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LSPs' Value
-Asset-based vs. Non asset-based

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Abstract

The current economic downturn is challenging for Logistics Service Providers (LSP) that are already struggling with low profit margins. Competition today among logistics companies is fierce but new opportunities still exist for LSPs. Cost reduction is high on the agenda; companies are reviewing their supply chains to stay competitive in the market. LSPs can be categorized into asset-based and non asset-based. They are collaborators but also potential competitors. The main focus of this thesis is to bring some useful insights when comparing their competitive advantages and the value they provide to customers under different circumstances. It is an explorative study in which a survey and a case study were conducted. The results indicate that asset-based LSPs have an advantage when providing services based on their own assets. But they are less flexible than non asset-based providers when adjusting capacity to demand fluctuation and when freight forwarding to other suppliers on the trade lanes that involve their own assets. However the non asset-based LSPs are fully dependent on alliances with asset-based LSPs. The type of LSPs which are more competitive depends on the market situation, customers' preferences, and individual company's competencies.

Key words: Third Party Logistics Service Provider, Fourth party Logistics Service Provider, Supply Chain Management, Freight Forwarding, Competitive Advantage, KPI



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Abbreviations

3PL	Third Party Logistics Service Provider
4PL	Fourth-party Logistics Service Provider
5PL	Fifth Party Logistics Service Provider
Co-petition	Cooperation and competition
FMC	Federal Maritime Commission
H & H	High and heavy cargo, e.g. agriculture machinery
ICT	Information and communication technology
KPI	Key Performance Indicators
LCTC	Large Car & Truck Carrier, a large Ro-Ro vessel
LLP	Lead Logistics Service Provider
LSP	Logistics Service Providers
NTAO	Non-transportation-asset-owning companies
NYK	Nippon Yusen Kabushiki Kaisha (a large Japanese Shipping Company)
PDI	Pre Delivery Inspection
RBV	Resource-based view
Ro-Ro	Roll-on Roll-off
SC	Supply Chain
SCM	Supply Chain Management
WWL	Wallenius Wilhelmsen Logistics

1 Introduction

In this chapter the motivation and background for the thesis will be introduced. Continuing, the scope, and purpose for this study are presented. The main research question is formulated followed by the two sub-tasks that lead the investigation towards the authors' interest. The introduction chapter will be completed by an illustration of the thesis's delimitation.

1.1 Motivation

One of the leading companies in Ro-Ro and non containerized shipping is Wallenius Wilhelmsen Logistics (WWL). Even though they specialize in Ro-Ro shipping they also provide entire logistics solutions for their customers outbound logistics supply chain. They act not only as a transport service provider, but also as a freight forwarder, so WWL is regarded as an asset-based third party logistics service provider (3PL). There are other types of logistics service providers (LSPs) that are entirely non asset-based, which aim to fully integrate into their customers' supply chain to provide strategic logistics solutions. Facing the competition and cooperation of these two types of LSPs, discussions are ongoing about which type of LSP actually provides the most value to their customers and are more competitive in the logistics and freight forwarding market. By exploring the issues concerning asset-based and non asset-based LSPs, this thesis will bring some useful insights concerning how to stay competitive by strategically deploying the supply chain management in logistics and freight forwarding and which LSP can perform better under certain circumstances.

1.2 Background

The rapid development of business patterns, technology, and globalization create constant changes and challenges for companies. Competition is fierce; especially for the transport and logistics sector which is characterized by low profit margins. In this environment it is important to find ways to stay competitive in order to outperform the competition. The current economic downturn throws a big challenge to logistics companies because the problems their customers are dealing with now become more complex. Therefore they are looking constantly for new ways to improve. Changing demand patterns, rising costs and more complex solutions urge companies to revise the supply chain, squeezing out wastes, and giving rise to a new model of supply chain management.

1.1.2 Current Market Situation

The business and economic situation is under constant change. Many studies show that the total spend on logistics outsourcing services is increasing and expected to grow world-widely in the future.¹ Currently there is an economic downturn which started in the credit sector and was known as the credit crunch but has now spread globally and is referred to as the global financial crisis. It has had deep impacts on a lot of industries especially the automotive industry. The crisis has also affected the demand for almost all products. Investors are unwilling to invest and consumers are not as willing as before to buy. The result is a general downturn in the global demand for goods and services. As a consequence, companies are laying off people or even facing bankruptcy.

The transportation sector is not an exception in the current economic situation. For example, shipping companies are laying up ships, scrapping, and cancelling new-building contracts, since there is not enough cargo to transport and is suffering problems with over capacity.² This year is likely to further test the resilience of the logistics and freightforwarding sector and may herald further consolidation.³

As always in economic recession, the aggregated demand for transportation is decreasing, but this might also be an opportunity for freight forwarders to gain market share. Because of the crisis, cost cutting is high on the agenda for most companies, and they might seek to reduce cost by outsourcing their logistics activities to LSPs. Recent research shows that around two-thirds of customers agree that a key benefit of using LSPs service is their ability to accommodate significant variations in demand with less fixed assets.⁴ Based on the main advantages of strong relationships and contracts, as well as measurable and attained goals, LSPs help their customers to focus on their core business, increase service reliability, cost efficiency, and customer satisfaction. However, on the other hand, customers' fear of dependency on 3PLs becomes a hindrance for the strategic development and integration of customers and their 3PL providers on the supply chain.⁵ In order for LSPs to continuously develop and outperform in the market it is important to develop the ability to adapt to the changing process in the market.

1.2.1 Company Information

Wallenius Wilhelmsen Logistics was originally founded as Wallenius Wilhelmsen Line by two well-established industrial leaders Wallenius Lines AB from Sweden and Wilh. Wilhelmsen from Norway in 1999. It is well-known as one of the world's largest specialised Ro-Ro transporters with logistics activities. In order to strategically shift towards

¹ Langley, J (2008) *The State of Logistics Outsourcing, 2008 Third-party Logistics Results and Findings of the 13th Annual Study*, Capgemini U.S. LLC.

