

POTENTIAL IMPACTS OF DA NANG FREE TRADE ZONE ON LOCAL LOGISTICS DEVELOPMENT

ẢNH HƯỞNG TIỀM NĂNG CỦA KHU THƯƠNG MẠI TỰ DO ĐÀ NẴNG ĐỐI VỚI SỰ PHÁT TRIỂN LOGISTICS TẠI ĐỊA PHƯƠNG

TRAN THI PHUONG ANH

Lecturer at Department of Business Administration, University of Dong A

Email: anhttp@donga.edu.vn

Abstract

Free Trade Zone (FTZ) is still a relatively new concept in Vietnam. Under governmental approval, Da Nang is going to establish a Free Trade Zone which is associated with Lien Chieu Port and consists of production, trade-service and logistics areas. It is hoped that the new FTZ will act as a driving force that stimulates various areas of development of the city including the local logistics industry. However, since this is the first pilot mechanism ever introduced in Vietnam and there is quite little research as well as data found in this field, it is not completely sure how Da Nang logistics industry will be shaped under the presence of the new FTZ given the specific location and socio-economic context of Da Nang. Therefore, this paper will attempt to partly bridge this knowledge gap by discussing the current logistics situation of Da Nang and review existing studies to provide an evaluation of the effects of the soon-to-be established Da Nang Free Trade Zone on local logistics development. In fact, the findings of this study suggest that the zone could improve local logistics costs and infrastructure, increase the share of modern and green logistics services and attract more logistics labour and specialised logistics service providers. However, the actual degree and direction of those impacts will largely depend on governmental policies and support.

Keywords: FTZ, logistics, free trade.

Tóm tắt

Khu thương mại tự do (FTZ) là một khái niệm khá mới mẻ ở Việt Nam. Sau khi nhận được sự chấp thuận từ Chính phủ, Đà Nẵng chuẩn bị thành lập FTZ kết nối với Cảng Liên Chiểu và bao gồm các khu vực sản xuất, thương mại – dịch vụ và hậu cần logistics. FTZ được kỳ vọng sẽ là một động lực thúc đẩy nhiều lĩnh vực phát triển của thành phố,

bao gồm cả lĩnh vực logistics. Tuy nhiên, vì đây là cơ chế thí điểm đầu tiên tại Việt Nam và hiện tại còn khá ít nghiên cứu cũng như dữ liệu trong lĩnh vực này nên chưa thể biết chắc mức độ tác động của FTZ đối với sự phát triển logistics tại Đà Nẵng trong bối cảnh địa lý, kinh tế và xã hội cụ thể tại địa phương. Do đó, bài viết sẽ cố gắng phân nào lấp đầy khoảng trống kiến thức này bằng cách thảo luận về tình hình logistics hiện tại của Đà Nẵng và xem xét các nghiên cứu liên quan trong lĩnh vực để có thể đưa ra đánh giá về các tác động tiềm năng của FTZ Đà Nẵng đối với sự phát triển logistics tại địa phương. Kết quả nghiên cứu chỉ ra rằng FTZ có thể cải thiện chi phí và cơ sở hạ tầng logistics của địa phương, tăng tỷ lệ dịch vụ logistics xanh và hiện đại, đồng thời thu hút thêm lao động logistics và các nhà cung cấp dịch vụ logistics chuyên biệt đến địa phương. Tuy nhiên, mức độ và chiều hướng ảnh hưởng thực tế sẽ còn phụ thuộc rất lớn vào các chính sách và sự hỗ trợ của chính phủ.

Từ khóa: FTZ, logistics, thương mại tự do.

