, sustainable production and consumption, resilience and operational continuity, connectivity and market access;

2. Environmental: Air pollution, GHG emissions, water pollution, resource depletion, land use and habitat fragmentation, waste management, biodiversity and ecosystems, soil quality and climate resilience; and

3. Social: Safety, security, employment, labour conditions, affordability, aesthetic impacts, cultural preservation, health, and noise and vibration.

According to UNCTAD (2015), in trade development, despite the slow recovery in world merchandise trade after the last recession, trade flow continues to increase, with anticipated development likely to intensify in the coming years. Growth patterns are supported by globalisation and the fragmentation of global production processes, with supply chains and transport networks linking regions and economic centres spread over long distances.

Disruptive Era

According to Gurning and Cahoon (2011), the disruptive era in maritime trade may be defined as the occurrence of various adverse internal and external incidents, creating uncertainty and critical negative consequences in the maritime industry. Many countries have undergone financial and economic crises in different periods, triggered by a number of internal causes linked to the functioning of capitalist institutions that control the growth of the financial system and economic sectors. The following part will explore the connection between US-China trade War, the COVID-19 pandemic and hyper-competition with the disruptive era.

United States - China Trade War

A trade war occurs when governments engage in a tit-for-tat response by raising import tariffs or enforcing other limits on goods from another country. According to Teimouri and Raeissadat (2019), trade war is regarded as a form of protectionism and, in practice, is a tax or tariff policy imposed by governments.

As both US and China are top exporters and importers of world merchandise, any conflict between these two countries will indirectly harm the global economy. In January 2018, the US government under the administration of President Donald Trump began imposing tariffs on Chinese goods, which caused the Beijing government to respond in the same manner, which eventually hurt the economy of developing countries, which depend on these two

superpowers. This is especially so for Asean countries, whose economies are very vulnerable to the trade war (Teimouri & Raeissadat, 2019). The effect on Asean countries may vary depending on their trade level with the US and China, and the possible re-balancing of supply lines and trade flow due to the tariffs. Singapore and Malaysia are probably the most exposed nations, while Indonesia, the Philippines and Vietnam have less to lose (OCBC, 2018).

Impact of US-China Trade War on Malaysia

Industry	Gain / Loss	Comment
Palm oil	Gain	• Palm oil price & exports will get a boost if soybean tariffs go into place as a commodity substitute.
Chemical products	Gain	• Malaysia is considered to be one of China's main competitors in terms of key exports to the US, putting the country as another alternative to import chemical products from.
LED products	Gain	• Malaysia is one of the top 3 suppliers of LED, behind China. This makes Malaysia the next best option as US could divert its source to the country.
Solar panels	Loss	• The US implemented a 30% tariff on all imported solar panels – Malaysia accounts for 25% of total US solar panel imports.
Machine parts & components	Loss	• These components are used in the production of items that China sells to the US as final products.
Electronics	Loss	• The country's main exports are electrical and electronic products with China being one of its top trading partners.

Figure 2: Major and minor ports in Malaysia

Source: (OCBC, 2018)

Figure 2 shows the impact of the US-China trade war on Malaysia as stated in a report by OCBC Bank in 2018. The OCBC Bank report mentioned a few local industries that will be affected by the crisis, namely palm oil, solar panels, machinery, LED and semiconductors. As Malaysia practises an open trade policy, the tariffs are expected to increase the cost of raw materials and intermediate goods, which may limit final demand. Thus, this will directly influence Malaysia's feeder service industry, which depends on the import-export demand of cargoes.

COVID-19 Restrictions (Movement Control Order)

The COVID-19 pandemic has disrupted shipping operations severely, which affected the jobs of two million seafarers worldwide (ILO, 2020). On March 18, 2020, Malaysia has implemented the Movement Control Order (MCO) to prevent the spread of the COVID-19. The government has shut down all borders to international travel and this strategy had managed to decrease the number of cases during the first wave. However, subsequent waves that swept the country showed that there is potential for cases to rise again without proper control and cooperation between people and the authorities (Shah *et al.,* 2020). The implementation of MCO has disrupted the national economy. A survey by Ram (2020) found that 46.6 per cent of self-employed respondents had reported losing their source of income since the MCO was enforced. According to Bank Negara Malaysia, the country's economy recorded its lowest growth of 0.7 per cent in 2020. It was the lowest since the recession in the third quarter of 2009 at -1.1 per cent.

