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## การสร้างความเข้มแข็งให้กับความสามารถในการแข่งขันของประเทศไทย ด้วยการจัดการโลจิสติกส์

### STRENGTHENING THAILAND'S COMPETITIVENESS THROUGH LOGISTICS MANAGEMENT

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#### บทคัดย่อ

การจัดการโลจิสติกส์เป็นกระบวนการและกิจกรรมที่รับรองว่าคุณค่าที่ถูกต้องถูกส่งไปยังลูกค้าที่ถูกต้องในสถานที่ที่ถูกต้องและเวลาที่ถูกต้องด้วยต้นทุนที่ต่ำที่สุด ยิ่งไปกว่านั้นการจัดการโลจิสติกส์ยังสามารถสนับสนุนองค์กรให้ใช้ประโยชน์ในสินทรัพย์ได้อย่างมีประสิทธิภาพและก่อให้เกิดรายได้ที่มากขึ้น ในสภาวะปัจจุบัน หลายบริษัทได้เพิ่มบทบาทที่สำคัญของตนในด้านห่วงโซ่อุปทานทั้งระดับภูมิภาคและระดับนานาชาติ อย่างไรก็ตามการพัฒนาระบบโลจิสติกส์ของไทยยังอยู่ในระดับที่ต่ำกว่าประเทศอื่นๆ จุดมุ่งหมายของบทความเขียนนี้คือการสืบค้นพัฒนาการของระบบโลจิสติกส์และความเกี่ยวข้องจากห้องวิชาการรัฐและภาคเอกชน ดังนั้นประโยชน์ที่คาดว่าจะได้รับจากบทความนี้คือการที่จะทำให้แนวโน้มได้ดีขึ้นโดยข่ายของชาติจะสอดคล้องต้องกันกับขีดความสามารถและเป้าหมายเชิงกลยุทธ์ของบริษัท เอกชนและรัฐบาลต้องร่วมมือกันในการปรับปรุงสมรรถนะของโลจิสติกส์ให้ดีขึ้น ทั้งนี้ความร่วมมือที่จะเกิดขึ้นระหว่างภาครัฐและเอกชนเป็นนิมิตหมายที่ดีสำหรับอนาคตของการพัฒนาระบบโลจิสติกส์ ซึ่งจะช่วยสร้างความเข้มแข็งให้กับความสามารถในการแข่งขันของประเทศไทย

**คำสำคัญ:** การจัดการโลจิสติกส์, การจัดการห่วงโซ่อุปทาน, ความสามารถในการแข่งขันของประเทศไทย

#### Abstract

Logistics management is the processes and activities to ensure that the right value is delivered to the right customer at the right place and the right time, with minimum cost. Moreover, logistics management can support the organizations to utilize their assets efficiently and generate more revenues. Currently, many firms are playing an increasingly important role in both intra-Asian and international supply chains. However, the development of logistics system in Thailand is at lower level than that in other countries. The purpose of this paper is to investigate the development of logistics system and the involvement from both public and private sectors. Therefore, the expected benefit of this paper is to ensure that the national policies are congruent with the company's capabilities and strategic goals. Firms and government need to collaborate with each other to improve logistics performance. Thus, ongoing

public-private sector cooperation augurs well for future logistics development which will help to strengthen Thailand's competitiveness.

**Keywords:** logistics management, supply chain management, Thailand's competitiveness

## Introduction

Globalization has a critical impact on companies, both locally and internationally. With globalization broadening the marketplace and increasing competition, customers are placing greater demands on organizations to increase quality, serviceability, and flexibility while maintaining competitive costs (Laosirihongthong and Dangayach, 2005). Currently, a main competitive advantage for companies is to add value for their customers by performing logistics activities efficiently. As a result, many organizations are focusing on their logistics management practices (Goh, and Pinaikul, 1998).

Logistics management has become increasingly important to businesses which supply goods and services to an operation and the demand for their goods and services through to the end customers. The focus and relationships with different stakeholder groups are great important to all businesses either small, medium or large corporations, which supply different nature of products and services.

Firms worldwide have embraced the concept of logistics management as important and sometimes critical to their business. For the last few years, a number of companies and organizations in Thailand have taken the lead to develop and improve their logistics architecture, resulting in marked improvements in their performance. They have embraced new innovative technology and new management thinking to cope with the ever-increasing competition from local and global players. The pressure is building up and it is time for the rest of the industries to catch up if they want to remain competitive.