1. Introduction

Da Nang, a coastal city located in central Vietnam, is undoubtedly one of the country's major cities with critically strategic and economic importance. The city's geographical location, together with its developed infrastructure including a seaport, an international airport, rail links and continuously upgraded roads, gives itself a natural advantage for establishing a Free Trade Zone (FTZ). In particular, Da Nang is not only on the arterial North-South traffic axis of Vietnam but Da Nang port is also the eastern end of the East-West Economic Corridor (EWEC), making it a crucial gateway to the Pacific Ocean of the hinterland of Laos, Northeast Thailand, Myanmar and Central Vietnam. Moreover, after over 120 years of establishment and development, Da Nang Port, including the currently main port as Tien Sa Port and

its subsidiaries, has proved to be a key maritime hub of the region. The city has been deploying all its resources to develop Lien Chieu Port into a key gateway for the logistics service supply chain connecting ASEAN and Asia-Pacific nations (Da Nang Today, 2024).

On the other hand, Da Nang has still been faced with a number of issues, making it hard to fulfil the goals determined in Politburo Resolution No. 43-NQ/TW on orientations for the development of Da Nang city to 2030 with a vision to 2045. Specifically, the current economic growth is not high and even unstable while the ability to attract investments in socio-economic development is rather limited (Dinh T., 2024). Among those objective and subjective causes of the circumstances, an important factor which requires serious consideration is the lack of groundbreaking and outstanding new mechanism and policies acting as the driving force for the city's development (Dinh T., 2024). Therefore, Da Nang has proposed to build a FTZ that is adjacent to the Lien Chieu Port to pilot policy mechanisms targeted at attracting investment, finance, trade, tourism and high quality services. Da Nang FTZ would also operate under the national government-approved operating mechanisms and policies which are similar to non-tariff and economic zones. This project is expected to have great impacts on the development of logistics services within the local region.

Although FTZs have appeared in over 150 countries around the world, they are still a new concept in Vietnam. Despite the existence of a number of studies on Special Economic Zones in Vietnam, little or no research has been done to explore the potential impacts of establishing a FTZ in the country. Therefore, the purpose of this study is to bridge the knowledge gap by discussing possible effects of Da Nang FTZ on the development of local logistics industry. It is also necessary to mention that many Vietnamese businesses have been so far gained little insights into how the local projects under construction will shape logistics development in the coming years. Therefore, this study will make a contribution to enhancing the understanding of researchers, businesses and even the general public in this area.

It should be mentioned that the effects of a Da Nang Free Trade Zone will not only be limited within the scope of the city but also expand to the whole region and even nation. However, this study will focus only on the former and the aspects of logistics industry selected for investigation are restricted to a

certain number of factors with data available.

The methodology for this study involves utilising local statistics to investigate the current conditions of local logistics development together with a review and synthesis of existing literature on FTZs, then combining both findings to discuss potential impacts of the soon-to-be-established Da Nang FTZ on the development of local logistics services. Under this methodology, recent and relevant data from local sources such as industry reports and government publications are collected and examined to discover trends, performance metrics and operational challenges within the city. Delving into these local statistics will allow a detailed understanding of the current local logistics landscape, which then helps to identify key issues and opportunities. In addition, a search will be conducted to identify relevant papers and knowledge in the field of logistics, FTZs and their relations. This approach will build on the established knowledge, tailor the findings to the specific context and facilitate new perspectives and recommendations based on collective findings.

The findings of this paper discover that the soon-to-be-established FTZ could have significant impacts on Da Nang logistics development in terms of generally improved logistics costs and infrastructure, a shift to more modern and green logistics services, an increasing number of specialised logistics service providers and a possibly wider and diversified pool of logistics labour. The study also suggests that the degree and direction of those impacts largely depends on governmental policies and support.

2. Definition of FTZ

FTZs (Free Trade Zones) are defined by World Bank (2008, p. 10) as “fenced-in, duty-free areas, offering warehousing, storage, and distribution facilities for trade, transshipment, and re-export operations, located in most ports of entry around the world.”