Figure 3: Development of international maritime trade and global output from 2006 to 2020

Source: (Asariotis *et al.,* 2020)

Figure 3 shows the development of international maritime trade and global output from 2006 to 2020 as growth decelerated in line with the slowdown in world gross domestic product (GDP). The data showed a gloomy outlook for 2020, where the world GDP and maritime trade were projected to fall by 4.1 per cent. The disruption in maritime transport and trade was dramatic, with all economic indicators pointing downward. UNCTAD estimated that the volume of international maritime trade would fall by 4.1 per cent in 2020 (Asariotis *et al.,* 2020).

The research on Implications of the COVID-19 pandemic on the Global Trade Networks by Vidya and Prabheesh (2020) found a massive decline in global trade. The study applied a trade analysis at two specific points of time — the first quarter of 2018 and 2020. Germany, Italy, France, the US and the United Kingdom showed a sharp reduction in centrality. Nevertheless, even though the COVID-19 pandemic originated from China in December 2019 and had also impacted its trade, the country's relative position in the trade network seems to have not changed drastically. From data and research, feeder services are expected to be indirectly affected by COVID-19.

Hyper-competition

Intense competition between shipping lines, the unpredictability of cargo volumes and uncertainty in customer demand are challenges that need to be resolved by shipping companies to survive (Zheng *et al.,* 2017). According to Akhter (2003), companies often suffer losses to outstanding competitors not because they do not have strategic plans, but because the strategies are not good enough to

cope with competitive developments. The ability of companies to stand out in a hyper-competitive environment depends on how they collect and share information. Hyper-competition may be seen in the shipping industry as to where freight rate competition is common (Wang *et al.,* 2014).

According Polat and Günther (2016), since demand is unsteady, feeder service companies need to be careful in deciding whether to expand their service network. Malaysia feeder service companies need to be able to create a strategy to analyse the best shipping network to remain sustainable. Small changes in the network may cause the entire demand pattern to change.

Methodology

This section outlines the research methodology as well as how data is gathered and evaluated. Figure 4 shows the research design of this study. It starts by conducting an extensive literature review to determine the research problem by aligning the objectives on sustainability issues in the feeder shipping sector by focusing on hyper-competition. Later, more data were collected using a semi-structured online interview. Participants in the interview were selected using the purposive sampling method to enhance the accuracy of the information gathered. Open-ended questions were asked and the answers were analyzed using thematic analysis.