² Scandinavian Shipping Gazette, January 19, 2009

³ Containerization International Magazine, 'Forwarders Buck Trend', May 2009, volume 42 Issue 5, pp 21

⁴ Langley, J (2008) *The State of Logistics Outsourcing, 2008 Third-party Logistics Results and Findings of the 13th Annual Study*, Capgemini U.S. LLC.

⁵ Langley, J (2008) *The State of Logistics Outsourcing, 2008 Third-party Logistics Results and Findings of the 13th Annual Study*, Capgemini U.S. LLC.

a fully integrated logistics company, Wallenius Wilhelmsen Lines changes the name to Wallenius Wilhelmsen Logistics (WWL) in 2006. The head-quarters of WWL are located in Oslo and Stockholm.

The company's mission is to carry out all the logistics and marketing operations for two of its grounding firms. WWL is an independent operating agent; the actual shipping is carried out by its mother companies' fleets with which WWL has charter agreements. In this way WWL can fully concentrate on their core shipping business and integrated logistics services.

WWL provides transport services globally by integrating five key logistics operations in its business, namely, ocean transportation, inland distribution, terminal services, technical services and supply chain management. These five products of WWL are organized in a pyramid structure. (Appendix 1)

Current Operation of WWL

With both ocean and land based networks, WWL acts as an independent global leader in finished vehicle logistics. It controls the total cost and performance of their customers' outbound supply chain from factory to dealer by an overall monitoring, management, and optimization approach. The company has a strong environment and quality focus, and is continuously striving for the environment target and 'global zero damage' quality assurance, which are the priority in all services from factory to dealer.

Since WWL is the joint venture by two shipping lines, ocean transportation is the key product which also contributes the most for the revenue of the company. Currently, the company has more than 60 vessels in operation globally. For the ocean transport service, WWL serves for three main customer segments: automobile, rolling equipment, and static cargo. (Appendix 2) The company offers services in deep sea trades, transshipment services, and short sea trades. As an example of assets, WWL is operating the world's largest car carrier (LCTC) with a capacity of 8000 standard cars. WWL's business is based mainly on their core customers to provide them transportation in large quantities through its liner shipping services.

The inland distribution service is provided by both owned-assets and outsourcing. In order to provide a seamless move connecting sea and land legs, WWL integrated inland distribution solution by port distribution services and inland network services. The company outsources services from independent local road, rail, and short sea operators to extend their inland network coverage. In selected markets, WWL also operate their own trucking fleet, managing dedicated subcontractors, as well as manning of rail heads. Their present inland distribution covers North America, Europe, South Africa, China, Thailand, Australia, and New Zealand. In 2005, according to their customer requirement, WWL purchased 50% stake in DAS, a leading American logistics company, to provide inland distribution service in the US. Some of the inland service is a part of the SCM product that serves customers using the ocean services, so that WWL develops long term relationship with local hauliers to provide flexible door to door service.

Regarding the terminal services, WWL operates its own terminals in strategic locations throughout Europe, the United States and Asia. These terminals provide flexibility in the

processing, handling and storage of cargo as well as convenient links to road, rail and short-sea feeder connections. The services include receiving and delivery, cargo handling, storage, loading and discharging (of ships), port services (line handling, port agency, etc.), forwarding, and terminal technical services (battery checks, brake test, plastic wrapping, etc.).

Specializing in automotive, agriculture and construction vehicles transportation, WWL also offers the technical service of further processing and final adjustments of vehicles to the markets. The core services they provide are accessory fittings, repairs (including panel and paint and mechanical repairs), storage management, PDI (Pre Delivery Inspection), as well as receipt and dispatch (Plant, Port & Railhead, Distribution centre). Some of the value-added services are owned and operated by WWL, some of the services are customer in-plant operations to ensure its customers' final vehicle production, and the others are procured services through strategic partnerships according to customer requirements.

The supply chain management service is to fulfill the strategy of 'from factory to dealer', and providing integrated tailor-made solutions to meet customers' geographical and supply chain needs. With the focus of the performance of logistics solutions, WWL's supply chain management services are bundled together including process management, visibility and reporting, as well as supplier management. WWL offers 'one-stop-shopping' for their customer's outbound logistics supply chain to add value and gain competitive advantage. (Appendix 3) Because of that, when WWL gets appointed by a customer as a supply chain owner, WWL is supposed to manage the customer's supply chain in a neutral position. Therefore WWL also needs to contact their competitors if it would be the best solution for their customer that their competitors carry out part of the transport legs. One of their main selling points is that WWL provides one source of contact and takes responsibility for their customers' outbound supply chain. Therefore their customers do not need to contact with many suppliers, instead, they only need to contact with the person in WWL who is in charge of their supply chain.

1.3 Business Logistics and Supply Chain Management

In today's customer-centric era, the supply chain management becomes tremendously important to firms in an increasingly competitive global market. The supply chain (SC) comprises an entire network of companies. According to Gopal & Cypress (1993), supply chain can be defined as: "*the physical network that begins with raw material suppliers and ends with the customer, It includes aspects of product engineering, procurement, manufacturing, physical distribution and after sales service, as well as third-party delivery and supply.*"⁶ Another definition given by Martin Christopher "*The management of upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole*"⁷

⁶ Gopal, C, Cypress, H (1993) *Integrated Distribution Management*, Irwin, Boston.

⁷ Christopher, M., (1998), *Logistics and Supply Chain Management: Strategies for reducing costs and improving service*, Pitman Publishing, London

SCM is the integration of all the activities on the chain, through coordination and collaboration among all actors on the chain to achieve competitive advantage collectively. Mentzer et al. propose a general definition of SCM as “*the systematic, strategic coordination, of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole*”.⁸

The supply chain consists of nodes and links. Links represent transportation or business relations and nodes represent the different stages of operations, for instance production, storage, these being vertically networked companies.⁹ Logistics is only a part of supply chain management which interacts among the functions on the supply chain. Therefore it acts as a string linking operation processes of upper and lower supply chain parties together.

