

Cold chain logistics: Which area of services will thrive?

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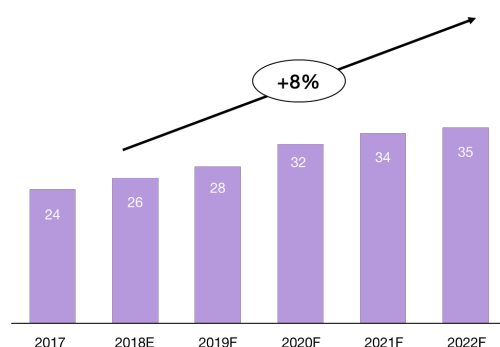
- **The market in Thailand for cold chain logistics, a type of logistics that provides temperature-controlled warehousing and transportation services, is worth THB 26 billion today and is likely to grow by 8% CAGR in the next 3 years. The main driving factor is the increasing adoption of cold chain logistics in the food and beverage industry to maintain the quality of their products and to improve safety for their consumers.**
- **A comparison of profitability between temperature-controlled warehousing and transportation reveals that warehousing service yields a higher gross profit margin than transportation by 15% on average. Furthermore, the gross profit margin for warehousing service is likely to grow in the short-term due to strong demands pushing rental rate up while the costs of electricity, the main direct cost, will increase slightly. However, temperature-controlled warehousing requires a large amount of investment with a long payback period.**
- **Establishing a long-term partnership and signing a long-term contract are important strategies toward the success of a cold chain logistics business, as they will help business owners manage logistics effectively as well as create**

certainty and continuity of the revenue stream. However, prospective service provider aiming to enter the cold chain logistics market will be facing with numerous important challenges including varying temperature levels required for different products, increasing competition, as well as more stringent regulations on environment and sanitation

Today, the cold chain logistics market in Thailand is worth around THB 26 billion and is likely to grow by 8% CAGR from 2019 to 2022 with the expansion of food and beverage industry being the main driver. Cold chain logistics, a type of logistics that involves warehousing and transportation of products in a temperature-controlled environment, has been continuously developed and increasingly adopted by the food and beverage business to replace traditional logistics services. The benefits of using cold chain logistics are that the quality of products is maintained while the rate of spoilage is reduced, especially for meats, fruits and vegetables, seafood products, ready meals, beverages, and dairy products. The increasing demand of cold chain logistics is reflected in its market value as it has grown to THB 26 billion, or accounts for 5% of a total logistics market rising from 2% in 2017. The market value of cold chain logistics is also likely to continue to grow by 8% CAGR in the next three years (2019-2022) with the main supporting factors; the exponential growth of fruit exports to China, the recovery of seafood exports after the lifting of IUU Fishing yellow card, and the rapid expansion in the number of convenience stores and restaurant chains.

Figure 1: Cold chain logistics* market size

Unit: THB billion



Remark: *Calculated from transportation and rental costs of temperature-controlled warehouse and the volume of main products that require cold chain logistics.

Source: EIC analysis based on data from the Department of Internal Trade, Ministry of Commerce of Thailand.

Cold chain logistics consists of two important temperature-controlled activities: warehousing and transportation. On average, temperature-controlled warehousing yields a higher gross profit margin than transportation by 15%.

Temperature-controlled warehousing under a longer-term contract has a high gross profit margin at 40% and is likely to increase based on demand expansion and higher rental fees.

In general, renting a temperature-controlled warehouse consists of two types: Long-term rental with a 3-year contract or longer and temporary warehouse rental. Over the past five years (2013-2017), it was found that temperature-controlled warehousing under long-term contracts has a high gross profit margin at around 40% with a revenue growth rate of around 27%. Although the revenue for temporary rental has grown at 160%, a gross profit margin is lower at only around 15%. This is due to higher labour costs since labours are required at all time to service short-notice clients. With long-term contracts, warehouse renters will invest in machinery and equipment as well as hire their own employees to assist the operation. Therefore, the owners of a temperature-controlled warehousing are at an advantage in terms of costs and warehousing space management. However, there is still only a limited number of service providers due to high initial investment and a long payback period.

EIC expects gross profit margin for the temperature-controlled warehousing in short term to increase due to a higher market demand and higher rental fees that averagely grow by 5% per year. Meanwhile, the costs of electricity, an important direct cost for this type of business, is likely to grow by a small amount.