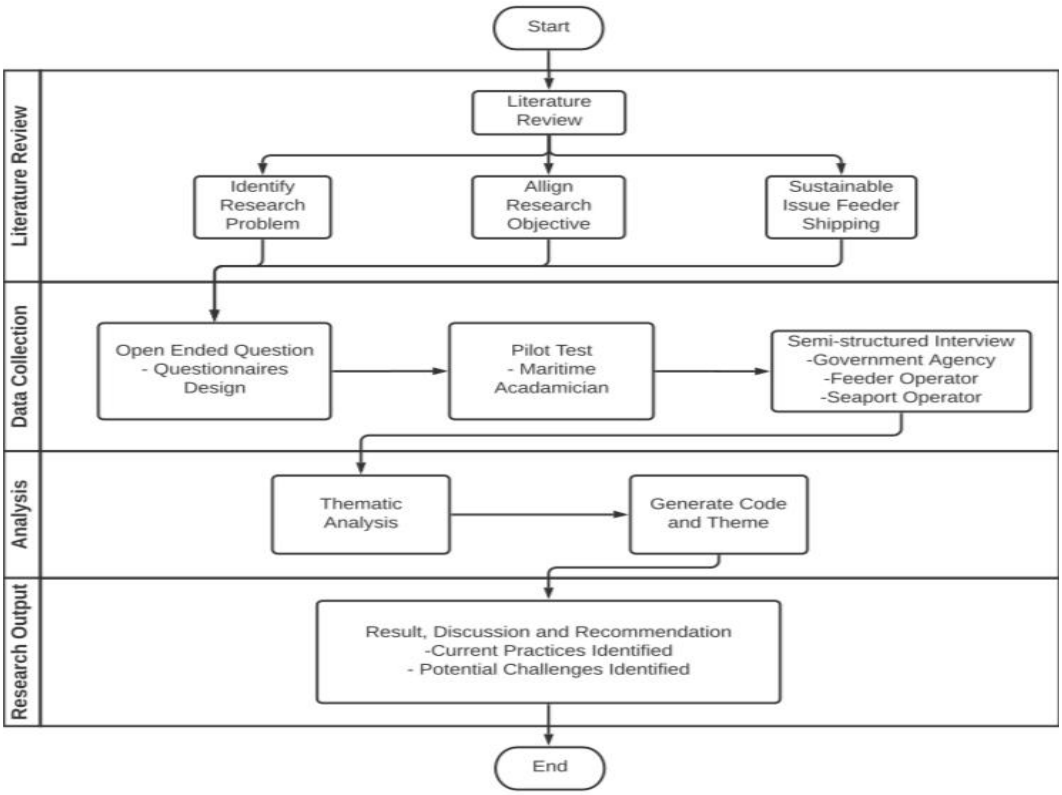

Figure 4: Graphic illustration of research design

Source: Author

Sampling Strategy

Referring to Table 3, the purposive sampling strategy was used to select participants in an online interview. Five people were chosen to participate in the discussion. They comprised representatives of various stakeholders in the feeder service industry — three from government agencies, one from the port operator, and one from a selected Malaysian company. The participants held positions as key players or authority in the management and operational level of the maritime industry, which actively involved policy planning and decision-making in their respective organisations.

Table 3: Profile of expert

No.	Company/Agency	Department/Division	Position
1	X-press Feeder	Operation Department	Operation Manager
2	Lumut Port	Business Development	Manager
3	Ministry of International Trade and Industry (MITI)	Strategic Planning	Director
4	Ministry of International Trade and Industry Malaysia (MITI)	Industrial Development	Assistant Director
5	Ministry of Transport Malaysia (MOT)	Maritime Division	Assistant Secretary

Questionnaires

Tables 4 and 5 represent sample questions for participants in the online interview.

Table 4: Interview questions on current practices of sustainable approaches taken by Malaysian feeder service stakeholders in face of hyper-competition (disruptive player)

No.	Question
1	What approaches have your organisation implemented to ensure sustainability in face of hyper-competition?
2	How do you think the future of Malaysia feeder services would be like?
3	In this disruptive era, will feeder service companies suffer massive losses due to hyper-competition?
4	In your opinion, what is the best strategy or tactic that you believe is necessary to ensure the long-term viability of Malaysia's feeder service industry?

Table 5: Interview questions on potential challenges in implementing sustainable approaches by a Malaysian feeder service stakeholders in face of hyper-competition (disruptive player)

No.	Question
1	What are the challenges that Malaysian feeder service providers face in implementing a sustainable approach towards the era of hyper-competition?
2	How do you cope with the current challengers in the organisation?
3	Do you think Malaysia feeder services will survive in the era of hyper-competition?
4	Referring to COVID-19, the US-China trade war and hyper-competition, in your opinion, how do you think they will affect the Malaysian feeder service industry?
5	In implementing sustainable approach strategies, how fast or aggressive can your organisation adopt them?

Data Interpretation (Thematic Analysis)

An effective qualitative analysis needed interpretations and must be consistent with the data gathered. Hence, in this research, the thematic analysis will interpret the data gathered from the online interview as it could recognise and distinguish stimuli or variables that influenced any topic posed by the participants. According to Ibrahim (2012), the thematic analysis may be suitable where the purpose was to explain any person's existing activities. Data gathered from the online interview would be coded and categorised into themes. Braun and Clarke (2006) highlighted six phases of thematic analysis, which would help in qualitative research analysis.

