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A Study on the Selection of the Logistics Centre Location—Vietnam-Based Logistics Sector

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Logistics can be considered as the major drive of the economy. Logistics centres play a significant role in the entire logistics networks from the point of materials sourcing to the point of last mile delivery. The efficiency of a logistics network depends on the existence of logistics centres to connect and integrate entire logistics system. This article discusses the importance of selection of the logistics centre location and recommends the procedure to specify the appropriate logistics centre location as a case of Vietnam-based logistics sector.

Keywords: logistics centre, Vietnam, Ho Chi Minh City, location

Introduction

The term "logistics centre" has become more and more popular thanks to the trend of globalization of trade. Besides, technology science is more modern, transnational connections increase, and optimal solutions in business are incredibly enhanced.

According to Tsamboulas and Dimitropoulos (1999), logistics centre is an integration of some means of transport, promoting to multimodal transport. Logistics centre and multimodal transport stations are emphasized to be the main factors of combined transport chain which becomes the transhipment node to move cargo from one mean of transport.

Prokofveja defined "logistics centre is the main systematic element of regional and international macro-logistic systems joining the whole movement of cargo streams by a logistics chain, starting with the cargo shipper and ending with the delivery recipient". The author also considers this centre as a connecting point among different means of transport where distributes cargo (Prokofjeva, 2003).

Europlatform (European Association of Freight Villages) (n.d.) defined "a logistics centre as an area

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within which all activities relating to transport, logistics and the distribution of goods, both for national and international transit, are carried out by various operators".

As Manhattan Association mentioned, "Logistics centre is one of the means for successful development of integrated logistics services".

Palsaitis states that "logistics centres from a business point of view are well-studied solutions which allow the reduction of the number of depots in the city, country/region, as well as provide transportation services closer to manufacturing centres and super- markets" (Palsaitis, 2003-2004).

It is clearly that there is no exact concept on "logistics centre". According to a research of Ieva Meidute, there are two main points of view: "one thought LOGISTICS CENTREs are a part of infrastructure" and "the other supposed that LOGISTICS CENTREs are the place to start up a business" (Meidute, 2010).

In Vietnam, there is the urgent need for determining and selecting the logistics centre locations. On the 3rd of July, 2015 Vietnam's Prime Minister issued the Decision number 1012/QĐ-TTg "Approval for Nationwide Logistics Center System Development Planning by 2020 and Orientation Towards 2030". According to this legal document, Ho Chi Minh City and surrounding provinces are planned to have two class II centers (to the North and South of the city) with a minimum size of 40 hectares and over 70 hectares by 2030. Economic sub-regions in the provinces to the Northeast of Ho Chi Minh City are planned with the development of one logistics centre class number I with a minimum size of 60 hectares in 2020 and over 100 hectares by 2030; economic sub-regions in the provinces to the Southeast of Ho Chi Minh City will develop one logistics centre class number II with a minimum size of 20 hectares in 2020 and over 50 hectares by 2030 (Prime Minister, 2015).

According to the plan, the criteria for choosing the location of a logistics centre depend mainly on the size, without taking account of functions as well as other criteria in order to become logistics centres, which can operate effectively, are able to link surrounding areas and connect to the roadways, railway, marine, and aviation. Therefore, the research on locating logistics centre in Ho Chi Minh city should be implemented immediately and requires the active participation of ministries, departments, associations, enterprises, and researchers from institutions and universities.

Research Methodology

The process to do this research followed the steps as indicated in Figure 1:

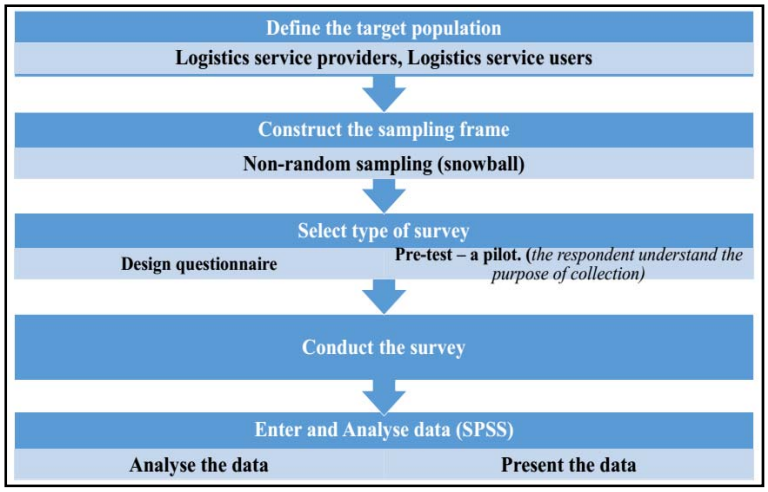

Figure 1. The research process.

