EAST WEST TRANSPORT CORRIDOR

REPORT

Study of Freight Transportation between China and Sweden from Enterprises` Perspective

A Case Study: Suggestions and Identified Obstacles of the East West Transport Corridor

June 2007 **Joy Jiao**

East West TC **Karlskrona**

REGION BLEKINGE

East West TC | Biblioteksgatan 4 | 374 36 Karlshamn

Tel. +46 455 305000 | kansli@regionblekinge.se | www.eastwesttc.org

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Contact: Mattias W Alisch, mattias@eastwesttc.org
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Telephone: +46 30 50 00, Fax: +46 30 50 10, E-mail: kansli@regionblekinge.se

1. Introduction

"In the last decade especially there has been a steady growth of global trade and concomitantly freight transport. The drivers of the shifts in transportation and in the distribution of goods are the increased trend toward knowledge sharing, the vertical disintegration of firms, the enlargement of markets, the success and consolidation of the network-firms which are becoming more specialized in their core business. The emergence of information networks with faster contacts and transaction times imply faster and more reliable shipments. The development of transport services and adequate infrastructures to handle freight flows have become an important factor of economic competition between regions. And the whole world is becoming our market but also our competitor. But competition takes place more at the level of sourcing and distribution processes than of production." (Cristina Capineri and Thomas R. Leinbach2006)
"Logistics is now fully recognized as a crucial motor in the competitiveness of industry and trade companies, where transport is a major element of the production-distribution chain. The value added by transport depends on the extent to which transport services are integrated with other logistics functions." (OECD, 2002,Transport Logistics shared solutions to common challenges)
The core concept of logistics is custom-oriented. "And this concept has major repercussions on demand behavior in freight transport. Shippers are increasingly demanding high quality transport and logistics services at competitive prices in a network setup." (Bolis and R Maggi, 2003)

It seems that there have been a lot of studies about demand behavior in freight transport, however they are just done at the general level. For practical use, there is still something missing. Especially, when two countries as trade partners are taken into specific consideration, different production and distribution conditions, different enterprise cultures and strategies make demand behavior in freight transport more complex, and at this time, the general theory will not work.
This paper will try to do some research about the demand behavior in freight transport between China and Sweden in order to help the East West Transport Corridor (EWTC) identify its weakness.

2. Background

2.1 Current trade between Sweden and China

Sweden's largest trade partners have for a long time been mostly EU countries. According to Statistics Sweden, from Jan. 2007 to Mar. 2007, 62.2% of the total export by value took place between Sweden and EU countries, 1.8% between Sweden and China; and at the same time, Sweden imported 71.3% by value from EU countries, 3.4% from China.
With the rapid development for more than 20 years in China, the big country attracts the attention of the whole world. Today`s world factory probably will have another role, tomorrow`s consumption giant. In addition, constantly in search of lower manufacturing costs, many global companies are beginning to look west by moving away from China`s coasts to the country`s interior.

Sweden is showing increased interest in China`s market, which can be seen from the frequent visits between superior officers of both governments. Now Sweden is paving the road for further trade between Sweden and China, and the East West Transport Corridor is a good example to demonstrate Swedish ambitions in China`s market.

From the long-term view, the striking contrast between the actual low trade communications and the high enthusiasm in business shows the potential trade in the

future between the two countries, if one takes the rapid economic growth of China and its huge potential consumption market into consideration.

2.2 Current Transport Service between China and Sweden

At present, freight transport service between China and Sweden is characterized by a polarization to sea and air on opposite ends of the time, cost, and capacity scales. There are two sea alternatives from China to Sweden, route via the Suez Canal or via the Cape of Good Hope.

2.3 What is the East West Transport Corridor

For growing businesses, a wealth of opportunity exists in the expanding global marketplace. Before these opportunities can be accessed, a world of transportation and freight complexities must be overcome. The EWTC is just such a solution, aiming at building a new freight transport bridge between Asia and Europe.

The EWTC, recognized by the EWTC project, was launched by four Baltic Sea countries (Sweden, Denmark, Russia and Lithuania), and is a very import transport link between Asia and Europe. The EWTC project has identified the potential business opportunities behind the current existing transport infrastructure and routes between Asia and Europe. Therefore, it will do more work to reorganize, modernize and smoothen these resources than to construct. As a transnational intermodal transport solution, the East West Transport Corridor includes three modes, sea, rail and road. Along the corridor four countries have joined the project and more regions are involved. On one hand it aims at strengthening the development in the Baltic Sea Region by the improved transportation conditions; on the other hand the geographic advantage of the Baltic Sea Region enables the EWTC to extend international trade to Asia on the eastern side, taking China as its important market, and to Central Europe on the western side. Therefore, when asking which the physical transport route of the EWTC is, the answer is 'many', the answer is the same to the question of physical origin and destination of the EWTC.