The purpose of this article is to outline the using of logistics management to be the key strategy for building competitive advantage in Thailand by investigating the development of logistics system and the involvement from both public and private sectors.

## Defining Logistics

It is a common notion that logistics involves the movement of physical goods from one location to another (Lummus *et al.*, 2001). Early references to logistics are found primarily in military applications. Then logistics received much attention from the military during both World Wars. The aim is to provide each echelon of the armed force organization with the optimum quantity of each supply item, in order to minimize both overstocking and shortages of essential equipment (Luttwak, 1971).

Over time, the application of logistics has moved into the business arena. In a true business context, Cavinato (1982) has defined logistics as the management of all inbound and outbound materials, parts, supplies, and finished goods. Logistics consists of the integrated management of purchasing, transportation, and storage on a functional basis. On a channel basis, logistics consists of the management of the pre-production, in-production, and post-production channels. The term logistics should be distinguished from physical distribution in that the latter normally applies to only the post-production channel. It should be noted that this definition expands logistics beyond merely physical distribution by including both incoming and outgoing materials.

The professional organization most closely associated with the logistics profession is the Council of Supply Chain Management Professionals (CSCMP previously known as The Council of Logistics Management). CSCMP defines the meaning of logistics management that is part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements (The Council of Supply Chain Management Professionals, 2022).

Logistics management activities typically include inbound and outbound transportation management, fleet management, warehousing, materials handling, order fulfilment, logistics network design, inventory management, supply/demand planning, and management of third party logistics services providers. To varying degrees, the logistics function also includes sourcing and procurement, production planning and scheduling, packaging and assembly, and customer service. It is involved in all levels of planning and execution – strategic, operational and tactical. Logistics management is an integrating function, which coordinates and optimizes all logistics activities, as well as integrates logistics activities with other functions including marketing, sales manufacturing, finance and information technology (The Council of Supply Chain Management Professionals, 2022).

From this background in the military and then into business usage, the term “logistics” has emerged as relating essentially to the movement and transmittal of goods, services and information.

### **Logistics Management Practices in Other Countries**

Fernie (1995) carried out an international comparison of logistics management in the grocery retailing industry. He found significant differences in inventory held in the supply chain by the US and European grocery retailers, which could be explained by their logistics management adoption.

McMullan (1996) examined the state of logistics management practices in the Asia Pacific region and presented results of a survey distributed to some of the region's biggest companies. The study found that in order to maintain a competitive advantage, firms must enhance their ability to plan, take action and manage and control products, services and information from supplier through customer as an integrated process rather than as a series of discrete functions.

Tan *et al.* (1998) sought a relationship between firms' logistics management practice and their performance. They were able to show positive and significant correlation between certain logistics management practices and performances of their respondent firms.

Kwan (1999) investigated the use of information technology in logistics management in Singapore electronics and chemical industries, and found that the top two logistics management strategies were; first, to position logistics as one of the core competencies within the company and, second, to produce to demand rather than to forecast.

Basnet *et al.* (2003) carried out on logistics management activities of manufacturing organisations in New Zealand. They found that a significant problem for many New Zealand businesses is the geographical isolation of New Zealand. Logistics management requires quick movement of materials, information, and close communication. Thus, logistics management efforts are especially vulnerable to this isolation. Even though the flow of information and communications can be greatly speeded through the latest telecommunication technologies, the delay in the physical movement of materials is going to continue to be a barrier to logistics management in New Zealand.

Sahay and Mohan (2003) outlined the logistics practices followed by Indian organizations. The study recommended that Indian organizations should align supply chain strategy with business strategy in order to deliver highest customer satisfaction, streamline processes for supply chain integration to achieve operational excellence, form partnerships to minimize inventory and maximize profits, and focus on infrastructure and technology deployment to build a India specific supply chain.

Quayle (2003) designed a survey to identify current trends of logistics management practice in UK industrial small to medium sized enterprises (SMEs). The outcome identifies issues businesses need to address to improve the performance of their supply chains, and improve their competitive position by grasping the benefits of effective logistics management.

To my knowledge, there is scant published study of logistics management practice in Thailand. However, previous study by Goh and Pinaikul (1998), they examined the case of logistics management practices and development in Thailand. They founded that firms prefer agile suppliers. Companies tend to choose suppliers who can respond quickly to their needs rather than suppliers who are committed to sustaining excellence. Most incurred logistics costs are transportation and warehousing costs. Because the traditional view of logistics as mainly focusing on transportation and warehousing still persists in Thailand. Moreover, logistics managers in Thailand are lack of modern technology and skilled logistics operations. Regarding to this study, the prevalence of logistics management practices in Thailand is not very promising.