Table 6: Six phases of thematic analysis (step-by-step)

Phase	Elaboration of the Phase
Familiarising yourself with your data	It is necessary to know all elements of your data. At this phase, one of the reasons why qualitative analysis prefers to use far smaller surveys than, for example, questionnaire data will become obvious — reading and re-reading of data is time consuming.
Generating initial codes	This phase then involves the production of initial codes from the data. Codes identify a feature (semantic content or latent) that appears interesting to the analyst. Systematic coding of interesting data are structured throughout the entire data collection and specific to each code.
Searching for themes	Re-focusing analysis at a wider level of themes, rather than codes, includes grouping the various codes into possible themes and bringing together all the related coded data extracts within the defined themes.
Reviewing themes	It involves two levels of reviewing and refining the themes. Level one requires a review at the level of the coded data extracts. Level two involves a similar process, but in relation to the data set as a whole.
Defining and naming themes	Define and further refine the themes that will be presented for analysis and analyse the data. Create simple meaning and names each theme.
Producing the report	Final analysis and write-up of the report. Provides a concise, coherent, logical, non-repetitive and fascinating account of the tale that the data tell — inside and through themes.

Source: (Braun & Clarke, 2006)

Results and Discussion

All codes in the section below were linked to investigate the current state, challenges and suggested solutions for the Malaysian feeder service industry in a hyper-competition environment. Furthermore, the discussions were explained using categories or themes that emerged from the data analysis process.

Coding

Coding is the process of finding and arranging qualitative data to discover distinct themes and relationships. According to Graneheim and Lundman (2004), coding is a label of meaning which have been shortened while preserving the core. The coding analysis shown below was obtained from the five interview participants for the study goal.

Code 1:

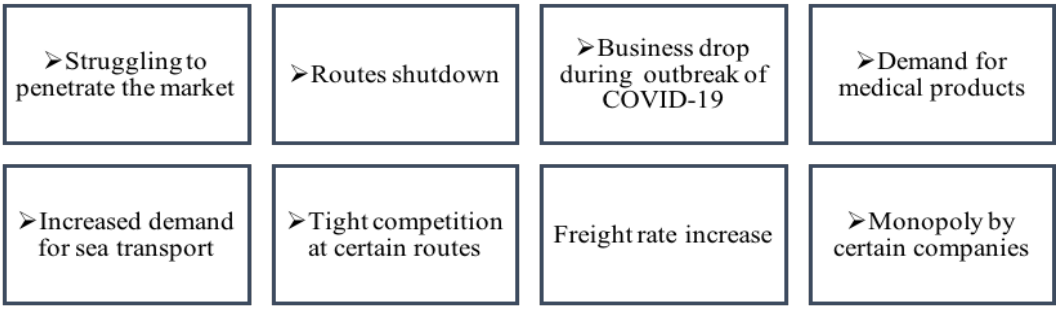

Figure 5: Current situations in the feeder service industry

Code 2:

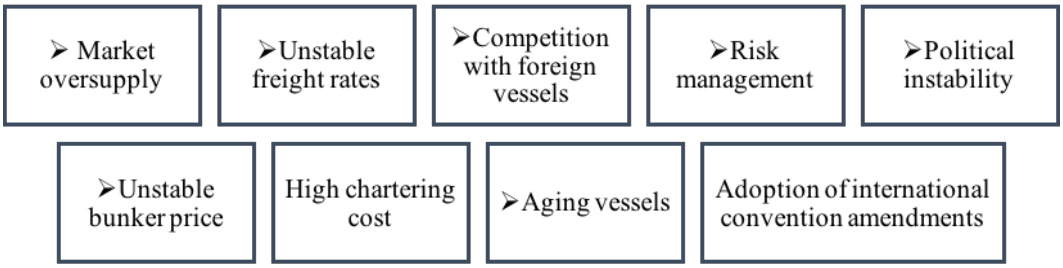

Figure 6: Challenges faced by feeder service companies

Code 3:

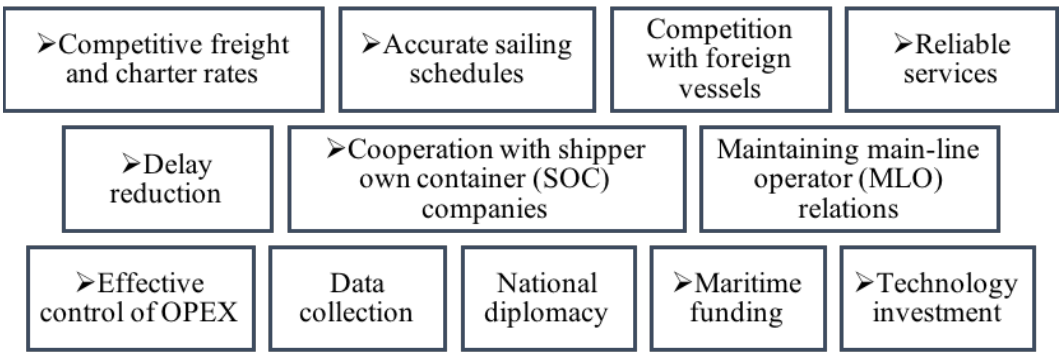

Figure 7: Current practices of sustainable approach

From the thematic analysis, three themes were discovered on both the current situation of feeder shipping industry and operator challenges. Meanwhile, current sustainable practices of Malaysian feeder service providers encountered four themes, which were connected to each code gathered from the online interview.

Current Situation of Feeder Service Industry

The analytical findings contained three major themes linked to the situation in Malaysia's feeder service industry: current market status, market opportunities and competition. According to the representative of the feeder service company, it was a tough competition for his company to enter new markets. Few Malaysian businesses had been forced to close, but others were still operating thanks to the efficiency of their management. For example, some companies have decided to exit the container shipping business due to depressed freight rates and stifling overcapacity in the market**.** Another example mentioned by the company representative was the shutting down of operations on certain routes when the company could not cover the operation costs because of low demand.

The interview participants stated that there were fewer than ten feeder service companies operating in Malaysia, and the drop in business was only experienced in the first quarter of 2020. According to Menhat *et al*. (2021), shipping was considered to be less affected by the pandemic than other industries because of the increased demand for medical supplies. Furthermore, a strong rebound in factory activities and exports were expected once the disease was brought under control. In addition, interview participants noted a rise in business sales in the second and third quarter of 2020 as there was a huge amount of commodities being moved.

From the market opportunity aspect, it was observed that the COVID-19 pandemic had opened new opportunities in the transport industry. As the world battled with COVID-19, this created a huge demand for transport of medical products, such as face masks, rubber gloves, test kits and others. Furthermore, a respondent stated that freight rates had increase from March until October 2020. Ho *et al.* (2021) mentioned that when governments implemented restrictive measures, particularly when the spread of COVID-19 became severe, this had led to an increased demand for freight and water transport. This was reflected in Malaysia's trade increase of 48.7 per cent in May 2021, hitting RM170 billion, up from 114.9 billion in May 2020. The country's import growth reached 50.3 per cent in May 2021, while export growth reached 47.3 per cent (Department of Statistics Malaysia, 2021).

In the case of competition, the current industry scenario included monopolies on specific routes. Intense competition in other routes had also led to losses and strangely, cost increases. For example, vessels passing through Sabah on their way to Peninsular Malaysia often had to return empty, therefore companies were forced to increase their prices to pay for the return trips. However, for long-term survival, a feeder operator must still compete to achieve sufficient cargo density while charging appropriate freight rates. Another route with intense competition was from Port Klang to Singapore Port, Chittagong Port in Bangladesh, Chennai Port in India and Port of Colombo in Sri Lanka. There are too many established companies servicing those routes that could offer better freight rates, such as Regional Container Lines, Bengal Tiger Line and OEL. When there were many companies servicing a route, there is an oversupply of services and smaller companies could not raise their

rates and, at some point, they might struggle to get customers. According to a participant, there were scenarios where customers withdrew their consignments and chose to engage a competitor.