There are a number of different terms regarding logistics. The authors have chosen to use the following definition: “*Logistics is the process of planning, implementing, and controlling the flow and storage of raw materials, in-process inventory, finished goods, services, and related information from point of origin to point of consumption (including inbound, outbound, internal, and external movement) for the purpose of confirming to customer requirements.*”¹⁰ The outbound business logistics is the focus in this thesis.

Based on the understanding of business logistics and supply chain management in mind, the research study is conducted from the perspective of LSPs in the logistics and freight forwarding market.

1.4 Asset-based and Non Asset-based LSPs

The logistics and freight forwarding market is served by different LSPs and is extremely fragmented. There is no global dominant logistics provider in this market. The biggest logistics provider has around 10%¹¹ of the market (Appendix 6); they also specialize in transporting different types of commodities and cover different geographic areas.

The terms of asset-based and non asset-based LSPs (which was named NTAO representing non-transportation-asset-owning companies) originated in sophisticated logistics departments of large shippers. These departments found a business opportunity in providing logistics services to other shippers, as well as to their own parent company. The new breed of third parties composing of asset-based and non asset-based logistics companies started to develop

⁸ J Mentzer J.T, DeWitt W, Keebler, J.S, Min S., Nix N.W., Smith, C.D., and Zacharia, Z.G., (2001) *Defining Supply Chain Management*, Journal of Business Logistics, Vol. 22, No. 2, pp 1- 25.

⁹ Bask, A.H. (2001) *Relationships between 3PL providers and members of supply chains- a strategic perspective*, Journal of Business and Industrial Marketing, Vol. 16 No.6, pp. 470-486

¹⁰ Modified from Bardi, E.J; Coyle, J; and Novack, R.A, (2006) *Management of Transportation*, 7th edition, South-Western, Thomson, USA,

¹¹ UNCTAD (2007), *Review of Maritime Transport*

from the early 1990s.¹² According to our definition, the relationship between those logistics service providers and asset-based/non asset-based shows in figure 3. There are a few factors that normally look into to assess if a company is asset-based or not: transportation asset such as vehicles and vessels warehousing, light assembly, machinery, as well as other tangible fixed assets. The non asset-based LSPs concentrate more on system, management and solutions, as well as people. For asset-based LSP, the objective is not only to get economic leverage, but also balance transportation lanes, even out seasonality, and reduce random fluctuation—thus reducing the logistics costs for all participating shippers. For the non asset-based LSPs, the people and systems are the major assets, such as logistics engineering, information processing, and performance reporting etc. It leaves the company free to use the transportation assets of all common carriers and better represent a shipper in negotiations with carriers, and can forge stronger partnerships with their customers, getting involved in the customers' SCM. Both asset-based and non asset-based LSPs possess two fundamentals which attract many shippers: expertise and systems, because these cannot flourish in a business in which transportation and logistics is a small part of the production process.¹³

For different LSPs, there are different aspects that are important depending on whether or not the LSP is asset-based or non asset-based. From a legal perspective this is important since there are protective competition laws that affect the operation of LSPs, especially if the company is in a leading position. Another question is whether or not having assets will bring competitive advantages. There are a lot of discussions going on about whether or not "*Being asset-based gives an incentive for the LSP to maximize the use of their own assets because their organizational objectives are to maximize the return on investment for its own shareholders.*"¹⁴ This behavior will jeopardize the interests of the clients, since some actions taken by the LSP may not always be in the best interest of the customer. In what way can the performance of the LSP be measured? There are some important aspects that have to be considered for both asset-based and non asset-based LSPs.

1.5 Research Purpose and Research Scope

The investigation and evaluation are made regarding the operation of two main types of LSPs, namely asset-based and non asset-based LSPs, with the focus on the operational guidelines, and critical metrics. Furthermore, the terms of supply chain management as well as logistics and freight forwarding service etc. should be defined, and suggestions should include implications for improving the business operation and how to gain competitive advantage for the future.

The research scope is limited to the defined geographic market and certain types of cargoes, and the focus is in asset-based and non asset-based LSPs. The trade specifically looked into is

¹² Sehffi Y (1990) *Third Party Logistics: Present and Future Prospects*, Massachusetts Institute of Technology, Journal of Business Logistics, Vol. 11, No. 2, 1990.

¹³ Ibid.

¹⁴ Langley, C.J.Jr, van Dort, E., Ang, A. and Sykes, S.R. (2005) 2005 *Third Party Logistics, Results and findings of the 10th annual study*, pp. 1-46.

Northern Europe – North America. The reasons are that this trade lane is one of the most important to WWL. Furthermore EU and US have the most powerful antitrust authorities, and WWL is a dominant player on the transatlantic trade lane. The study focuses on the finished products in outbound logistics and transportation, such as the segments of auto, rolling equipment, and static cargo. The 3PL and 4PL services are focused because they have been growing rapidly, and they can best represent the asset-based and non asset-based LSPs respectively. Lastly, the information technology and human aspects are out of scope in this thesis.

1.6 Problem Definition

Research Question:

Comparing asset-based to non asset-based logistics service providers, what are the advantages and disadvantages of each, and under which circumstances can they create competitive advantages and bring value to their customers in the logistics and freight forwarding market?

1.6.1 Sub-questions

Since this thesis is conducted in cooperation with WWL, the company and the authors developed the following sub-questions. On the one hand, the main research question provides a background understanding for solving the sub-questions. On the other hand, by solving the sub-questions, it acts as a case study to help to further gain insights for the research question.

➤ Frame of reference:

What are the definitions of business logistics, supply chain management, freight forwarding, asset-based and non asset-based LSPs, as well as 3PL & 4PL?

The differences between them should be clarified. It is necessary to understand definitions of the terms, which will serve as a platform for the rest of the thesis.

➤ Operational Guidelines:

How can WWL stay competitive by strategically managing their customers' outbound logistics supply chain?

In the case of WWL there are certain restrictions to their operation. As WWL has a high market share in the sea transport sector, there is a legal aspect that has to be considered when operating as a dominating player in the market. There are strict competition laws to ensure that there is a fair and healthy competition. The main purpose is to ensure that the dominating actors do not use their advantages to keep competition out.