If we pick China and Sweden as origin and destination of the EWTC, there are two physical routes. One is North and Middle China freight via Trans-Siberian Railway by and Pan-European corridor through Klaipeda to Karlshamn by ro-ro feeder line (short for Route 1 as follows). The other is Northwest China freight via Kazakhstan (short for Route 2 as follows). This paper will focus on the study of Route 1.

There are some advantages and disadvantages of the EWTC as follows, these have been put forward by professor Andrius JARŽEMSKIS in Lithuania at the initial stage.

Advantages:

(1) Shorter lead-time by reducing transport distance by 50%. Compared with the current transport route - deep sea shipping of a distance over 20.000 kilometers, Route 1 is 11.000 kilometers.

(2) Competitive duration 30 days, deep sea shipping about 50 days.

(3) Competitive price.

(4) Frequency requested varies from 4 times per month to daily services.

(5) Relatively stable transport charges compared with sea. The all water prices vary according to seasonal factors and the relationship between supply and demand.

(6) Very well developed monitoring system of TSR.

(7) Good compatibility of TSR, making containerization along the EWTC possible.

(8) Use of ITS.

(9) Convenient and efficient freight transport between Denmark, Sweden and Lithuania, in fact increases the throughput capacity of Swedish terminals.

Disadvantages:

(1) Transshipment because of different rail gauges

(2) Additional documentations because of different rules in railways: CIM-SMGS

(3) Different languages, documentations

(4) Robbery, customs transparency

(5) The lack of shared containers, empty containers sent before

(6) No service organized

(7) Slow and complicated Russian Customs procedure.

3. Problem Statement

Customers are the God. Only you meet what customers really want, you can obtain competitiveness. In this paper, customers are Chinese and Swedish enterprises (in this article, enterprises are the owners of goods). The EWTC wants to provide the "corridor" to meet their needs. The problem is that determining what their transport demands are, what kind of transport service they want and can afford, and what the advantages and disadvantages of the EWTC are. This article will find out the freight transport demand behavior between China and Sweden, then identify the weakness of the EWTC, and finally put forward suggestions.

4. Literature Review

4.1 Definition

4.1.1 Corridor

From the viewpoint of a transport concept the corridor is seen as a set of infrastructure which accommodates transport activities. The corridor concept can help to solve the increased mobility, because unplanned development along transportation routes may stimulate a significant increase in car-based mobility.

The concept can also strengthen the potential for public transport and for multimodal transport. Not only the accessibility will be improved in a region but other transport modalities (rail, water) are more sustainable than transport by road. (Interreg IIC project integrated development- development along transportation corridors end version, March 2001)

In this paper, the EWTC is not only immobile infrastructure, but also a combination of visible and invisible. For the visible part, it means the infrastructure, and for the invisible part, it includes the transport service provided along the EWTC.

4.1.2 Freight transport

Freight transport means anything and everything to do with operation of goods vehicles and movement of goods. (Source: David Lowe (2002), The Dictionary of Transport and Logistics)

4.1.3 Intermodality

Intermodality is the concept of freight transportation in a way that all the parts and facets of the transportation process including information exchange, are efficiently linked and coordinated and

offering flexibility. It is not just the infrastructure, vehicles, rolling stock or equipment involved, but the management and operation processes. (Tsang Ki Keung, 2005)

4.1.4 Logistics

Council of Logistics Management (1991) defined that logistics is 'part of the supply chain process 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'.

4.2 Relative Theories about Freight Transport and Logistics

4.2.1 Freight Transport Demand

"The demand for freight transportation is based upon the demand for a product in a given location. Because of specialization of labor and mass production, specific areas have an oversupply of product while other geographic areas face a deficit. This geographic imbalance in the supply of a product gives rise to the demand for freight transportation." (John J. Coyle, Edward J. Bardi, Robert A. Novack, 1994)
"The demand to transport a product to a given location is dependent upon the existence of a demand to consume (use) the product at that location. Freight is generally not transported to a location unless a need for the product exists at the location. Thus, the demand for freight transportation is derived from the customer demand for the product." (John J. Coyle, Edward J. Bardi, Robert A. Novack, 1994)

"The derived demand characteristics imply that freight transportation demand cannot be affected by freight carrier actions." (John J. Coyle, Edward J. Bardi, Robert A. Novack, 1994)
"Value of service considers the impact of the transportation cost and service on the demand for the product. Lower transportation cost will cause a shift in demand for transportation among the modes and specific carriers. It can also affect the demand to transport freight over a specific traffic lane." (John J. Coyle, Edward J. Bardi, Robert A. Novack, 1994)

