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ENHANCING COMPETITIVE ADVANTAGE TO LOGISTICS INDUSTRY IN THAILAND: ADAPTABILITY AND RESPONSIVENESS TO GLOBAL ENVIRONMENT

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ABSTRACT

Today, global logistics industry is increasingly playing an important role to international trade and investment. Effective logistics systems enhance firm's competitive advantage by reducing total costs and also increase service levels, so products can sell at competitive prices in global markets. Logistics services involve a complex web of activities designed to ensure the efficient flow of physical and information among players in global supply chain. The objective of this study is to explore current capacities of Thai logistics service providers (LSPs), including assessing their adaptability and responsiveness to global environment. In the literature review for this study, a problematic issue was discovered. The paper examines logistics sector in seven activities: 1.transportation; 2.storage and warehousing services: 3.express mails/parcels: 4.packaging: 5.custom [broker] clearances: 6.information technology for logistics, and; 7.freight forwarding companies. To achieve the objectives, survey research and in-depth interviews were conducted via 238 and 75 samplings respectively. Research processes were designed to ensure that validity and reliability were carefully maintained. Data collected was systematically edited and coded before processing and analysis by SPSS version 14. The result shows that within Thai LSPs have a degree of readiness and adaptability to service liberalization and dynamic global environment. Most of them lack understanding of logistics service liberalisation and its effects. Within each logistics activity, competitive capabilities were found to be at medium to low levels. Outdated national laws and regulations, as well as unstable political and economic situations, were found to be impeding the growth of the national logistics service industry. It also assesses the benefits and costs of liberalisation, and shows that LSPs have the most potential for adverse effects. On the other hand, liberalisation can offer logistics users (importers and exporters) greater capabilities for achieving better market responsiveness and cost reductions. The study points out problematic issues to growth within Thai logistics sectors, issues that are impeding international trade flow. It also provides recommendations on how to facilitate Thai LSPs to adapt and respond to the rapid changes of global environment.

KEYWORDS: Logistics services provider, adaptability, responsiveness, logistics, Thailand

1.0 INTRODUCTION

Today, global logistics industry is increasingly playing an important role to international trade and investment. Effective logistics systems enhance firm's competitive advantage by reducing total costs and also increase service levels, so products can sell at competitive prices in global markets. Logistics services involve a complex web of activities designed to ensure the efficient flow of physical and information among players in global supply chain.

The objective of this study is to explore current capacities of Thai logistics service providers (LSPs), including assessing their adaptability and responsiveness to global environment. In the literature review for this study, a problematic issue was discovered.

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The paper examines logistics sector in seven activities: 1. transportation; 2. storage and warehousing services; 3. express mails/parcels; 4. packaging; 5. custom [broker] clearances; 6. information technology for logistics, and; 7. freight forwarding companies. Under mentioned activities, it explores strengths and weakness of each logistics activities, including examining opportunities and threats contributing to opening logistics services liberalization between Thailand and partners.

2.0 LITERATURE REVIEW

The global logistics service industry is increasingly playing an important role to international trade and investment (5). Effective logistics systems can reduce total costs and improve service levels so that products can be sold with lower prices and higher responsiveness to global markets (8, 9). Logistics services involve a complex web of activities designed to ensure the efficient movement of materials, intermediate inputs, finished goods and reversed products between exporters and importers (1).

Countries (e.g., Japan, Chile, South Korea, Hong Kong, and Australia) have now requested that the Thai government open itself to logistics service liberalisation. However, literature (8, 9, 10) reveals interesting issues related to international logistics service liberalisation and logistics service providers (LSPs). For example, countries can have different definitions of the terms and scope of logistics, as well as different understandings of "major industry players," the readiness and adaptability of LSPs that are in the small-to-mid-sized enterprise (SME) category, and international non-tariff barriers (11). To prepare and facilitate Thai stakeholders (LSPs, logistics users, and regulators) to assess their capabilities for logistics service liberalisation, Thailand needs to assess the current capabilities of its LSPs, including examining their readiness for logistics liberalisation.