A questionnaire was designed to collect primary data from Vietnam logistics service providers (LSPs) in terms of significant issues related to their suggested location of logistics centre in Ho Chi Minh City, Vietnam. Collected data are processed and analysed by SPSS software. The details of questionnaire survey and data analysis are presented in Table 1:

Table 1

The Detail of Questionnaire Survey and Data Analysis

No.	Items	Contents
1	Survey method	Questionnaire survey
2	Sampling method	Non-random sampling (snowball)
3	Assessment method	Quantitative, qualitative
4	Types of response format	-Yes/No -Multiple choice -Open-ended
5	Survey time	June, 2019
6	Number of respondents	Logistics service providers: 46
7	Data processing and analysis tools	SPSS (Statistic Package for Social Science)
8	Reliability analysis	Cronbach Alpha factor (α): $0.6 \leq \alpha < 0.7$: Acceptable $0.7 \leq \alpha < 0.8$: Good $0.8 \leq \alpha \leq 1.0$, $\alpha \geq 0.8$: Very good

Source: Nguyen Van Khoang & Ho Thi Thu Hoa (2019). Research project DT194005 "A research on modeling logistics centre connecting to multimodal transport network—case applied for Southeast of Vietnam (Ho Chi Minh City and neighbouring provinces)".

A decision on establishing a logistics centre should necessarily review many elements such as good location, existing infrastructure, competitive condition, and competitive advantages of enterprises in order to assure business and economic development of the whole area (Table 2).

Table 2

Main Criteria to Select Logistics Centres

No.	Main criteria	Specific characteristics
1	The capability in connecting transport system (the traffic hub)	Sea, road, train, inland water, and air transport
2	Land and the rental price	The current using ability, it can be extended in the future, price competition with different using purpose
3	Limiting urban traffic conflicts	Consistent with the overall development planning of the city and region
4	Human resource	Human resource quality (qualification, soft skills, language and wage)
5	Information technology	Soft infrastructure, the ability to apply IT
6	Market	The distance from logistics centre to the demand and supply sources
7	Related industries	Material source, industrial zones, and manufacturing areas
8	Institutions and policies	Trade advantages, promotion policies

Source: Refer to Europlatfrom (2004), UNESCAP (2002), and Korean Maritime Institute.

Results Discussion

According to survey results, the demand to use logistics services is as shown in Figure 2:

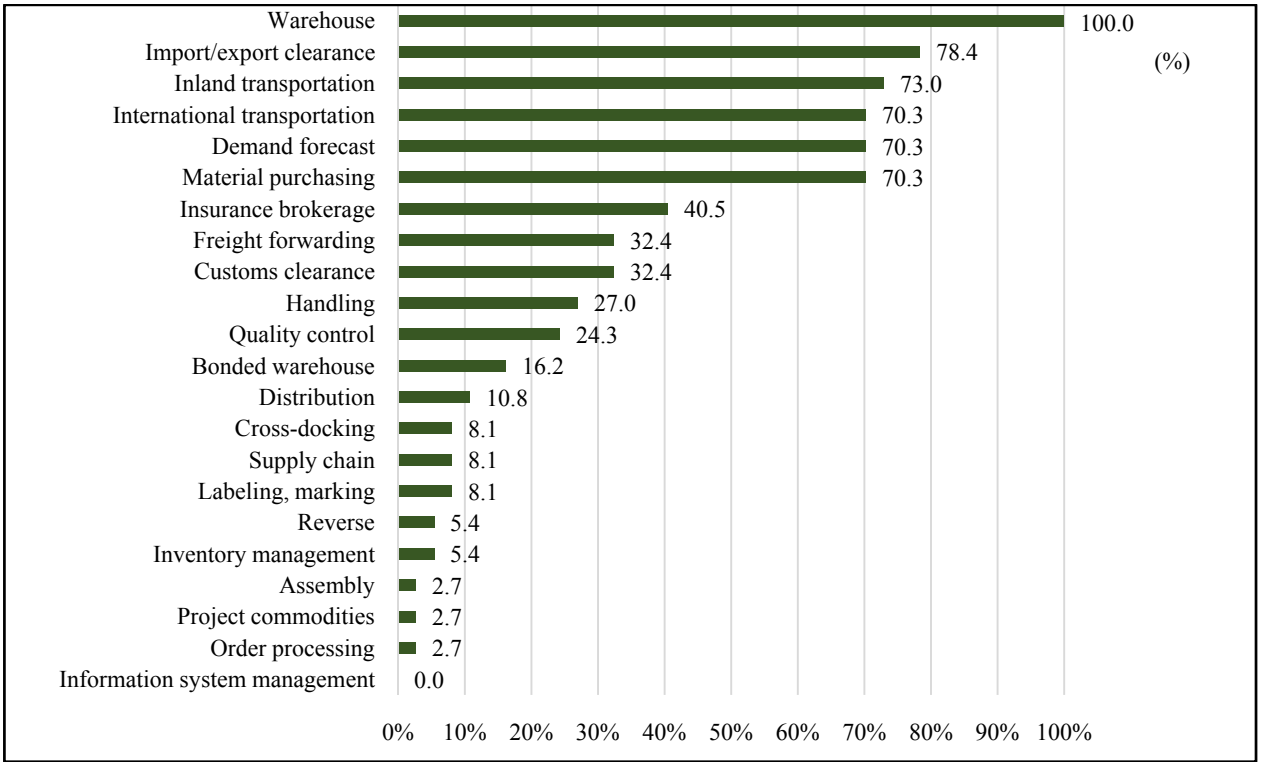

Figure 2. Frequent outsourcing activities of cargo's owner in Vietnam. Source: Nguyen Van Khoang & Ho Thi Thu Hoa (2019). Research project DT194005 "A research on modelling logistics centre connecting to multimodal transport network—case applied for Southeast of Vietnam (Ho Chi Minh City and neighbouring provinces)" & VLA (2018), Vietnam logistics white book, 2018.

As can be seen clearly in the figure, warehouse; import/export clearance; inland transportation services were required with the highest ratio for logistics service outsourcing. If the logistics centres can meet the market demands of Ho Chi Minh City ports and inland clearance depots, industrial zones in Ho Chi Minh City and neighbouring provinces with the variety services above, the customers will have more choices in choosing the quality services from variety of logistics service providers in logistics centres. However, in order to select the best appropriate locations for satisfying the activity requirement of logistics centre is very important. Research results are analysed in detail with the concentration on two aspects including main criteria to select location of logistics centres and the recommended procedure to select logistics centre location.

Some Criteria to Select Location of Logistics Centres

The authors analyse some main criteria to select the suitable location for logistics centres in Ho Chi Minh based on references:

Firstly, logistics centre should be located in the areas which connect to the traffic hub such as highways, road, sea, or inland waterway in order to support to the logistics development (Lipscomb, 2010). An advantage of Ho Chi Minh City in terms of dense river systems should be utilized to connect to the sea, inland waterway, and road way.

Secondly, land and the rental price—establishing new logistics centres requires land availability and the ability to extent in the future. Therefore, this criterion should be measured by how large the land is utilized to develop and invest in logistics centres. In addition, the rental price will affect indirectly the land used. Low

price means that land is not well exploited; this is the key to develop logistics centres (Alam, 2013). Consequently, Ho Chi Minh City should consider which places can be extended and the price of land is still low in some suburban areas for example: Hiep Phuoc, Cu Chi, and so on which could be strategic locations not only connecting means of transport but also having the land to establish logistics centres.

Thirdly, logistics centres should limit urban traffic conflicts: The planning must be suitable to the overall development in Ho Chi Minh City and areas. So, it is necessary to do researches on logistics centres locations to avoid traffic jam, especially inland waterway should be deployed to decrease millions of containers in and out of the city (Tu, 2016).

Fourthly, human resource—the qualification of the human resource should be considered carefully. Logistics centre should have abundant human resource with high quality and they should be expert in foreign language and know necessary soft skills. Besides, in order to attract well staffs, logistics centres should offer appropriate wage and salary, suitable remuneration, and regular training.

Fifthly, information technology—this is soft infrastructure in developing logistics centres. Enterprises should invest more in the backbone of logistics system. A modern logistics centre need a correspondent IT system to connect information to suppliers, customers, partners, and other important nodes to operate logistics centre efficiently, effectively, exactly, and timely.

Sixthly, the distance from the logistics centres to the supply sources and markets: A logistics centre can cover its market in the certain range in the certain time by a special mean of transport. Most of industrial zones in Ho Chi Minh City gather in the North-East; therefore it is a suitable place to locate a logistics centre in this area.

Last but not least, institutional and policy are the most important elements to select a good place for a logistics centre. The local government and the departments support to logistics will facilitate to establish logistics centre more easily. As approved by the Ministry of Trade, the City will have one first class center in the Northeast, one first class center in Southwest, two class II centers to connect regions.