### **Logistics Cost in Thailand**

Logistics management has significant impacts on the cost and customer satisfaction of manufacturing firm. It may even give organization competitive advantages in the market (Settakaset and Basnet, 2005). The logistics function becomes an important section in organization as the significant improvement in term of operational and administrative cost. The logistics costs are different in particular companies upon to the businesses and their nature (Udomlearprasert, 2006).

The Office of the National Economic and Social Development Board (NESDB), a key agency on planning and formulation of development, has implemented the Strategic Plan of Logistics Development for Thailand (2007-2011) (The Office of the National Economic and Social Development Board, 2008). The plan aims to achieve three main goals, among which is that of logistics costs efficiency. The measure of logistics cost to GDP, as used internationally, is considered to be a key indicator for this particular goal (The Office of the National Economic and Social Development Board, 2008). The NESDB, a focal point in driving the logistics development strategy, has drafted an action plan to establish a national logistics database system. As indicated in the plan, there have been attempts to quantify the logistics cost to GDP for Thailand since 2004 (The Office of the National Economic and Social Development Board, 2007). Logistics cost to GDP is a key indicator for measuring a country's capability in terms of managing its logistics system to an international standard (The Office of the National Economic and Social Development Board, 2007). Such an indicator has been widely adopted by many countries to reflect the overall effectiveness of its logistics management. The NESDB recognizes the significance for Thailand of such an indicator in order to assess its performance in terms of logistics management by benchmarking with other countries (The Office of the National Economic and Social Development Board, 2008).

## Thailand's logistics costs and logistics cost to GDP

The most recent information from the database of the Office of the National Economic and Social Development Board (NESDB), the total value of logistics costs of Thailand in 2020 were valued at 2,215.7 trillion Baht or 14.1 percent of GDP. The costs slightly decline from the previous year or account for a 0.7% decrease. The cost reduction is affected by the contraction of both national economic activity and global economy as a consequence of the coronavirus disease 2019 (COVID-19) outbreak. Besides, the negative growth rates of GDP are higher than those of logistics costs, partly because of tourism and other service sectors severely affected by the COVID-19. The figure comprised transportation costs of 1,101.7 billion Baht that is 6.5 percent of GDP; inventory holding costs of 964.5 billion Baht that is 5.7 percent of GDP; and logistic administration costs of 166.1 billion Baht that is 1 percent of GDP (The Office of the National Economic and Social Development Board, 2022a).

## A comparison of Thailand's logistics costs with other countries

2019 global logistics costs as a percentage of global GDP were 10.7%. North America and Europe had the least logistics costs as a percentage of GDP accounting for 8.4% and 8.7% consecutively while the Asia-Pacific region had logistics costs to GDP of 12.8%. In 2021, Thailand ranks 11th from 50 countries worldwide, dropping from the 9th in the previous year. Vietnam ranks 8th moving up three places from last year because of its promising alternative as its geographical proximity to China, a large and key market; and successful COVID-19 control leading to rapid manufacturing and export recovery (The Office of the National Economic and Social Development Board, 2022a).

As mentioned earlier, logistics cost in percentage to GDP will be vary upon to business sectors. Logistics costs include majoring the transportation costs, inventory holding costs and administration costs. All these costs are expenses related to business types and activities. However, there are some similar cost structures that every type of business must use for example the rate of oil price, electricity, etc. Thus the higher product price tends to cost a lower transportation expenses (in percentage) in the same quantity (Udomlearprasert, 2006). In the situation of oil price increasing, the companies have to find the way to maintain efficiency without decreasing their competitiveness.

The higher logistics costs implied that Thailand's total cost is higher than other countries that also impact to the competitiveness. However, saving of the logistics costs is not the solution to strengthen company's competitiveness. In managing the organization, the company should set its competitive strategy which other strategies in value chain such as logistics strategy and others that should be aligned to maximize the competences. Therefore, the understanding of its own logistics performance and the ability to measure the performance can help the company to enhance the competitive advantage.

## The Action of Stakeholders on National Logistics Policies and Strategies

According to many institutions start to point that development of logistics system is very important and also see that this is the key to develop national efficiency. However, the past procedure still lack of integration, it makes process did not go to the right way. Both the public and private sectors

have agreed to enhance a quality of logistics system that can compete with world market by established the National Competitiveness Committee (NCC) and the Thai Federation on Logistics (TFL).