This literature review searched the various international definitions (by terminology and scope) of logistics. The results showed that countries define different definitions and scopes of logistics activities. Even though countries may have different definitions and perspectives (9, 11), their basic logistics concepts are similar and consistent in that they focus on the two major trade flow activities of physical goods and information flow, including focusing on cost effectiveness and responsiveness (8, 9,10, 11).

This issue of common definitions of terms and scope as it relates to logistics liberalisation is becoming a challenging issue for negotiators and governments. Countries (9, 10, 11) assessed the capabilities of their logistics players before negotiating free trade agreements or establishing service liberalisation. Most of them examined readiness and adaptability within their service sectors before opening logistics services liberalisation.

The literature review pointed out trade benefits and cost reductions attributable to logistics services liberalisation. However, it also identified problematic issues. For example, how does one assess readiness for logistics liberalisation within the categories of LSP size (i.e., small to large) and sector (i.e., transport or freight-

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forwarding companies)? What is the role of government to LSPs: facilitator or regulator? To avoid confusion, this study applies the World Trade Organization (WTO) scope of logistics activities (9,10) within seven major sectors: transportation; storage and distribution; express mails and parcels; packaging; custom broker; information technology for logistics; and freight forwarding companies (11).

The literature pointed to the conclusion that a preparatory evaluation of the readiness of stakeholders within the logistics industry is essential before considering or negotiating the establishment of logistics liberalisation. The potential success of logistics liberalisation is based on a win-win approach to negotiations that always takes into consideration the readiness and adaptability of stakeholders.

The literature also pointed out that there is a relationship between capacity level and readiness to activating logistics liberalisation, as well as to its success. It also pointed to the unique characteristics of each sector. Within Thai LSPs, there were varying low degrees of readiness and adaptability to logistics service liberalisation. Most of them still lack understanding and effects of opening logistics service liberalisation. Each sector showed a competitive capability at medium to low levels.

3.0 RESEARCH METHODOLOGY

To achieve the objectives, this paper collected data from two sources. First, a literature review was conducted. The literature reviewed related to logistics management, global logistics competitiveness, adaptability and responsiveness of logistics businesses including services liberalisation. This data source provided valuable view about the benefits and costs that occur from opening free trade agreements, other forms of logistics services liberalization and competitiveness.

Secondly, relevant data was collected by questionnaire surveys and in-depth interviews. This part of the research focused on exploring the current status and capacity level of Thai LSPs. In-depth-interviews were used specifically to obtain deeper insight into the relevant opinions and concerns of executives and managers at Thai LSPs.

To obtain the full scope of data, the research analysis covered seven LSP activities (as defined by the WTO): transportation; storage and warehousing services; express courier and parcels; packaging; custom clearance; information technology for logistics; and freight forwarding companies. As shown in Table 3-1, a number of samplings were taken from each activity, the reference took from Thailand industry directory.

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Table 3-1: Numbers of sampling sizes

No	Type of LSPs	Targeting sampling	Actual Sampling	Rate of Response
1	Transportation	100	58	0.58
2	Storage and warehousing services	40	32	0.80
3	Express courier and parcels	40	25	0.62
4	Packaging	45	23	0.51
5	Custom clearance	45	38	0.84
6	Information technology for logistics	30	19	0.63
7	Freight forwarding companies	100	43	0.43
	Total	400	238	0.59

Table 3-1 shows numbers of targets and sampling sizes. After having developed sampling sizes for each logistics sector, this study gathered data by questionnaire survey. The 400 questionnaires were distributed by various methods, e.g., face-to-face, postal and e-mail. The rate of response generated was very good with 238 respondents or 59.5 percent in total. The data collection period took two months.

The study also conducted in-depth interview with 75 respondents, covering all sectors of Thai LSPs. All interviews were conducted in Thai language, using a tape-recorder, in one to one-two hour sessions. Notes were also taken at each interview to supplement the recordings and instill an air of professionalism and importance at each interview. The semi-structured questions were developed based on research questions and these same questions were repeatedly asked of all respondents. After all data from the indepth interviews was transcribed and tabulated in appropriate formats, content analysis (2) was performed.