Potential problems could arise when there is a situation in which WWL has the choice to book cargo on one of their own vessels or on one of their competitors. In some situations the handling of sensitive freight rate information might be a potential problem. The regulations and requirements vary depending on the geographic region. Since the scope of the problem is very broad, it will be narrowed down to limit to the United States of America and Europe.

The approach to this problem is to conduct interviews regarding how the business is conducted, the legal issues of the operation, and the potential problems that may affect the operation. Since the laws are different depending on the region of operation, it is important to study the relevant laws of each region. Present the current benefits/drawbacks of having own assets and to finally come up with recommended actions and guidelines. The goal is to retain the current customers and develop the supply chain management (SCM) service by establishing clear operational guidelines for WWL's business processes to gain competitive advantages in both the short and long term. Having clear rules for how to conduct the operation will not only benefit the LSP but also help to provide more value for the customers.

➤ **Critical Metrics:**

What type of metrics can maximize benefits for both customers and LSPs?

The main research question concerns with the value that the different LSPs can create. But value that cannot be measured is of little use to the LSP. The current state of the logistics and freight forwarding market shows that the LSPs can deliver customer service and business process efficiencies, but it requires deliberate efforts to form strong relationships and through the use of detailed contract that include clear expectations and metrics.¹⁵ Applying the right metrics can make a big difference for the company's performance and customers' perceptions. Metrics serve as the focus of a company. In this section, the authors will define those parameters that influence the performance of the asset-based and non asset-based LSPs, and explain how to set up metrics to evaluate and ensure the performances as agreed upon. Since the critical metrics should be created to meet specific company's objective, the authors have used WWL as a starting point to develop a sample of metrics that would be applied to measure the advantages and keep track on the drawbacks. Here it is assumed that there is already an existing technology base to deal with the demands of information flow.

1.7 Delimitations

This research project will focus on the comparison of advantages regarding the operations of both asset-based and non asset-based LSPs. Since the scope of the research includes all parts on the outbound supply chain and a wide geographic coverage, the comparison has to be done in a more narrowed manner. Therefore the focus is on 3PL representing the typical asset-based LSP, whereas 4PL representing the typical non asset-based LSP. The reason is because the line between asset-based and non asset-based LSPs are dawned between 3PL and 4PL (figure 3). Another reason is that, 1PL and 2PL mostly provide traditional transport services within a limited geographic coverage, whereas 5PL is a relatively new concept that the authors leave it out for further studies. Concerning the legal aspects, the authors can only focus on the EU-US trade lane due to the time constraint. It is also the most interesting to WWL because WWL plays a dominant role on this trade lane. Since this is a case study focusing on WWL's operation, our findings will have a limited generalization, for example, the findings will be limited to certain types of companies, such as LSPs providing outbound transport and logistics services especially for the automotive industry and the Ro-Ro sector.

¹⁵ Langley, J (2008) *The State of Logistics Outsourcing, 2008 Third-party Logistics Results and Findings of the 13th Annual Study*, Capgemini U.S. LLC.

2 Frame of Reference

This chapter is based on the theories and literature studies of LSPs concerning the research purpose and the research question. It serves as a foundation to help understand the definition and clarify the differences between the terms. The purpose is to create a common platform of understanding for the thesis.

2.1 Logistics Outsourcing and its Evolution

In the recent past, 3PL also referred to as logistics outsourcing¹⁶, the authors will briefly go through the evolution process and service attributes here.

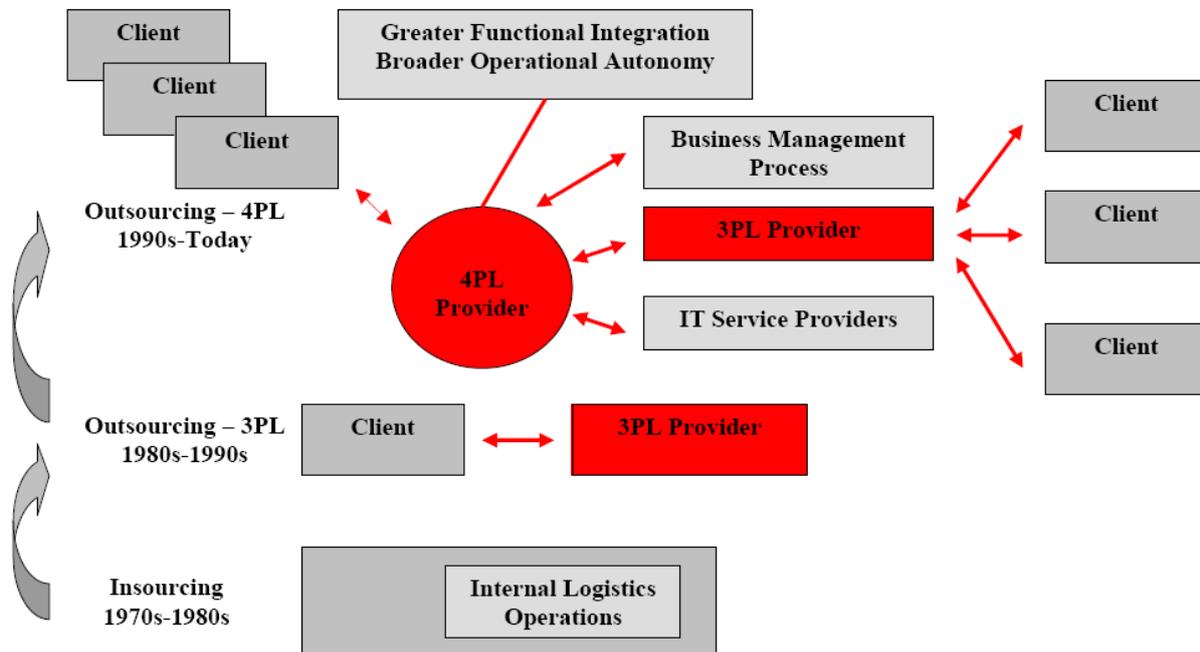
There has been a growing trend globally that the logistics activities are outsourced to logistics service providers.¹⁷ The development is towards providing multi-functional and integrated services. With the current market fluctuation and globalization, LSPs are under severe competition and continue to expand their role in the market. LSPs emerged from small businesses buying and selling in the same location, which is regarded as 1PL because they are self-sufficient in a limited geographic region. As the expanding of businesses and manufacturers' logistics border grows to a wider geographic coverage, a 2PL acts as a commodity capacity provider (such as trucking company or warehousing operator), providing services for a single or small number of functions on a SC.¹⁸ From the 1970s to the 1980s, logistics operations were fragmented as several parts of company's in-house sectors. From that time until the 1990s, the deregulation of the freight transport industry was in progress with the development of information and communication technology (ICT). Revolutionary changes took place because companies started to squeeze the logistics costs by outsourcing services to 3PL which also gradually integrated the logistics functions with additional activities to control materials and personnel. The 3PL was characterized as buyer and provider of logistics services. As the 3PL providers increase in popularity and then they became more and more integrated with companies' systems in the late 1990s, the role of LSP evolved into a new one that of a Fourth-party Logistics (4PL) service provider. The evolution process is depicted in the Figure 1. Today 3PL and 4PL are collaborating as well as competing with each other in the logistics and freight forwarding market. As the trends of outsourcing specialized functions to external partners, 5PL is developing due to the demand