The Da Nang FTZ will comprise production areas, logistics centers, commercial-service zones, and other functional areas. The functional areas will be enclosed by hard fences, facilitating customs inspections, monitoring and controlling activities by customs authorities, as well as regulatory activities by relevant national agencies. Transactions involving purchase, sale and exchange of goods between these functional areas and the outside world are governed by Vietnamese regulations on customs, taxes and import-export activities. The FTZ will be associated with

Lien Chieu Port and in the zone, Da Nang will trial mechanisms and policies that enable it to attract investments in high-quality financial, trade and tourism services. For example, foreign investors establishing businesses in the zone will not only be exempt from the standard investment procedures but also receive preferential customs treatment for both exports and imports. The FTZ may also feature outlet stores offering branded merchandise at significantly reduced prices thanks to tax incentives, benefiting both local residents and international visitors. Besides, Lien Chieu Port is under construction and is set for completion in 2025 with the total area of 450 hectares and cargo handling capacity expected to reach 50 million tons per year by 2050 (Son Ha, 2024). Taking advantage of its geographical proximity to Lien Chieu Port and Da Nang international airport, coupled with favourably issued regulations for the management and development of the zone, Da Nang FTZ is a highly promising element that could make all the difference to the local logistics development.

3. Current logistics industry of Da Nang

3.1. Logistics costs and infrastructure

Da Nang's logistics costs currently range from 11% to 13%, with transportation costs accounting for roughly between 50% and 60% of this total (TDSI, 2023). The high logistics costs are mainly due to a large amount of empty cargo transport with one-way trips making up nearly two thirds, low scale and volume of logistics services, inefficient operations of logistics companies, and a low rate of intermodal connectivity (TDSI, 2023). The detailed components of Da Nang logistics costs are shown in Table 1 below.

The road system and traffic intersections around the sea port are described as cramped and lacking adequate parking spaces for loading, unloading, and vehicle maintenance, which leads to poor operational efficiency, potential traffic congestion and negative environmental impacts (TDSI, 2023). The rail system is also outdated, whereas the inland waterway system has not yet played a supportive role for road transport. The transportation system connecting and moving goods from the seaport relies heavily on road transport, which fails to fully utilize the advantages of other transport modes.

According to Da Nang Department of Industry and Trade, the city's logistics infrastructure is not yet synchronized and matched with its role as a logistics hub in the Central Economic Region (Ministry of Industry and Trade, 2022). This affects its

effectiveness in connecting with other regions along the East-West Economic Corridor and the rest of the country. Additionally, there is a lack of a multimodal transport corridor, despite the increasing demand for cargo transit between various regions through the city (Ministry of Industry and Trade, 2022).

3.2. Main logistics services

Currently in Da Nang, road transport plays a dominant role with a market share of about 70%; maritime transport accounts for 24%; inland waterway makes up 4.5%; and rail represents 1.5% (TDSI, 2023). Road transport services, provided by many enterprises, mostly medium and small-sized, in the city, often face issues such as unfair competition, inefficiencies with a high rate of empty trucks. With respect to the cargo throughput at Da Nang seaport, in 2022 the total cargo throughput at the port reached 12.8 million tons, with container traffic amounting to 652,769TEUs, equivalent to a growth of roughly 14.1% over 2014-2022 period (Da Nang JSC, 2023), as depicted in Figure 1 below.

Despite this growth, Da Nang has not made the most of its geographical advantage as a key international general cargo, container, and tourism port in the Central region, and an important gateway to the ocean of the East-West Economic Corridor. In fact, goods along the East-West Economic Corridor primarily pass through Thai ports while the volume of cargo through the local seaport remains relatively limited despite its superior advantage in terms of distances.

Both the seaports and airport of Da Nang have not fully exploited their potential in the world's map to become an important element of the global supply chain. In particular, domestic cargo accounted for an average of 50% of Da Nang maritime transport over the 2010-2019 period while the international cargo, reported for the year 2019, only occupied 21% at Da Nang international airport (TDSI, 2023).