Table 7: Current situation in the feeder service industry

Themes	Codes
Current status	Company struggling to penetrate the market Less demand on certain routes, resulting in shutdown of operations for that route. Drop in business during COVID-19 in first quarter of 2020 until April 2020. But business started to increase again in second quarter of 2020.
Market opportunities	Huge transportation demand for medical product and electronic parts. Increase in freight rates from March until October 2020. Increased demand for sea transport
Competition	Tight competition among feeder companies in providing services at certain routes. Monopoly of certain routes.

Challenges in Implementing Strategies

The analysis of major issues in implementing sustainable strategy by Malaysia feeder shipping industry can be categorised into three themes — competition, risk and operational management. From the perspective of competition, the interview participants mentioned there was an oversupply of services in Malaysian market. According to Styhre (2010), a general oversupply of vessel capacity could be the outcome of a market system that was not designed to get rid of excess capacity. The departure frequency indicated that by removing a vessel from service on a certain route, the shipping company might be unable to meet the required frequency of service with the remaining fleet. As a result, some customers were likely to leave, and the remaining vessels would sail at the same or even lower utilisation level as before the frequency adjustment.

A participant from a government agency mentioned that the implementation of the cabotage policy had not led to what the government expected. According to Ruslan *et al.* (2019), the liberalisation of the cabotage in Sabah, Sarawak and Labuan had allowed foreign vessels to transport cargo between certain ports in Sabah, Sarawak and Port Klang. This implied that foreign-flagged vessels were no longer barred from calling directly at any of Malaysia's five major ports, which increased the competition between Malaysian and foreign vessels. The participant added that hyper-competition had also lead to the decrease in freight rates. Severe competition generally implied low freight rates, which would reduce the revenue per transported unit. Therefore, companies must use caution while manoeuvring their businesses as they could not survive the competition if they did not have an effective management.

In terms of financing, the participant from the industry explained that the shipping cost structure was commonly regarded as fixed and variable costs. The capital expenses, for example, were the interest and depreciation of vessels, whereas operational costs included labour, insurance and maintenance, besides voyage expenses like bunker and supply prices, and port fees.

The fixed costs were usually high, owing to both the capital-intensive nature of shipping and the committed structure of scheduled transportation services. As a result, the feeder service operator would increasingly seek for external funds to accommodate its cost.

A research by Albertijn *et al.* (2011) mentioned that shipping firms could manage their own risks by changing their operations, using freight and vessel price derivatives, or changing their capital structures. In arriving at the most valuable mix of these three fundamental techniques, they must first select which risks to bear, which to handle internally, and which to transfer to the capital markets. Feeder service financial managers should evaluate the risk level on firm value, understand how each value contributed to overall risk, and decide the most cost-effective approach to keep risk at an acceptable level. In addition, a participant mentioned that political instability could become a barrier in implementing sustainable strategies. A change of government would sometimes entail a change in opinion and ideas. If this occurred frequently, it might affect the status of ongoing plans that had been carried out by previous governments.

Last theme on barriers in implementation strategy is operational management. High chartering cost, aging vessels, adoption of international convention amendments and unstable bunker price are examples of challenges that needed an effective management team to resolve. A participant said current charter rates were at their highest in almost ten years. As the container market momentum grew stronger, which began in the second part of 2020, it had showed no signs of worsening, but instead, continued to grow in 2021. As a consequence, a low number of available vessels had raised their charter prices.

A participant from a government agency added that the cost for implementation of new international instruments was also a challenge. Companies needed a strong financial base to follow the implementation of international instruments. If a feeder service company could not execute an amendment on time, it will lose market share since clients would not charter an outdated vessel. Clients would select the most practicable vessels only in the market. As a result, feeder shipping companies operating at a loss due to this scenario might have to sell their ships and close their business.