The Procedure to Select Logistics Centre Location

According to the authors, the procedure to select appropriate logistics centre location should be followed by following steps (Figure 3):

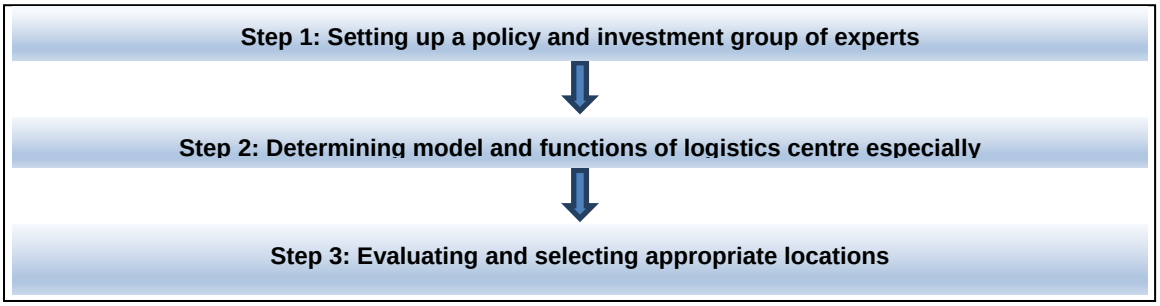

Figure 3. Proposed framework for choosing logistics centre location.

The proposed procedure is explained in details as follows.

Step 1: Setting up a policy and investment group of experts including Department of Industry and Trade, Department of Transport, Vietnam Logistics Business, association, universities, and logistics service providers.

Step 2: Determining the model and functions of a logistics centre. It may be referred the models from other countries such as Singapore, China, Japan, and South Korea (refer to Table 3).

The experts as mentioned above will study a suitable model and function of logistics centres for Ho Chi Minh City and refer to some models and functions of logistics centres all over the world and regions.

Table 3

Comparison of the Activities at Logistics Centres in the ESCAP Region

Country		Major functions	
Singapore		Storage, processing, assembly, classifications, consolidation, transhipment, labelling, packaging, inspection, etc. Manufacturing is partially allowed	
China	China	Manufacturing, storage, processing, assembly, consolidation, packaging, labelling, exhibition, sampling Export and import, intermediate trade, finance, and logistics	
	Hong Kong, China	As a free port, all functions are allowed, including manufacturing, storage, processing, assembly, classification, exhibition, sampling, and transhipment	
	Taiwan Province of China	Export Processing Area	Manufacturing, processing, assembly, packaging, and labelling
		Science Industrial Area	Research and development, manufacturing support, and education for high-tech products
		Special Area	Trade, warehousing, and transport for building international logistics centre in Asia-Pacific region
Japan		Foreign Access Zone	Storage, classification, inspection, testing, processing, assembly, labelling, packaging, and exhibition of imported goods
		Free Trade Zone	Manufacturing, assembly, processing, storage, inspection, testing, transformation, packaging, labelling, export, and exhibition
South Korea		Material handling, storage, exhibition, distribution, processing, repair, and other international logistics activities	

Source: Korean Maritime Institute.

Step 3: Evaluating, selecting, and establishing the optimal transport model; assessing socio-economic and environmental impact; surveying expert opinions; and building matrix selection (Table 4).

Table 4

Evaluation, Selection Steps to Select Appropriate Locations for Logistics Centres

No.	Steps	Proposed methods
1	Giving criteria to select the locations	Bases on decrees issued by the government
2	Research on suitable locations of logistics centres	Using GIS (Geography Information System), expert's opinion survey, optimal transport models
3	Filtering feasibility location	Establishing selection matrix, discussing among members
4	Exploring feasibility locations	Field trip exploration
5	Selecting good locations	Discussing among members
6	Finding out appropriate land to build logistics centres	Contact to the land owner to negotiate
7	Constructing logistics centres	

Conclusions

Nowadays, at the South of Vietnam, most of industrial zones and huge ICDs are located in Ho Chi Minh City and surroundings. Therefore, establishing logistics centres in Ho Chi Minh City is very necessary that facilitates trade and cargo transported in Ho Chi Minh City and its vicinity. Besides, posing standard and modern logistics centres will help Ho Chi Minh City utilise the capability to gain the advantages of a logistics service leading hub not only in Vietnam but also in ASEAN region. Besides, it will create the opportunity for

logistics service providers to integrate world market place by integrating all logistics activities in the entire supply chain. However, in order to find suitable locations for establishing logistics centres, it is very necessary to have the collaboration from not only government bodies such as ministries, departments, but also from associations and researchers as well as logistics service providers in Ho Chi Minh City and nearby provinces.

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