¹⁶ Marasco, A. (2007) *Third-party Logistics: A literature review*, Institute for Service Industry Research, Int.J. Production Economics 113 (2008) 127-147

¹⁷ Third-party logistics market still growing; Northeastern University's annual survey of 3PL CEDs predicts continued growth for the industry, with some surprising shifts. URL: <http://www.mmh.com/article/CA6495506.html/>, (accessed on 2009-01-23)

¹⁸ Vasiliauskas A., Jakubauskas G., (2007) *Principle and Benefits of Third Party Logistics Approach When Managing Logistics Supply Chain*, Transport, Vol XXII, No 2, 68-72.

of companies and functional specialized partners for an integrated approach to strategically optimize the entire supply chain.



Source: Gavrielatos, 2006, p 10¹⁹

Figure 1 Evolution of Logistics Outsourcing

The logistics outsourcing activities can be defined mainly in three levels: the transactional outsourcing, the tactical outsourcing and strategic outsourcing.²⁰ In the transactional outsourcing, there is no bonding between the LSP and the outsourcing company and that the relationship tends to be short term. The tactical outsourcing is based on a comparatively longer term (normally 1-5 years) contractual relationship. It is transaction-oriented but focus on cost reduction and service improvement. It provides facilitated goods and information flows for their customers. This kind of traditional logistics provider normally offers niche services to customers. The strategic outsourcing is based on long term (5+ years) cooperation, such as partnership or joint venture. Therefore they have common core values and share the risk. This type of logistics provider has broad supply chain expertise and consultative skills. With the support of technology integration, they establish free information flow and create supply chain visibility as well as transactional transparency with their clients.

3PL and 4PL are playing at two different levels of various business models, namely tactic outsourcing and strategic outsourcing. (Appendix 4) However they are also connected because 4PLs provider could help 3PLs to strategically integrate with their client's operations and vice versa, 3PL providers offer transport options for 4PL to strategically deploy. What is

¹⁹ Gavrielatos A.K, (2006). *The role of the logistics service providers in the improvement of the Nordic logistics networks a Swedish perspective*. Logistics and Transportation Management Master Thesis No. 2006:68 p 10

²⁰ Gourdin, K. (2006) *Global Logistics Management: A Competitive Advantage for the 21st Century*, Blackwell Publishing.

interesting today is that there is a perception going on in the industry that asset-based 3PL could be one of the most suited candidates to evolve to 4PLs providers.²¹ Therefore there is also an emerging situation that logistics providers function in between 3PLs and 4PLs.

2.2 3PL and 4PL Service Providers

3PL service provider can be defined as “*activities carried out by an external company on behalf of a shipper and consisting of at least the provision of management of multiple logistics services. These activities are offered in an integrated way, not on a stand-alone basis. The co-operation between the shipper and the external company is an intended continuous relationship.*”²² There are several types of 3PLs, namely, transportation-based, warehouse/distribution based/forwarder-based, financial-based, and information-based suppliers.²³

The concept of a 4PL service provider was first named in 1996 by Accenture (previously known as Andersen Consulting).²⁴ Gattorna (2003) defined 4PL as follows “... *an integrator that assembles the resources, capabilities and technology of its own organization and other organizations to design, build and run comprehensive supply chain solutions, and which have the cultural sensitivity, political and communication skills, and the commercial acumen, not only to find value, but to create motivating and sustainable deals that offer incentives to all the parties involved*”.²⁵ In this way a 4PL service provider can achieve greater integration and a broader operational autonomy when managing its clients’ logistics network²⁶ (Figure 2). The key characteristics of 4PL are that they have a single interface between the client and service provider, they manage the performance of 3PL service providers, and maintain leading-edge logistics technology.

How LSPs provide services to customers collaboratively shows in the following figure.

²¹ Vivaldini, M; & Pires; S. R.I; and Bernadi de Souza F. (2008) *Collaboration and Competition between 4PL and 3PL: A study of a fast-food supply chain*, The Flagship Research Journal of International Conference of the Production and Operations Management Society, Volume 1, Number 2, July-December.