For example, if a losing Malaysian company decided to sell its ships to a Singaporean company, the Singaporean company would buy those ships at a very low price, then upgrade them and redeploy those vessels back in the Malaysian market, further aggravating the competition with ships that once belonged to Malaysians. Malaysian feeder companies must be aware of the latest international instrument amendments to remain environmentally conscious. Table 8 summarises the challenges faced by feeder service companies according to their themes.

Table 8: Challenges faced by feeder service providers

Themes	Codes
Feeder competition	Market oversupply Depressed/unstable freight rates Competition with foreign vessels
Risk	Risk management Political instability
Operation Management	High chartering cost Unstable bunker price Aging vessels Adoption of international instrument amendments

Implementation of Sustainable Strategies

Table 9 below shows four themes relate to the strategies adopted by Malaysia feeder service providers to sustain themselves, namely reliable service, forming alliances, investment and obtaining government support. This section discusses several strategies for improving feeder service in the disruptive age and strengthening feeder operator competitiveness in Malaysia. Companies that operated feeder vessels are essential because they help to distribute commodities from the mother vessel to small ports across the globe. As Malaysian seaports were very efficient, feeder operators must develop and implement the most effective long-term plans to ensure the profitability of their present operations.

Providing the best services to customers was the major key for business success. All the interview participants concurred that through the provision of competitive freight rates, accurate sailing schedules, choice of route and delay reduction were important factors to remain sustainable in the industry. The price of freight might not be consistent, but forecast could be made based on demand and world oil prices. For example, from February 2020 to April 2020, freight prices fell due to low cargo transport demand. Furthermore, the participant from the industry stated that companies would choose to service the most profitable sailing routes only. Customers would always choose a company that gave the most accurate sailing schedules. A research by Durvasula *et al.* (2002) mentioned that carriers must improve their business models and enhance the quality of their transportation services in this disruptive era. In gaining a competitive advantage, carriers should differentiate themselves from competitors by providing high-quality service. Other than that, in lowering operational cost, some of feeder companies would buy the space slots of other vessels (competitor) to increase their profitability.

The feeder shipping industry is challenging, particularly when it comes to fluctuating operating expenditures. However, this did not prohibit them from assisting one another. A shipping alliance, also known as ocean alliance, is a form of cooperative arrangement among ocean carriers that covers diverse trade routes on a worldwide scale. According to Lavie (2006), strategic alliance is a mutual contractual arrangement among companies to gain mutual benefits and achieve shared goals by exchanging resources or co-developing products, services and technologies.

An interview participant elaborated that feeder operators woud always cooperate with the Shipper Own Container (SOC) parties and provide more slots to them because it was more profitable than using

the services of Carrier Own Container (COC) parties. For example, a feeder service company might provide 300 slots of space to SOC and 200 for COC because SOC freight rates would be higher than COC. Feeder operator also relied on the support of Main Line Operators (MLO) because MLO provided cargoes (business) for their vessels. He explained that merging was a good practice to avoid route monopolies and unhealthy competition between shipping lines. For example, the Japanese government had asked NYK, MOL and K-Line shipping companies to merge as ONE (Ocean Network Express). THE participant explained that, for the time being, Malaysian companies were not considering joint ventures with each other because many were still focused on individual success.

Another sustainable strategy is investment strategy. According to Luo and Fan (2011), failure to invest sufficiently in a thriving market could result in not only a loss of revenue and market share, but also threaten a shipping company's long-term competitive position. Over-investment, on the other hand, may be detrimental too since many unfilled seats on a journey might result in a return that is insufficient to cover the high financial expenditures. Company needed to control their capital expenditure (CAPEX) and operating expenditure (OPEX). Participants from government agencies emphasised that if a company did not invest in their vessels, that company would not be able to dominate the industry. Investments in technology, crew and management were very critical to ensure business long-term viability.