Research processes were structured to ensure that validity and reliability were carefully maintained. The research tools, i.e., questionnaires and interview questions, were designed to fit properly with targeting groups. The questionnaires used perceptual Likert scales (1), where targeted samples were asked to rate each item on a five-point scale, ranging from strongly disagree to strongly agree. If a variable was related to a complex concept (2), it was covered by multiple queries and its value corresponded to the mean value of the scale. In determining the measurement properties of the constructs used in the statistical analysis, reliability and validity were assessed respectively (1, 2) using Cronbach's alpha. The alpha value of overall questionnaire was 0.75. The authors (7) suggested that a value of reliability of 0.70 is acceptable, while over 0.80 is considered good (2).

After questionnaires were returned, they were classified by sources (type of LSPs) and coded and edited to make them ready for data entry (7). The SPSS was used to analyses the data. The survey results were incorporated with information from the indepth interviews.

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4.0 RESEARCH RESULTS AND DISCUSSION

This study reveals research results in four major parts. First, demographic data of respondents are presented. Secondly, there is an examination of the capacity levels and adaptability of firms in Thailand logistics industry as compared with foreign LSPs. Thirdly, there is an examination of other issues related to responsiveness to establishment of logistics liberalisation between Thailand and countries. Finally, this study analyses the benefits and costs to Thai LSPs and other stakeholders (logistics users and regulators) when activating logistics liberalisation.

Table 4-1 Types of respondents

Kind of Business	No. of Respondent	Percent
Freight forwarding	58	24
2. Warehousing and storage facilities	32	13
3. Information technology for logistics	25	11
4. Transportation	23	10
5. Express and courier parcels	38	16
6. Customs broker	19	8
7. Packaging	43	18
Total:	238	100

Table 4-1 shows types of respondents. The greatest number of respondents (by sector) came from freight forwarding companies in all modes at 24 percent, followed by Express and courier parcels, and warehousing and storage companies at 16 and 13 percent respectively. These results reflect a reality within the Thai logistics industry, indicating that transports (land, water, and air) are playing a major role in Thailand logistics industry.

Table 4-2 Numbers of employees

Number of Employees	Percent
Less than 50 persons	48
51-200 persons	36
201-500 persons	9
More than 501 persons	7
Total	100

Table 4-2 presents number of companies' employees. This study identified companies by size. It revealed that most Thai LSP companies (84 percent) have less than 200 employees. It also shows that most are small companies (at 48 percent; with medium-sized enterprises at 36 percent). These results also identified the real major players of Thai LSP.

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Table 4-3 Value of fixed assets

Value of Assets	Percent
Less than 50 million baht	70
51-200 Million baht	13
101-200 Million baht	7
More than 201 million baht	10
Total	100

Table 4-3 shows value of fixed assets of surveyed companies. When considering size of business firms by value of fixed assets, this study referred to the definitions of Ministry of Industry, Thailand. Firms with fixed assets of less than 50 million baht or 50 employees or less are considered small-sized companies. Firms with fixed assets between 50-200 million baht are defined as medium-sized companies. The results in this area of the study are consistent with the result in Table 4-3, revealing that most Thai LSP companies have a value of fixed assets at less than 200 million baht. An overarching conclusion is that most Thai logistics companies are SMEs.

Table 4-4 Management and shareholders' structure

Shareholders' Structure	Percent
Thai 100%	93
Thai > Foreigner e.g., Thai 51%, Foreigner 49%	6
Foreigner > Thai e.g., Foreigner 51%, Thai 49%	1
Total	100

Table 4-4 presents shareholders' structure of respondents. In considering the shareholder (ownership) structure of respondents, the result revealed that most companies, 93 percent, were Thai-owned companies. This was followed by joint ventures between Thai and foreign companies, at just 6 percent. The low percentage of joint ventures reflects a major problematic issue: foreign logistics service providers have impeded entry into Thai logistics markets because of current Thai laws.