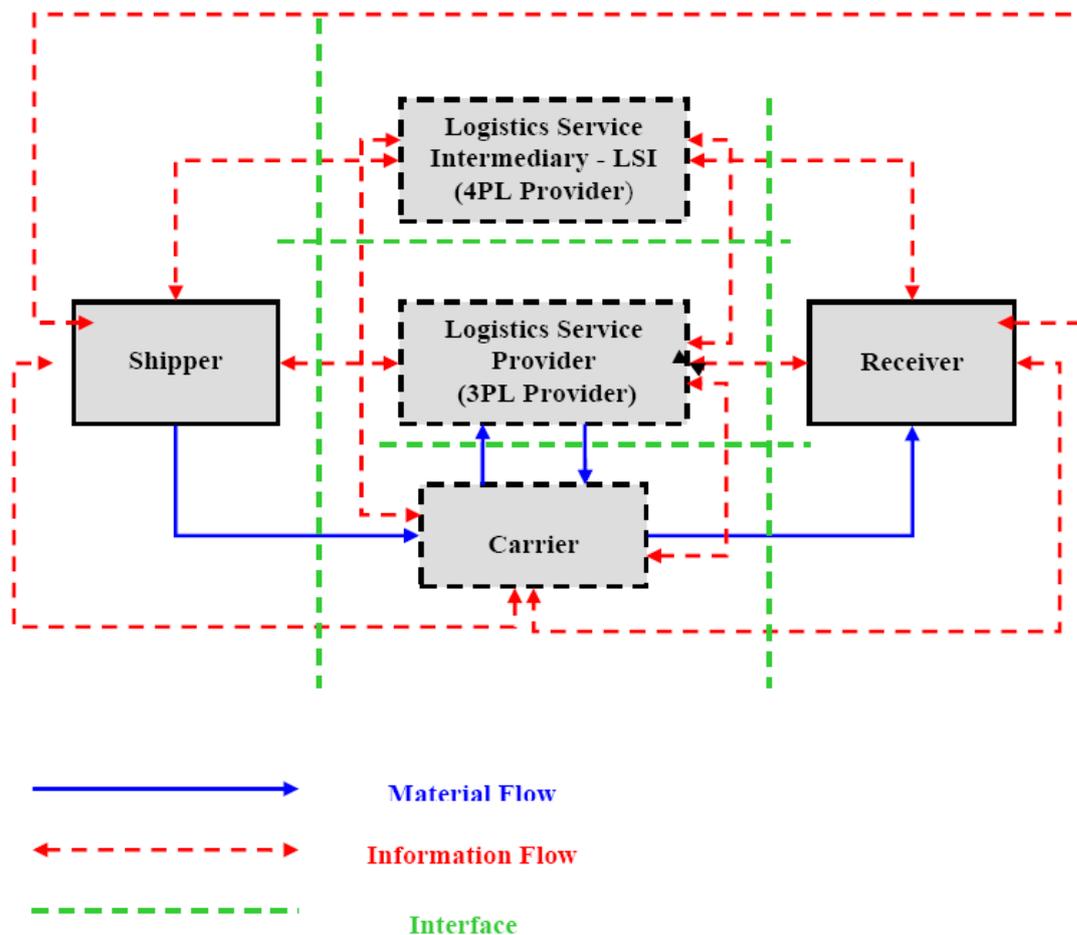
²² Protrans (2000) *Role of Third Party Logistics Service Providers and their Impact on Transport*, Cranfield University.

²³ Coyle, J; Bardi, E,J; & Langely, J., C (2003) *The management of business logistics, a supply chain perspective*, 7th edition, Thomson Learning Publishing, Canada, pp 424-428.

²⁴ Gavrielatos, A.K (2006). *The role of the logistics service providers in the improvement of the Nordic logistics networks a Swedish perspective*. Logistics and Transportation Management Master Thesis No. 2006:68 p 10

²⁵ Gattorna, J.L. (2003), *Gower Handbook of Supply Chain Management*, Aldershot, Gower Publishing, 5th Edition

²⁶ Gavrielatos, A. K (2006). *The role of the logistics service providers in the improvement of the Nordic logistics networks a Swedish perspective*. Logistics and Transportation Management Master Thesis No. 2006:68 p 10



Source: Gavrielatos, A. K(2006)²⁷

Figure 2 The Collaborative Logistics Management Model

2.2.1 Differences between 3PL and 4PL Service Providers

Table 1 shows some of the differences of 3PL and 4PL service providers. It illustrates what typically is associated with 3PL and 4PL respectively. The 4PL service providers do not own any physical assets or only limited (such as information technology system) and plays a different role. The main function of a 4PL provider is to provide more strategic solutions with strong technology support and a wide network with a focus to long term cost reductions with consultancy options.²⁸ Whereas, the 3PL Companies simply provide resources, knowledge, utilities or assets for the primary members of the supply chain.²⁹

²⁷ Gavrielatos, A.K (2006) *The Role of the Logistics Service Providers in the Improvement of the Nordic Logistics Networks, A Swedish Perspective*, Logistics and Transport Management, Göteborg University.

²⁸ Gavrielatos, A.K (2006). *The role of the logistics service providers in the improvement of the Nordic logistics networks a Swedish perspective*. Logistics and Transportation Management Master Thesis No. 2006:68

²⁹ Bask H.(2001) *Relationships among TPL providers and members of supply chains – a strategic perspective*, Journal of Business & Industrial Marketing, Vol. 16, No. 6, p. 470-486

Table 1 3PL and 4PL Factors

Factors	3PL	4PL
Involvement in services provided in the supply chain	Physical movement and execution	Operation coordination and administration
Intensity of assets to provide services	High – vehicles, storage equipment	Low – information and communications system
Intensity of knowledge	Low – standard tasks	High – organization of product flow
Dependence on the manufacturer to supply the demand	Medium – low cost change and several service providers	High – the manufacturer has orders to fill and depends on its suppliers
Contact point at the manufacturer's	Negotiated contract	Dedicated contract and strategic coordination of the supply chain
Performance	Possibly limited in gains and results	More wide-ranging measures, involving client service and results in the supply chain
Shared information	Limited because it impacts only the execution	More wide-ranging, including clients and suppliers, policies and priorities

Source: Hoek, 2006³⁰

In reality there is no clear line to identify to which category the LSP belongs, because there are companies that are positioned in between, acting as a mix between 3PL and 4PL providers if they are in transition or intend to grasp advantages from both. The services provided by 3PL and 4PL can be found in (Appendix 5). As an example, WWL has its own assets and provides terminal and technical services, as well as management of the whole outbound supply chain. This makes WWL more than just a transport provider. It seems that WWL is a 3PL service provider, but the company is also providing other types of logistics services such as supply chain optimization, management of suppliers, procurement and contracting, as well as payment administration. In some aspects WWL extends their function beyond traditional 3PL service provider.