Despite being a costly method, road transport maintains a dominant market share due to its mobility. Rail transport through Da Nang's stations holds a negligible market share because Da Nang station is centrally located, making cargo handling difficult, especially since large trucks are banned during the day, which can reduce throughput and increase transit time. Additionally, the Tien Sa port is a major transport hub but lacks rail connectivity. The city has plans to relocate Da Nang station and develop Kim Lien station as a dedicated freight terminal to alleviate

congestion.

In Da Nang, there are about 30 companies with warehousing operations, totaling over 80 warehouses with the aggregate area reaching approximately 50 hectares in 2021 (TDSI, 2023). However, most of these logistics companies have small-scale warehouses, and their revenue from services is quite modest. The warehousing services are not diverse and offer limited value-added services.

3.3. Logistics service providers and labour

According to the Vietnam Logistics Report 2022, Da Nang City had nearly 1,500 companies engaged in logistics services such as warehousing, domestic transportation, cargo handling, loading and unloading, storage, postal and courier services, and warehouse leasing (Ministry of Industry and Trade, 2022). However, the capital scale, experience, and management level of logistics companies in the area are still limited. In fact, most companies are small, providing fragmented services with low added value, and some act as subcontractors for multinational enterprises (Ministry of Industry and Trade, 2022).

The rate of outsourcing logistics services in Da Nang is still low, at about 25-30%, compared to the national average of 35-40% (TDSI, 2023). Most companies prefer to either handle their own services that do not require high complexity, such as procurement, warehousing, customs declarations, and packaging, aligning with their relatively small scale or outsource only limited logistics services like transportation. Such companies are regarded as 1PL and 2PL providers respectively. There are very few companies seeking to outsource and provide logistics services under the 3PL model.

Addressing the shortage of high-quality labor in maritime, aviation, and warehousing sectors, especially for management professionals with university degrees, international training, or highly skilled and professionally trained workers, is a pressing need for Da Nang. The local logistics workforce accounted for only 2.7% of the national logistics labour force and about 70% of the direct workforce-such as those associated with cargo handling, inventory checks at warehouses, driving, and operating port equipment-were simply trained at vocational schools or through short-term training at companies (TDSI, 2023). The quality of the logistics workforce remains inadequate, especially in foreign enterprises. Workers' skills often do not meet requirements, with issues like poor industrial

demeanor, low labor discipline, and a lack of market credibility both domestically and internationally.

4. Potential impacts of Da Nang FTZ on the development of logistics industry of the city

4.1. Logistics costs and infrastructure

According to a finding discovered by the coordination between UNESCAP and the Korea Maria Institute, logistics zones around port areas promote efficient logistics system by creating and integrating logistics cluster, consequently leading to logistics costs and time savings (Valentine & Park, 2005). Likewise, it is reasonable to believe that the establishment and maintenance of Da Nang FTZ may lower logistics time and monetary costs. A clear reason explaining this possible impact is that one of the main operating principles of the FTZ is to offer tariff and tax benefits, which means the overall costs for importing and exporting goods will be decreased. However, according to the research by Siroën & Yücer (2014), the privileges in terms of such decreased logistics costs is generally aimed at re-exported goods, specifically associated with firms which import raw materials and components for processing and then re-exporting to the world market, but rather limited with respect to domestic market sales.

Logistics costs can also be affected by improved logistics infrastructure followed by the adoption of Da Nang FTZ pilot scheme. FTZs are expected to pave the way for a transformation in logistics infrastructure by convincing world-wide investors to make a generous spending plan with a competitive package of policy-driven incentives such as land rental fee exemptions or reductions and preferential corporate income tax over a desirable period of time. Such situations have been found in FTZs of China where based on collected statistics, FTZs attracted roughly 17% of the whole nation's investment, across only 4% of its total area (Xinhua, 2021, as cited in Chen, Yang, & Wu, 2024). By investigating China's pilot FTZs, Chen, Yuan, & Cui (2020) also disclosed that the pilot FTZs significantly attracted the entry of foreign-invested enterprises with the annual quantity of newly-registered foreign-invested enterprises even possibly increasing by over 90% in cities with the pilot FTZ policy. However, due to the varying locations, growth levels and resources of FTZ cities, the processes and outcomes of FTZ policies can differ significantly (Guan, Wang, & Zhao, 2024).