The government had urged shipping companies to obey the rigorous rules established by the International Maritime Organisation (IMO). Carriers must be competent in managing investment for their vessels and have a strong financial base to remain relevant in the market. They would not be able to compete if they did not manage their resources effectively. Investing in data collection for sailing route design was also important. According to a participant, the plan for a new route would take three months of trial before the profitability outcome could be known. This meant the stakes were high. A few steps must be followed to determine if the route was cost effective. Feeder service operators would go forward with a new route only if there was a large profit to be made in a region. When changing an operating route, factors that had to be considered were cargo volume demand, customer relationship, global oil price, government policy and port cost.

The last theme on the strategy for sustainable Malaysia feeder service industry is to obtain government support. Many initiatives had been provided by the Malaysian government to help boost the maritime industry, such as the creation of a maritime fund, diplomacy relationship, maritime policy, Malaysia Shipping Master Plan and others. Othman *et al.* (2011), had identified competitions, locations, connectivity and government support as substantial impacts on the Malaysian maritime industry's strength. The ability of an industry to raise or sustain prices to accomplish economic success in a competitive business environment was referred to as its industry strength.

An interview participant from a government agency mentioned that the reintroduction of the RM1.5 billion maritime fund under the tenure of finance minister Lim Guan Eng was a positive step towards renewing the industry, it was a great reward to the industry, and it provided better financing rate subsidies as Malaysian ship owners faced higher interest rates than their Singaporean counterparts. However, a change in government had impacted the status of the fund, but the new government was doing all it could to keep the plans on track. Liberation of the cabotage policy had

attracted foreign vessels to service the Malaysia feeder market with better rates. To remain relevant, Malaysian companies must compete with their foreign counterparts. Hence, the introduction of Cabotage Policy was taking place.

Table 9: Current sustainable practices adopted by Malaysia feeder service companies

Themes	Codes
Reliable service	Competitive freight /charter rates Accurate sailing schedules Choice of routes Delayed reduction
Alliance	Cooperation with the Shipper Own Container (SOC) companies Maintaining relations with Main Line Operators (MLO).
Investment	Effective control of OPEX Data collection Making technological investments
Government support	Establishment of maritime fund Interational diplomacy to support local industry players

Conclusion

This paper presents the sustainability issues in the shipping feeder service sector, current sustainable practices, and challenges in implementing a sustainable approach by Malaysian companies in the era of hyper-competition through an extensive literature review and online interviews with stakeholders. The literature review found that the US-China trade war had impacted Malaysia's feeder shipping by decreasing trade movement. On the risk of COVID-19, research had found a massive decline in global trade due to the hard impact of restrictions implemented by governments to curb the spread of the disease, and an extreme environment of hyper-competition in the market might lead to the collapse Malaysian feeder service companies.

The result from online interview and thematic analysis had identified three sustainable themes, namely current market status, market opportunities and business competition. Malaysia feeder service companies were struggling to penetrate international markets, and less demand on certain routes had resulted in several companies shutting down their operations in certain routes. The drop in business during the COVID-19 pandemic in the first quarter of 2020 was offset by a recovery in the second quarter of the same year. Despite that, the COVID-19 pandemic had created new opportunities in the industry. There was a huge demand for transport of medical products and electronic components, which increased the freight rates from March until October 2020.

The research also found three themes on the challenges in implementing sustainable strategies, namely feeder services, competition, and risk and operational management. The effects of hyper-competition had led to a decrease in freight rates. The current choice among all strategies was to provide reliable services through competitive freight and charter rates, accurate sailing schedules and improved choice of route. Feeder service companies were suggested to form alliances with each other to avoid monopolies and reduce losses. Moreover, companies needed to

be good in making investments. Effective control of company OPEX will increase asset utilisation. Government support was also crucial in sustaining the Malaysian shipping feeder service industry. Therefore, to be a competitive shipping operator in a hyper-competition environment, the feeder service operator must take the initiative and deploy efficient strategies.

This study's limitation was the small number of participants in the online interview and thematic analysis. Future studies could consider a larger number of participants to gain a better perspective and identify more themes in sustainability practices. In addition, perhaps, a mix of qualitative and quantitative methods could be used to augment the output of qualitative findings, so that the evidence would be substantiated in a more concrete manner.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

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