### **The Action from Public Sector**

The National Competitiveness Committee (NCC) is the significant sector of government to drive the development of logistics system. Prime minister is a chairman of the NCC. The committee focus on issue concerning to accelerate the competitive capacity of country (Somchikulsub, 2005).

The government has set the goal to reduce the logistics costs to 10% within the foreseeable future, in order to be comparable with developed nations and to ensure that it carves itself a primary role as Asia's logistics hub. The Thai government is planning to establish "National Logistics Master Plan" that will benefit Thai businesses who trade domestically, regionally, and globally. Thus, The Third Thailand Logistics Development Plan (2017-2022) has been established by the Office of the National Economics and Social Development Council in order to set the framework for the development of the national logistic system in Thailand (The Office of the National Economics and Social Development Council, 2022b).

### **The Action from Private Sector**

On the other hand, the Thai Federation on Logistics (TFL) is the coalition platform of the private sectors who are involved in logistics contexts in Thailand for national logistics development (Asian Pacific Logistics Federation, 2021). Currently, the TFL consists of the representative from 16 private parties as follows: Airline Cargo Business Association, Bangkok Ship-owners and Agents Association, Board of Trade of Thailand, Purchasing and Supply Chain Management Association of Thailand, Thai Air Freight Forwarders Association, Thai International Cargo and Container Terminals Association, Thai International Freight Forwarders Association, Thai National Shippers Council, Thai Ship-owners Association, The Association of Thai Software Industry, The Charter Institute of Logistics and Transport, The Federation of Thai Industries, Thai Logistics and Production Society, The Thai Bankers Association, The Thai Licenses Customs Brokers Association, The Transportation Association (Thai Federation on Logistics, 2021).

The roles of the TFL are to help the government draw up strategic logistics development plan to enhance trade facilitation; to accumulate logistics problems faced by private sectors; and to give recommendations, work plan, and projects for national logistics development and trade facilitation (Asian Pacific Logistics Federation, 2021).

### **Discussion and Conclusion**

Globalization has widely affected competition amongst countries across the world. Thailand has also been affected and the pressure is mounting, judging from the many Free Trade Agreements (FTAs) which Thai government has signed with many countries in recent years. The results of competition cause companies that have many business processes to analyze themselves. Therefore, logistics management will be an opportunity for firms to develop competitive solutions.

While Thailand has not reached the level of logistics excellence that the USA and some of the European countries have achieved, it is promising to note some of the developments. First, the demand for logistics expertise is high. This reflects well on the training and development aspects of logistics.

Universities and training institutes can position themselves appropriately to fill this gap, to prepare and train adequate logistics professionals to help implement modern methods of logistics management.

Second, while firms battle with cost containment in logistics, they too realise the need for service improvement. Although the level of existing partnerships with suppliers is good, the current relationship with distributors can be better cultivated. Thus, opportunities exist for new and existing third party providers to market themselves in this direction. Likewise, there is potential for technology solution providers and enablers to enter the Thai logistics sector to inject greater technological prowess into logistics management and practices.

As there are significant and pressing demands on improving logistics management, private and the public sector need to collaborate with each other to improve logistics performance. In this regard, the government can hasten the state of logistics development by accelerating the development of key logistics infrastructure like the proposed new airport and seaport. The challenge of increasing traffic will always exist for growing mega-cities but the government can take proactive steps to ensure the efficient physical flow of materials. Only by overcoming the infrastructure related challenges can the flexibility of developing a desirable supply chain network for the firm be vastly increased. Also, recognising that integrated logistics information systems are pivotal to the development of logistics, the government can undertake to popularise the pace of IT development in the country.

Only when all parties concerned in the logistics arena recognise that logistics is indeed the last frontier in business competition and make a vigorous effort to streamline and upgrade the supply chain process, will logistics management concept bloom in Thailand and achieve global competitiveness. To respond to these challenges would require firms and decision makers to rethink each step of the logistics process and devise appropriate and sustainable strategies that will enhance quality, reduce costs, increase efficiency, and add value to customers in the value chain.

As the result, the Thai government is attempting to encourage companies and organizations to develop and improve their logistics performance. It is doing this through funding, advice and other types of capacity building. The objectives behind this support may include generating the competitive capacity of country and developing Thailand to be a center of logistics in the region.