4.2.2 Put Freight Transport in a Logistics Context

Freight transport is closely related to logistics. Generally speaking, it is part of logistics. "And the trend towards globalisation and logistics is in the process of reshaping transport activities. New strategic uses of logistics will continually alter the likely to be most pronounced in terms of improvements in coordination and planning resulting in transport efficiency gains." (OECD, 2002,Transport Logistics shared solutions to common challenges)

"The key element in a logistics chain is transportation system, which joints the separated activities. Transport system makes goods and products movable and provides timely and regional efficacy to promote value-added under the least cost principle. Transport affects the results of logistics activities and, of course, it influences production and sale. In the logistics system, transportation cost could be regarded as a restriction of the objective market. Value of transportation varies with different industries. For those products with small volume, low weight and high value, transportation cost simply occupies a very small part of sale and is less regarded; for those big, heavy and low-valued products, transportation occupies a very big part of sale and affects profits more, and therefore it is more regarded." (Yung-yu TSENG, Wen Long YUE and Michael A P TAYLOR,2005)

"The role that transportation plays in logistics system is more complex than carrying goods for the proprietors. Its complexity can take effect only through

highly quality management. By means of well-handled transport system, goods could be sent to the right place at right time in order to satisfy customers' demands. It brings efficacy, and also it builds a bridge between producers and consumers. Therefore, transportation is the base of efficiency and economy in business logistics and expands other functions of logistics system. In addition, a good transport system performing in logistics activities brings benefits not only to service quality but also to company competitiveness. "(Yung-yu TSENG, Wen Long YUE and Michael A P TAYLOR,2005)

In addition, intermodal transport as one type of freight transport is also a modern logistics concept. "Logistics yields opportunities to expand intermodal freight transport by increasing the volume and length of flows and by taking advantage of the better planning and co-ordination possibilities offered through ICT." (OECD, 2002,Transport Logistics shared solutions to common challenges)

4.3 Freight transportation requirements

"Shippers of freight have varying service requirements of transport providers. These service requirements range from specific pickup times to equipment and communication. The service demands are related to the cost implications of the transportation service provided. The transportation service characteristics of freight shippers include transit time, reliability, accessibility, capability, and security."□John J. Coyle, Edward J. Bardi, Robert A. Novack . 1994□

"A company organizes its production in space and implements its specific logistics according to the transport services available on the market. However there is a large gap between the transport service characteristics required by companies and the quality of service provided.

Industry's requirements are for:
• uninterrupted international services;
- ability to handle small consignments (generally less than trainload and sometimes less than wagonload);
- frequent point-to-point services at scheduled times;
- guaranteed delivery times;
- conveniently located and easily accessible road-rail interchanges, and/or door-to-door delivery by intermodal transport;
- specialist wagons designed to meet the needs of individual cargo flows;
- automatic cargo tracking and monitoring;
- a faster response to queries and problems;
- support for the development of private sidings." (OECD, 2002,Transport Logistics shared solutions to common challenges)

The basic function of freight transportation is to move goods. However, the increasing transport distances that accompany economic globalization often require use of complex chains of modes and means of transportation. Concerns for compatibility of equipment and logistical practices, for efficiency, security and safety, have been put forward for the intermodality of freight movement.

What`s more, the shortening of product cycle requires less time costs of international trade. Therefore, speedy time-definite delivery of goods at competitive prices will be more competitive.

5. Method

This study is not a quantitative study. As a case study, this paper is an objective oriented analysis of freight transportation between China and Sweden from business perspective based on the EWTC.
(1) Interview
Interviews will be taken in two ways, face-to-face interviews and telephone interviews.

For Swedish companies, the former will be used; and for Chinese companies, the latter will be used because of the distance. The questionnaire will help to get valuable information about transport requirements from enterprises` perspective. The aim of the interview is to identify their transportation requirements and their oversea strategy at present and in the future. To gain a more comprehensive understanding, enterprises from different fields will be chosen. On the Swedish side, Railog will help me to select the proper companies, and on the Chinese side, COSCO (Chinese company) will do this for me.

Transport requirements combined with these companies` production characteristics and oversea strategy will serve as the base for a classification which will lead to a better understanding of what kind of transport services will be needed by what kind of companies.

(2) Data collection

Source of data is based on secondary data from reports of the EWTC, books and publications from government and academic institutions.
Previous transport volume and value between Sweden and China in recent years, sorted by types of goods, will be needed.
The elaborate route from China to Sweden, including the distance, price, transport modes used, truck sizes, tariffs rates, transport time etc, in order to test whether the EWTC has the advantages of lead time, satisfied quality and competitive price etc.

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