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Table 4-5 Capability levels of Thai LSPs as compared to foreign LSPs

Capability levels	Mean
Providing excellent service quality	2.85
Achieving higher performance through logistics staff	2.72
Ability to effectively access local target markets	2.71
Maintaining vision in dynamic business environments	2.70
Effectively managing operating costs	2.68
Providing services via one-stop service centre	2.51
An organizational culture that responds well in a dynamic business environment	2.49
Excellent logistics knowledge and understanding	2.28
Ready access to resources and capital	2.25
Strong management	2.20
Sufficient resources of information technology (hardware, software and "people-ware")	2.03
Having a strong global business network	1.92

Table 4-5 reveals capability levels of Thai LSPs as compared to foreign LSPs. The results reveal that most of Thai LSPs rated their performance and capacities of conducting businesses at lower than the standard level (3.0). They identified that they had higher service quality than foreign competitors (2.85), maintained strong, competent staff to handle customer problems (2.72), and had the capability of local access to target markets (2.71).

However, the results also showed that some issues were becoming weak points. Those issues included: lack of resources and capitals (2.25); weak management talents and competencies (2.20), and; low availability of IT for logistics (2.03). Particularly telling was the lack of global business networks (1.92).

Table 4-6 Problems and opportunities contributing when establishing logistics services liberalization

Problems and Opportunities occurring	Mean
Having intense competition in logistics industry	3.91
Having increasingly cut the prices in logistics industry	3.78
Foreign LSPs increasingly expand the market to Thailand	3.68
The LSP compete to improve higher service quality	3.64
Having higher integration and effectively allocating resources	3.49
Importers and exporters have more alternatives for the LSPs	3.45
Improving higher potential for importing and exporting to foreign markets.	3.43
Thai exporter can increasing expand business to foreign markets	3.18
Thai LSPs can expand their business to foreign market	2.90

Table 4-6 shows problems and opportunities contributing when establishing logistics services liberalization. This study identified problems and opportunities for Thai LSPs in establishing logistics services liberalisation. Targeted respondents were asked about problems or opportunities which could be expected to occur if Thailand established logistics services liberalisation. Most of them strongly agreed that the Thai logistics industry is experiencing intense competition (3.91). They believed Thai LSPs would

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have to increasingly use price strategies (3.78). They saw foreign LSPs expanding more and more into Thailand markets (3.68).

Table 4-7 Benefits occurring to Thai LSPs, if establishing logistics services liberalization

Benefits occurs	Percent
None and having a negative effect	54
Yes, but it might have both positive and negative effects	25
Yes, and having a positive effect	21
Total	100

Table 4-7 shows benefits occurring to Thai LSPs, if establishing logistics services liberalization. As far as benefits for Thai LSPs from logistics services liberalisation, the results reveal that most of the respondents (54 percent) believed that if Thailand established logistics services liberalisation it would not negatively affect Thai LSPs in any way. Some of them (25 percent) pointed that it might affect Thai LSPs to a small degree, but without major affect, since foreign LSPs were already operating logistics businesses in Thailand in the form of agencies or nominees (e.g., TNT, Linfox, FedEx and NYK Logistics).

Table 4-8 Supports or incentives to entry foreign market by Thai government if establishing logistics services liberalization

Supports or incentives providing by Thai government	Percent
Yes, Thai government support to entry foreign market	44.0
Not sure	34.0
No, Thai government does not support	22.0
Total	100.0

Table 4-8 examines the attitudes of respondents to Thai governmental supports and incentives to entry into foreign markets through logistics services liberalisation. The result showed that a large percentage of respondents (44.0 percent) agreed that the Thai government should actively support Thai LSPs' entry into foreign markets. Some of them (34 percent) were not sure that the Thai government would support Thai LSPs investing in foreign markets, because of high risks and uncertainties. Unfortunately, the results also revealed that LSPs think the Thai government currently provides insufficient support in policy, resources or capital for effective entry into foreign markets.