Although Vietnam has just adopted the FTZ pilot

mechanism for Da Nang, Lien Chieu Sea Port project alone, a critical component embraced by the FTZ, has successfully captured attention of huge foreign investors worldwide. For instance, Adani Ports and Special Economic Zone Limited – India’s largest integrated ports and logistics company – has planned to invest 2 billion USD in Lien Chieu Port project (Ministry of Industry and Trade, 2023) while another leading full-service logistics provider from Netherland – Verbrugge International B.V - has also shown their interest in the same project. Enhanced logistics infrastructure including warehouses, distribution centers, logistics hubs and so on can boost the efficiency of logistics services, and consequently lower logistics costs.

On the contrary, the enormous amount of initial capital for building infrastructure may be passed on, to a certain extent, to logistics service costs. Moreover, although the FTZ might face operational challenges without adequate logistics infrastructure constructed beforehand, building infrastructure first involves considerable upfront costs without guaranteed immediate returns for investors. Therefore, it is important that the government can persuade and convince the investors of feasibility of realised potential of the scheme so that logistics infrastructure is guaranteed for high-quality logistics services with reasonable costs. In fact, there were real-life cases of FTZ failure in developing countries where poor regulatory framework and governance discouraged notable investors and even led them to the decision of relocating their business to other countries (Wiryawan, 2018; Ezike, Ukemenam, & Chijioke, 2019). In addition, a protracted policy formulation may hinder timely responses to pressing issues, causing frustration as well as erosion of trust among investors and businesses (Valentine & Park, 2005). Therefore, the speed, clarity and consistency in government policies and incentives to support investors may be a key element to keep them stay.

4.2. Changes in logistics services and logistics service providers

In Da Nang, road transport has for so long played the dominant role with a market share of about 70% while maritime transport has only occupied around 24% (TDSI, 2023). With the development of Da Nang FTZ connected with Lien Chieu sea port, it is reasonable to believe that the improvements in port facilities and encouragement of maritime trade, aligning with the city’s goals of becoming a key

logistics hub, will increase the modal share of sea transport.

Moreover, thanks to the operations of the FTZ, Da Nang could demonstrate its potential and prove its position as a part of global production and supply chain network. To sustain its role as an important hub in regional and even global supply chain in the long term, Da Nang businesses are expected to increase its share of green logistics. A study examining the environment impacts of pilot FTZs on Chinese enterprises by Li, Xu, & Wang (2023) revealed that the cities where FTZs have been set up saw a significant and continuous improvement in enterprises’ environmental performance, particularly in green technology innovation and environmental protection investment. Zhou, Zhang, & Fei (2022) in their paper also claimed that the FTZ made a considerable contribution to high-quality green development via diversified paths and scenarios. Another research empirically examining the relation of FTZ policies and green development based on China’s FTZ cities by Guan, Wang, & Zhao (2024) also found that the FTZ policy boosted urban green total factor productivity by 8.17%.

In fact, in recent years, Da Nang has been looking to promote green logistics services to align with its focus on sustainable urban development. For example, Da Nang Port is working towards a green port and some logistics companies, like ITL Logistics Da Nang Co., Ltd., have invested in building modern logistics infrastructure that follows environmental-friendly trends, including using solar energy for industrial activities. However, to be deeply engaged in the global supply chain and take the full advantage of the promising FTZ, logistics services within Da Nang will have to accelerate its speed to become greener. Foreign and multinational companies brought to Da Nang due to their interests in the favorable policies, tax incentives and advanced infrastructure associated with the FTZ or those companies operating within the FTZ who want to do business with the rest of the world will have strict requirements for green logistics. Employing green logistics services will allow businesses to meet environmental regulations, reduce carbon footprints and enhance sustainability, which in turn helps them improve operational and logistics efficiency, comply with international regulations, eventually enhance their brand reputation and successfully attract more customers, leading to a competitive edge and long-term sustainability.