Lead Logistics Provider (LLP) is a relatively new term if compared to 3PL and 4PL, which is not clearly defined. The term is close to 4PL and SCM, some claim that it is the same thing. There are no exact definitions and therefore no clear boundaries for when a LSP is a 4PL/LLP or a Supply Chain Manager. To illustrate, the three different definitions of the term LLP is presented from the industry:

“A LLP is the new term that consultants now more frequently use instead of 4PL. At the most basic level a Lead Logistics Provider is nothing more than a Non-Asset-based 3PL, but there

³⁰ Hoek, R. (2006), *UPS Logistics and to move towards 4 PL – or not?*. URL: www.csmp.org, accessed on 2009-03-30

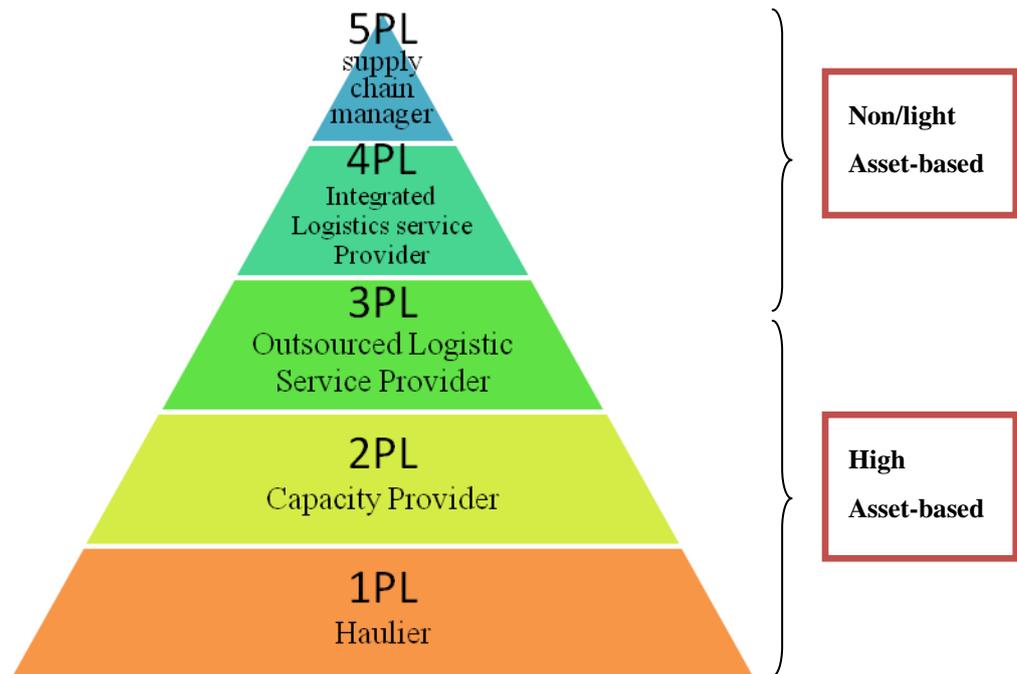
is certainly an emerging field of logistics providers that oversee and manage a portfolio of warehousing and transportation providers from a higher level”³¹

“A solution in where multiple 3PLs are managed by one lead logistics providers...”³²

“As a lead logistics provider (LLP) or fourth-party logistics (4PL) provider, they are assumed to be accountable for the management, performance, cost and development of all supply chain functions, transactions, systems and suppliers. The customer receives agreed service levels across the supply chain, along with one contact point and one invoice if required”³³

In order to have a consensus, LLP has to be distinguished from 4PL. The authors have chosen the following operative definition of a LLP in this thesis:

“A Lead Logistics Service Provider is similar to a 4PL with a different business model in where the LLP manages the transport solution on behalf of the customer but where the actual contracting is carried out by the customer.”³⁴



Source: Edited from A. Vasilis Vasiliauskas, G. Jakubauskas (2007)

Figure 3 The Structure of LSPs

³¹ URL: <http://www.logisticslist.com/2009/03/logistics-service-providers-lead.html>

³² Kuegbe + Nagel’s definition, leading global LSP URL: <http://www.kn-portal.com/services/leadlogistics/>

³³ DHL’s definition URL: http://www.dhl.com/publish/g0/en/services/log_services/solutions/planning/lead.high.html

³⁴ This distinction was made by one of the managers interviewed by the authors, he prefers to be anonymous.

2.3 Freight forwarding

Freight forwarding can be defined as follows: "A *freight forwarder is a logistics provider. As a third party (or non asset-based) provider a forwarder dispatches shipments via asset-based carriers and books or otherwise arranges space for those shipments.*"³⁵ This is a simple definition that captures the essence and purpose of freight forwarding but do not show the complexity involved in this activity.

The official definition from the FIATA is: "*Freight Forwarding and Logistic Services" means services of any kind relating to the carriage (performed by single mode or multimodal transport means), consolidation, storage, handling, packing or distribution of the Goods as well as ancillary and advisory services in connection therewith, including but not limited to customs and fiscal matters, declaring the Goods for official purposes, procuring insurance of the Goods and collecting or procuring payment or documents relating to the Goods. Freight Forwarding Services also include logistical services with modern information and communication technology in connection with the carriage, handling or storage of the Goods, and de facto total supply chain management. These services can be tailored to meet the flexible application of the services provided*"³⁶

The freight forwarding services offered by industry vary depending on how sophisticated the forwarder is. The definition above is very broad and cover a lot of aspects, however not all forwarders offer the same thing. The chosen definition for this thesis is the following:

*"Freight forwarders arrange movement for the shipper. They act as agents for shippers by applying familiarity and expertise with different transport modes to facilitate through movement. They represent the shipper in arranging such activities as inland transportation, packaging, documentation, booking, and legal fees"*³⁷

³⁵ Wikipedia accessed on 2009-05-21 URL: http://en.wikipedia.org/wiki/Freight_forwarder

³⁶ URL http://www.fiata.com/uploads/media/CL0406_04.pdf - The International Federation of Freight Forwarders Associations Official Definition

³⁷ Modified from Bardi, E.J; Coyle, J; and Novack, R.A, (2006) *Management of Transportation*, 7th edition, South-Western, Thomson, USA, pp241

3 Research Design and Methodology

This second chapter of the thesis is written to give the reader an overview of the methods that this kind of research could use. The research approach and research strategy will be presented first, as well as the steps taken in using the methods for investigation. Furthermore, the methodological considerations including the sources and methods of data collection are brought up as well. Credibility issues are also discussed in this chapter, before concluding with a summary.