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Table 4-9 Evaluation of positive effects to business operations

Evaluation of positive effects to LSPs	Percent
Strong positive	29
Rather positive	27
Neutral	21
Rather negative	14
Strong negative	9
Total	100

Table 4-9 shows an evaluation of positive affects for Thai LSPs through logistics service liberalisation between Thailand and partners, the study asked respondents to identify such affects. Most respondents (56 percent) identified that liberalisation did provide positive effects to Thai logistics industry. These benefits included better utilization of resources and capital, plus the transfer of valuable technology and know-how from developed countries. As the result, liberalisation would enhance Thai LSP business development, increase trade capabilities, and improve competitive positions over foreign LSPs.

On the other hand, some of the respondents (23 percent) were concerned about negative affects to their operations. They worried that activating logistics liberalisation could increase competition and eventually destroy their business.

Table 4-10 Costs and benefits occur if opening logistics services liberalization

Costs and benefits occur	Percent
Thailand received benefits less than costs	67
Thailand received benefits more than costs	21
No different between costs and benefits gain	12
Total	100

Table 4-10 shows costs and benefits of activating logistics service liberalisation, the study revealed that most respondents (67 percent) identified that Thailand would not reap benefits sufficient to the costs. They indicated that they believed foreign LSPs have high competencies, strong financial support, and wide global networks.

Some respondents (12 percent) pointed out that liberalisation would not be any different for them, in term of operations, since foreign LSPs (e.g., TNT, and Linfox) have already established businesses in Thailand. They indicated it might change some business practices. However, a larger percentage (21 percent) thought that activating logistics liberalisation in Thailand would reap more benefits than costs. They think liberalisation would facilitate importers and exporters to sell more products in global markets with lower costs and higher service levels.

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Table 4-11 Attitudes and support of Thai LSPs to opening logistics services liberalization between Thai and partners

Support and agreement of Thai LSPs to opening trade in services liberalization	Percent
Strong support	29.0
Rather support	27.0
Neutral	22.0
Not rather support	10.0
Not strong support	12.0
Total	100.0

Table 4-11 shows an attitude and support of Thai LSPs to opening logistics services liberalization between Thai and partners. Thai LSPs were asked if they agreed with and supported logistics liberalisation negotiations by the Thai government with foreign partners. The result revealed that most respondents (56 percent) do support such negotiations, but qualified that by indicating that the government should negotiate carefully by considering and analyzing the benefits and costs involved. Further, the government should formulate policies and strategies to develop capacity among Thai LSPs, especially the SMEs.

Some respondents (22 percent) felt that there would be no difference if Thailand negotiated logistics services liberalisation, since even without such negotiations, there were already many foreign LSPs investing in Thailand. Lastly, 22 percent of respondents indicated that they did not agree with nor support negotiations.

5.0 RESEARCH DISCUSSION AND IMPLICATIONS

The result shows that Thai logistics firms are doing businesses in various activities. The literature revealed that countries define logistics and its scope differently. Thailand, for example defines logistics as transport and warehouse activities. On the other hand, Australia defines logistics as activities related to core or non-core logistics. As this is a problematic issue when a country wants to negotiate to open logistics services liberalisation with another country. In essence, they will be speaking different languages. Therefore, the Thai government should develop certain definitions of logistics and its scope for negotiating in international forums. The definitions and scope of logistics would be handled consistently within an international context.

Further, Thai government should define the scope of logistics activities and size of logistics businesses. This definition should be different than other industries due to the unique nature and operations of LSP businesses. The Ministry of Industry, Thailand, defines firms with fixed assets of less than 50 million baht, or 50 employees or less, as so-called small-sized companies. A company with 50-200 million baht in fixed assets is considered a medium-sized company. But, look at TNT, for example. TNT is a world class company operating in Thailand with only 80 employees. The company effectively operates a wide network across many countries. This shows how business size within

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the logistics industry is unique and needs to be defined more in relation to business management and operations.

This study points out that most of Thai LSPs were small-to-mid-sized enterprises (SMEs). It identifies that their strengths as commitments to: higher service quality than foreign competitors; strong and competent staffs for handling customer problems, and; a capacity to access local target markets. It also identifies the Thai LSP weak points within the global logistics industry. Those weak points included: availability of resources and capital; strong management talents and competencies; availability of IT for logistics, and especially; a lack of global business networks. These weaknesses indicate that Thai government should assist Thai LSPs by helping eliminate, or at least, reduce these shortcomings and increase their competitive advantage.