However, there were a number of studies

supporting the statement that a wider scale of trade would change the environment for the worse. For example, an analysis undertaken by Li & Choi (2022) revealed that as the economic benefits increased as a result of FTZ development, the environment would be polluted to a certain extent. Likewise, the paper by (Zhuo, Mao, & Rong (2021) also claimed that environmental welfare was not improved by the establishment of the FTZ. In such cases, it seemed that the increasing share of green logistics failed to overpower the negative effect on the environment resulting from fast growing trade amount.

It is also very possible that Da Nang FTZ will enable logistics services to experience a transformation with technological investments and transfer. In fact, logistics companies in many developing countries have suffered from a complexity and quantity of documentations, the absence of a “service mind” and even sometimes a demand for “tea money” (Valentine & Park, 2005). The stagnation and unreliability of such inefficient formalities are eventually passed on to the customers, discouraging their interests in conducting businesses in such places. This problem is particularly taken under serious consideration by international clients who always look for the most advantageous places to source suppliers, open factories or sell their products. However, logistics in Da Nang has recently demonstrated a lot of efforts to modernise its system and services and alleviate such problems. For example, Da Nang Customs Department has made digital transformation efforts in management and operational processes by applying the products of the 4.0 Industrial Revolution, improving speed and transparency of customs procedure (Phu Nam, 2024). However, there is still a great deal of potential for further modernising logistics services in Da Nang, especially with the construction of the FTZ. To facilitate the effective operations of the FTZ, logistics services need to be modernised to streamline processes, reduce delay and enhance overall operational efficiency. This is essential for managing high volumes of goods, ensuring smooth supply chains and making the zone appeal to international businesses compared with its competitors and other locations. It is also interesting to acknowledge that the improvement of logistics services can also be driven by the existence of foreign companies within the location as technological knowledge and innovation are transferred from foreign affiliates to domestic counterparts. A study by Lin & Zhang (2024)

supported the idea since statistics employed and handled in their study showed that the regional service innovation capacity of Guangdong Province depicted a clearly upward trend following the establishment of the FTZ in comparison with the provinces without one. Keller (2010) also discovered evidence of technology spillovers via international trade and multinational enterprises’ activities. This could be explained by the fact that local firms can learn from the experience of the foreign affiliates being attracted to the zone and, consequently, master their production, marketing, distribution and selling to enter the world market (Ezike, Ukemenam, & Chijioke, 2019). Lileeva & Biesebroeck (2010) further claimed that trade liberalization stimulated the openness of markets and, in turn, accelerated the adoption of advanced technology in local firms to sustain their international competitiveness within the context of fiercer competition. However, an interesting and quite different insight from the paper of Zhuo, Mao, & Rong (2021) highlighted that the establishment of a FTZ did not significantly alter the status quo regarding technology introduction. In particular, they claimed that creating a FTZ could encourage the concentration of industries; however, because of the existing industrial system’ reliance on previous development paths, there is still a need to actively introduce and develop high-end industries (Zhuo, Mao, & Rong, 2021). Otherwise, there could be a risk associated with the agglomeration of low-end industries, especially those with high energy consumption and high pollution (Zhuo, Mao, & Rong, 2021). In the case study of the Batam FTZ, Wiryawan (2018) discovered that foreign enterprises establishing their businesses in the FTZ still carried out their high value-adding and knowledge-based activities like research and development in industries headquarter or regional headquarter elsewhere. It seems that Da Nang has been following the right direction to avoid a similar problem since the city has mapped out plans to prioritise and actively attract the inflow of high-tech industries, particularly emphasizing semiconductor design, artificial intelligence, big data and digital technology (The Saigon Times, 2024). Therefore, the establishment of the Da Nang FTZ, coupled with the city government’s actively seeking high-end investments, justifies a belief of technological advance being achieved in local logistics processes.