A good logistics system can increase a country's competitiveness and ability to attract foreign investments relative to its neighbours. In spite of geographical advantages, supporting road/rail systems and port facilities must also be developed to expedite transportation of goods between Thailand and neighbouring countries and Thailand's goal to become a regional transport hub. All the same, ongoing public-private sector cooperation augurs well for future logistics development which will help to strengthen Thailand's competitiveness in the global market place.

## References

Asian Pacific Logistics Federation. (2021). *TFL (Thai Federation on Logistics)*. Retrieved from [http://www.aplf.net/content/05\\_Members/01\\_10\\_tfl.asp](http://www.aplf.net/content/05_Members/01_10_tfl.asp)

Basnet, C., Corner, J., Wisner, J., & Tan, K.C. (2003). Benchmarking supply chain management practice in New Zealand. *Supply Chain Management: An International Journal*, 8 (1), 57-64.

Cavinato, J.L. (1982). The Traffic Service Corporation. *Washington, D.C: Traffic Service Corp.*

Fernie, J. (1995). International comparisons of supply chain management in grocery retailing. *Service Industries Journal*, 815 (4), 134-147.

Goh, M. & Pinaikul, P. (1998). Logistics management practices and development in Thailand. *Logistics Information Management*, 11 (6), 359-369.

H. Kotzab, S. Seuring, M. Müller, & G. Reiner. (2005). (eds.) Research Methodologies in Supply Chain Management. Heidelberg: *Physica-Verlag*.

Kwan, A.T.W. (1999). The use of information technology to enhance supply chain management in the electronics and chemical industries. *Production & Inventory Management Journal*, 40 (3), pp. 7-15.

Laosirihongthong, T. & Dangayach, G.S. (2005). New manufacturing technology implementation: a study of the Thai automotive industry. *Production Planning & Control*, 16 (3), 263-272.

Lummus, R.R., Krumwiede, D.W. & Vokurka, R.J. (2001). The relationship of logistics to supply chain management: developing a common industry definition. *Industrial Management & Data Systems*, 101 (8), pp. 426-432.

Luttwak, E. (1971). *A Dictionary of Modern War*, New York: Harper & Row.

McMullan, A. (1996). Supply chain management practices in Asia Pacific today. *International Journal of Physical Distribution & Logistics Management*, 26 (10), 79-95.

Quayle, M. A (2003). Study of supply chain management practice in UK industrial SMEs. *Supply Chain Management: An International Journal*, 8 (1), 79-86.

Sahay, B.S., & Mohan R. (2003). Supply chain management practices in Indian industry. *International Journal of Physical Distribution & Logistics Management*, 33 (7), 582-606.

Settakaset, P. & Basnet, C. (2005). *Third party logistics in Thailand - from the user's perspective*.

Somchikulsub, S. (2005). Logistics Development in Thailand. *Logistics Digest Magazine*, 1 (1), 44-45.

Tan, K.C., Kannan, V.R., & Handfield, R.B. (1998). Supply chain management: supplier performance and firm performance. *International Journal of Purchasing & Materials Management*, 34 (3), 2-9.

Thai Federation on Logistics. (2021). *History of Thai Federation on Logistics*. Retrieved from <http://www.thailog.org/en/about-us.html> [Accessed 10th December 2021].

The Council of Supply chain Management Professionals. (2022). *CSCMP's Definition of Logistics Management*. Retrieved from [https://cscmp.org/CSCMP/Educate/SCM\\_Definitions\\_and\\_Glossary\\_of\\_Terms.aspx](https://cscmp.org/CSCMP/Educate/SCM_Definitions_and_Glossary_of_Terms.aspx)

The Office of the National Economic and Social Development Council. (2008). *Thailand: Logistics Report 2007*, Bangkok: Office of the National Economic and Social Development Board.

The Office of the National Economic and Social Development Council. (2022). *Thailand's Logistics Report 2020*, Retrieved from [https://www.nesdc.go.th/ewt\\_dl\\_link.php?nid=11975](https://www.nesdc.go.th/ewt_dl_link.php?nid=11975)

The Office of the National Economics and Social Development Council. (2022). *The Third Thailand Logistics Development Plan (2017-2022)*. Retrieved from <https://www.nesdc.go.th/download/document/logistic/The%20Third%20Thailand%20Logistics%20Development%20Plan.pdf>

Udomleartprasert, P. (2006). Enhancing the Company Competitiveness through Supply Chain Management. *2006 IEEE International conference on Management of Innovation and Technology*, 901-905.