Most Thai LSPs in each activity has a low degree of readiness and adaptability to logistics service liberalisation. This is particularly true within SME sectors. They need capital, technology and know-how to improve their competitiveness. Accordingly, larger Thai logistics companies have a higher capacity level and readiness for activation of logistics liberalisation than the SMEs.

Most of them still lack understanding regarding the affects of logistics service liberalisation. The competitive capabilities within all sectors are at relatively medium to low levels. There are other mitigating factors, e.g., outdated national laws and regulations, and unstable political and economic climates, impeding the growth of the Thai logistics service industry. In relation to Thai government agencies and their role in facilitating logistics operations, it is indicated they lack understanding and knowledge on how to effectively encourage, facilitate and offer incentives to Thai LSPs so that they can better contribute and compete in the global logistics markets.

After analyzing the benefits and costs to logistics liberalisation, LSPs in SME sectors have the most potential for adverse affects. On the other hand, logistics users (Thai importers and exporters) can reap the greatest benefits through higher responsiveness and lower costs. The study points out problematic issues to growth within Thai logistics sectors, issues that are impeding international trade flow. It also provides recommendations on how to facilitate Thai LSPs to adapt and respond to the rapid changes of international logistics liberalisation.

In summary, the results show that:

- Countries lack concise and clear definitions and scopes of logistics activities.
- It reveals that most of Thai LSPs (more than 95 percent) are SMEs and they have less degree of readiness for logistics service liberalization.
- Thai LSPs lack a competitive advantage to entry to market in other countries.
- Many logistics sectors (i.e., warehouse, freight forwarding, custom broker and IT for logistics) are being acquired by foreign companies.

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- Factors (i.e., laws and regulations, incapability of LSPs, culture, and lack of logistics knowledge and best practices) impede to development of logistics industry in Thailand.
- A role of Thai government agencies is unclear and lack of readiness. They also act as a regulator, even they would be a facilitator to assist and support to Thai LSPs.
- Logistics users consider for using LSPs in issues of prices, services quality and services minded respectively, as a decisive factor.

6.0 CONCLUSION

The study examines the capability levels of Thai logistics service providers (LSPs), including an assessment of their readiness and adaptability to international trade services liberalisation between Thailand and outside trade partners. It concludes that Thai LSPs, in particular SMEs, have a lesser degree of capacity to compete with foreign LSPs. They also lack readiness to contribute to the establishment of logistics liberalisation. A timeframe for developing LSP readiness before activating logistics liberalisation would be unique to each sector, depending on types and sizes of logistics activities, but should range between 3-8 years.

The study examines issues related to the benefits and costs of logistics services liberalisation in Thailand. It concludes that by opening logistics liberalisation between Thailand and outside partners, Thai LSPs would be at a disadvantage to foreign LSPs. However, liberalisation would benefit Thai importers and exporters in trading their products into global markets through lower costs and higher responsiveness.

Confusion over definitions of logistics terminology and scope are found to be problematic to negotiations within international forums. This study points out that the Thai logistics industry should define the terms and scope of logistics, consistent to an international context. Another issue is governmental support and facilitation of Thai LSPs. In particular, SMEs should be focused on to enhance their sustainable competitive capabilities and encourage the overall growth of the Thai logistics industry.

The study leads to a conclusion that most of today's Thai logistics players effectively lack critical capacity levels for logistics liberalisation. They have also been negatively impacted by the lack of definition of the terms and conditions required for effective logistics liberalisation negotiation. In the final analysis of the benefits and costs to activating logistics liberalisation, growth of international trade within Thailand would certainly expand. The SMEs in the Thai logistics industry would be adversely affected in term of operations, resource utilization, and capital. Finally, Thai logistics users (importers and exporters) would reap the highest benefits through higher responsiveness and lower costs.

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