Another positive aspect that the FTZ can bring to Da Nang is a growth in the quality and quantity of

logistics services supplied by third-party logistics (3PL), four-party logistics (4PL) or even higher-level logistics providers, securing a highly developed logistics industry. The potentially large number of specialised logistics service providers being attracted to the FTZ can be attributed to factors such as increased demand for logistics services, more business opportunities, enhanced logistics infrastructure and operational efficiency. Some governments such as the Republic of Korea have adopted incentive measures to encourage companies to outsource their logistics operation and management to specialised logistics service providers (Valentine & Park, 2005), from which Da Nang government can learn to apply to the FTZ. On the one hand, the potential influx of businesses to Da Nang FTZ to enjoy a more favourable trading environment can result in a rising demand for diverse and sophisticated logistics services, capturing attention of large 3PL and 4PL providers. They may also establish their businesses in the zone to capitalise upon the efficiencies boosted by well-developed logistics infrastructure. On the other hand, the presence of an advanced logistics industry with the participation of large-scale logistics providers is often one of the major elements bringing success to logistics zones or centers. This is because the services they offer make a considerable contribution to reduction in logistics time and costs, making the area a competitive choice of location for any businesses and supply chains.

4.3. Human resources for logistics companies

Da Nang FTZ may raise the demand for logistics human resources, both in terms of quantity and quality. This can be explained by the fact that high volumes of goods potentially passing through the zone will require more logistics professionals to manage, coordinate and facilitate these movements. The complex supply chains of businesses operating in the zone which often involve international sourcing and distribution require well-trained and skilled logistics staff who have enough expertise and skills to address warehousing, transportation, inventory and customs-related matters. The human resources required will vary considerably, from IT professionals and logistics managers to implement advanced technological tracking and managing shipments to transportation service workers like truckers and operations staff.

Even before the adoption of Da Nang FTZ pilot mechanism, it is forecast that there will be a shortage of human resources within the local logistics industry

(TDSI, 2023). Such shortage may become a more severe problem with the presence of the FTZ. History has shown many cases where the success of a FTZ was credited, to a certain extent, to an abundant source of educated and productive labour while several FTZ failure cases were blamed partly on the low productivity of the labour force (Valentine & Park, 2005). However, Da Nang in particular and Vietnam in general have recently seen a surging interest in logistics-related majors at universities and other educational institutions. This could be regarded as a positive signal since the number of students enrolling in logistics-related majors has risen and the entry requirements for them are also lifted up. Moreover, it is very likely that Da Nang FTZ will attract logistics professionals from other cities and regions all over the country or even overseas to come and search from great employment opportunities brought about by the first FTZ ever in Vietnam. Therefore, it is too early to claim the accuracy of the projected shortage in the labour force at Da Nang city in the coming years. The future circumstance of the local logistics labour force may also depend on other factors such as the introduction of government policies and measures to either support or hinder outside workers from permanently moving to the area for employment.

Another possibility is that the quality and skills of local logistics labour will be directly advanced by foreign firms operating within the zone. In a case study of the Dominican Republic's FTZ, native managers who were trained in foreign companies were crucial in the creation of domestically owned businesses in the zone (Ezike, Ukemenam, & Chijioke, 2019). By observing managerial, technical and marketing know-how of foreign firms, potential indigenous exporters could apply such valuable knowledge to conduct their own businesses (Ezike, Ukemenam, & Chijioke, 2019). Wiryawan (2018), via his survey, also found that firms operating within the FTZs developed their training programs and sufficient standard operating procedures to ensure satisfying labour production output. It is reasonable to believe that Da Nang logistics workforce would also benefit from similar management brought by foreign firms in the FTZ.