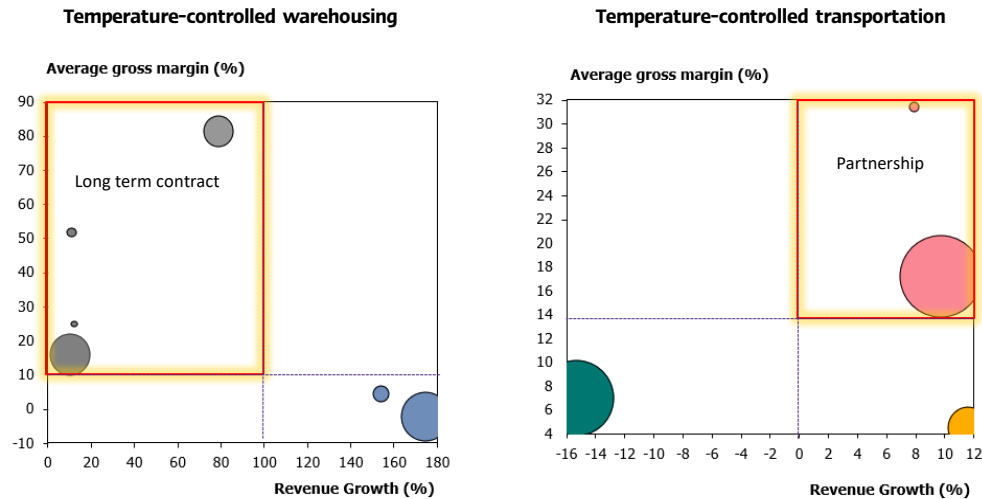
Temperature-controlled transportation with business partners have a gross profit margin of 24% but are likely to decline due to a price competition and the risk from oil price fluctuation.

Temperature-controlled transportation services can be divided into two patterns based on their main customers. They are either focused on providing services to their business partners or to all customers. Business with partners possesses a gross profit margin at 24%, higher than those providing services to all customers whose a gross profit margin at 6%. This is because partnership, whether in the form of joint-venture or co-development of a transportation network, allows business to manage their transportation routes effectively leading to lower operational costs.

However, a gross profit margin for temperature-controlled transportation is likely to reduce in the future. This is due to the low barrier to entry nature of the business where new players do not need a large investment and transportation contracts are often negotiated every year. With increasing entrants, as a result, service providers are likely to face increasing competition in price and service. At the same time, service providers are also exposed to the fluctuations in oil price as it accounts for 30% - 40% of the total costs.

Figure 2: Financial performance comparison between logistics service providers of the temperature-controlled warehousing and transportation in the past 5 years (2013-2017)

Unit: %



Remark: Size of a circle denotes the firm's authorised capital.

Source: EIC analysis based on data from ENLITE and annual report 56-1.



EIC suggests that entering into a business partnership and signing a long-term contract are two important strategies toward the success of temperature-controlled warehousing and transportation services. From the earlier analysis, it can be argued that forming a partnership with product manufacturers, leading retailers, and restaurant chains can help business develop a fruitful relationship with a customer and maintain a stable revenue stream. Partnerships are often developed in the form of joint-venture or co-development in integrated services network that could fulfil different service requests. In addition, signing a long-term contract with a term of 3-year or longer is also another important key success factor since it allows business to

develop an effective strategy to get a higher effective return and a maximum cost efficiency , as well as to optimize warehouse and truck capacity utilisation.

Nowadays, food and beverage businesses are increasingly using cold chain logistics service providers representing an significant opportunity for new entrants. Generally,

logistics costs for food and beverage business account for 10% of the total selling costs. Once cold chain logistics has become more necessary as well as requires specialisation of cold chain professionals and

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high capital investment (e.g. warehouse building, transport vehicles and IT system), food and beverage business are tend to use logistics service providers who specialize in cold chain rather than operating their own. These logistics service providers will help business reduce work processes and logistics costs. Cold chain logistics was found in two forms that are 1) Food and beverage business and logistics service providers establish a business partnership at cooperate level providing a complete cold chain logistics solutions for business and expanding to other similar businesses and 2) Food and beverage business outsources cold chain logistics service providers. Both types of cold chain logistics service forms represent important opportunities for both existing logistics service providers and prospective service providers to enter the cold chain logistics business.

Nevertheless, there are three important challenges for new cold chain service providers; different temperature levels required for different products, intense competition, and more stringent regulations. Cold chain logistics business has potential to grow further while there is

currently a limited number of service providers certified international standard. Therefore, cold chain logistics is an attractive opportunity for existing logistics service provider and prospective service providers to expand their business. However, there are also important challenges to consider which are 1) Different levels of temperature required for transporting and storing of different products according to the Thai Food and Drug Administration standards and related agencies. Prospective cold chain logistics service providers need to clarify a product focused and apply for permits accordingly since it will be difficult to change product with different requirements 2) Competition will become more intense in a long term since some food and beverage business already established formal relationships at cooperate level to provide a complete cold chain logistics solution with a view to future expansion. Therefore, logistics service providers without cold chain solution and prospective service providers will face intense competition and 3) Regulations related to the environment and sanitation are becoming more stringent in many countries, such as the requirement of RFID labelling in the US for consumers to trace temperatures and the enforcement of Good Distribution Practice for cold chain logistics providers in the EU which will create additional costs for logistics service providers. Additionally, they are also likely to face other trade-related risks on products requiring cold chain logistics, for example, the import restrictions on horticultural products adopted by Indonesia that affected Thai exports of agricultural products.

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