5. Policy implications

Since making Da Nang a logistics hub is one amongst three main goals of Da Nang FTZ, there is a huge pressure on the government side to allow this to happen by adopting effective policies and

measures. In particular, a careful analysis of policy-driven incentives along with their benefits and costs to the zone and surrounding areas should be carefully conducted with the aid of relevant experts in the field to ensure that every step taken is on the right direction. A package of special incentives should be specifically designed to attract high-level logistics service providers around the world to the zone as they play a critical role in ensuring a flourishing logistics industry and promoting other areas of development. Investments in logistics infrastructure such as roads, seaports, dry ports, warehouses and logistics-supported IT system should be amongst the top priorities in government decisions as they could act as a driving force for other types of investments and a key to thriving operations of other sectors. High-quality innovations should also be promoted within the FTZ in general and the local logistics sector in particular. Suggested actions to work towards this goal are enforcing penalties for infringers (Guan, Wang, & Zhao, 2024) and establishing institutional support for international collaboration in the introduction of technology and scientific research activities (Zhuo, Mao, & Rong, 2021).

In addition, greenness should be discussed and promoted in the early phases of FTZ development in various ways. Several suggested actions are replacing the traditional development concept of “economic growth comes first” with the emphasis on environmental friendliness and sustainability, and strictly controlling the import and export of highly energy-consuming and severely polluting products (Guan, Wang, & Zhao, 2024). Although there may be concern that tougher environmental regulations discourage enterprises from entering the zone, a number of recent business cases have supported the contrary. For example, Vietnam apparel sector saw textile and garment orders lost to Bangladesh in 2023 as a result of slow green transition (Tuoi Tre News, 2023) while Vietnam’s wood industry has been considering sustainable forest management certification as the ‘visa card’ for exporting wooden furniture (Dinh & Kim, 2024). These examples justify the worthwhile investment in green logistics of companies which want to expand businesses to the world via the FTZ. Another solution to facilitate green logistics and alleviate pollution is to adopt advanced technology and invest in environmentally friendly innovations such as waste reduction systems and cleaner production techniques.

Last but not least, it is demanded that the local government can secure continuous and consistent support from all parties involved, including key personnel, governmental organisations, scholars and media. A cause of failure which had been identified in FTZs was the lack of consistency and clarity of government policies (Wiryawan, 2018; Ezike, Ukemenam, & Chijioke, 2019). In particular, the problems can stem from the conflicts between FTZ Authority and the local government, just like in the case of the Batam FTZ (Wiryawan, 2018). There were also situations where certain goods which had been prohibited by the government but allowed to be imported into the zone under FTZ regulations were seized by the customs, leading to delays, increased demurrage costs and spoilage (Ezike, Ukemenam, & Chijioke, 2019). Therefore, consensus amongst all tiers of governments with respect to FTZ policies is essential to ensure its vitality. Seeking support from scholars and media is also an important measure that allows the government to create a successful FTZ. While scholars can conduct in-depth research on trade policies and best practices, providing evidence-based recommendations for designing an effective FTZ, media may aid in informing the public and businesses about the benefits and opportunities of the FTZ, helping to generate interest and participation.

6. Conclusions

Based on the findings of this study, it is suggested that Da Nang FTZ will have a wide range of impacts on the development of logistics services. However, the magnitude and even direction of those impacts still depend, to a large degree, on changing external and internal contexts and especially, the formulation and adoption of relevant government policies and measures. There is a huge pressure imposed on the government to direct the development of the FTZ in a proper direction and avoid unexpected failure which could happen for different types of reasons.

It should be noticed that this study has certain limitations as Da Nang FTZ is the first pilot FTZ in Vietnam and there is no previous case study in the country to learn from. The study of FTZs’ impacts on logistics industry in other nations may not be applicable to the specific case of Da Nang due to the differences in local and political contexts at each place and each point of time. Moreover, the precise definition of FTZ can vary from country to country, with each having their own way of constructing their FTZ. Finally, there is more potential for future studies

to investigate Da Nang FTZ in further detail as data will be gradually made available when the FTZ is actually constructed and operated.

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