3.1 Research Design

A research design is the basic plan that will guide the whole thesis from data collection to analysis phases.³⁸ The research design is also to ensure that the study and the collected information are relevant to the problem that the study attempts to solve.³⁹

Research designs can be categorized in the following way: *exploratory research*, *descriptive research* and *casual research*. The main objective of the exploratory research is to gather insights and ideas to better understand the research area.⁴⁰ It is normally used when not much is known about the research issues. In the descriptive research, things are described, usually by determining the frequency with which something occurs and finding relations between two variables.⁴¹ It is used in order to describe and discover the characteristics of the variables of interest in a certain situation.⁴² In causal research the objective is to test hypotheses by using cause-and-effect relationships, experiments are common in this type of research.⁴³

In this thesis the research design adopted is explorative, concerning the research purpose and question. The purpose of this thesis is to come up with proper suggestions for improvements regarding business operation and critical metrics for an LSP to gain competitive advantages and create more value to customers in the long run. In this fast changing era, authors have to use exploratory approach to get familiarity with the problem and eventually come up with suggestions for the business operations of LSP to enhance competitive advantage for the

³⁸ Aaker, D.A, Kumar, V. and Day, G.S., 1997, *Marketing research*, 6th edition, John Wiley & Sons, Inc., USA.

³⁹ Churchill, Jr, G. A., and Iacobucci, D., 2002, *Market research, methodological foundations*, 8th edition, South-Western, a Division of Thomson Learning, USA.

⁴⁰ Kotler, P, Adam, S, Brown, L & Armstrong, G 2006, *Principles of Marketing* , 3rd edn, Prentice Hall, Frenchs Forest, NSW Russell K. Schutt, *Investigating the Social World*, 5th ed, Pine Forge Press

⁴¹ Churchill, Jr, G. A., and Iacobucci, D., 2002, *Market research, methodological foundations*, 8th edition, South-Western, a Division of Thomson Learning, USA.

⁴² Sekaran, U. (2000) *Research Methods for Business*, John Wiley & Sons Inc.

⁴³ Churchill, Jr, G. A., and Iacobucci, D., 2002, *Market research, methodological foundations*, 8th edition, South-Western, a Division of Thomson Learning, USA.

future. In order to answer the research question, sub-questions are formed to better conduct this exploratory study research and to meet the company's interest.

3.1.1 Research Approaches

Deductive, Inductive and Abductive

Deductive research approaches is formally called a “top-down” approach. The starting point for the researcher is from theory about the research topic, which is narrowed down to specific hypotheses. The aim of the research is ultimately to test whether the hypotheses is true or not, to confirm that the original theory is right or prove the contrary. This will lead to the conclusion that the hypotheses will be rejected or accepted in the end depending on the outcome.⁴⁴

Inductive research works the other way around, informally called “bottom-up”. It starts in empirical observations rather than in a theory about the research topic by observing and measuring, afterward patterns and regularities are detected. This is then used to formulate hypotheses and the result will be a general conclusion or theory. In contrast to the deductive approach, it tests whether or not a theory is valid, inductive research creates new theory from empirical observations.⁴⁵

These two approaches are quite different from each other but in most business research, the most common way is to have a mix of both. Abduction is a third way of reasoning; it is a mix of both deduction and induction in which both the theory and the empirical data guide each other. Abduction is a continually examination of theories in relation to empirical experiences and the other way around. Therefore the theory analysis and the empirical data collection are conducted in parallel, because they cannot be understood separately.⁴⁶

In this thesis, the abduction approach is used, since this is an exploratory study, the authors intent to investigate more in this area, it is essential to learn from the collected empirical material and relevant theory. A theoretical platform will be used to guide and assist throughout the collection of empirical material. Then the theoretical knowledge is applied to conduct an exploratory analysis to bring insights to answer the research question and sub-tasks.

Qualitative and Quantitative approach

Qualitative and Quantitative approaches are distinguished from each other. One of the differences comes from the nature of the data. Qualitative focuses on non numerical data, “soft” data (auditory data collection, such as interviews),⁴⁷ relies more on interviews and

⁴⁴ Jacobsen, D.I. (2002). *Vad, hur och varför? Om metodval i företagsekonomi och andra samhällsvetenskapliga ämnen*. Studentlitteratur, Lund.

⁴⁵ Ibid

⁴⁶ Alvesson, M., Skoldberg, K., *Tolkning och Reflektion, Vetenskapsfilosofi & Kvalitativ Metod*, Studentlitteratur, Lund, 1994

⁴⁷ Patel, R & Davidson, B. (2003). *Forskningsmetodikens grunder – Att planera, genomföra och rapportera en undersökning*. Studentlitteratur, Lund.

observations than surveys, the main instrument used in this type of research is people and observations. The aim is to get deeper knowledge of the subject studied, not to find a result that can be generalized. Therefore qualitative research tends to focus on depth instead of being broad.⁴⁸

Quantitative research is more structured and formal than the qualitative approach.⁴⁹ Focus is on numerical data and statistical processing of that data. The goal of quantitative research is to count, classify and through statistic models explain what is observed.⁵⁰ This approach is broader than qualitative approach; it focuses on fewer factors but uses more respondents. Large surveys are common in this type of research. The distance is longer between the researcher and the source; it stresses objectivity and that the results can be generalized and are applicable outside the study.⁵¹

These two methods are usually combined. It is rare to have purely qualitative or quantitative approaches, research usually adopt both when it fits.⁵² In this thesis the qualitative approach will be adopted, due to the research problem and the information needed for investigation. Some of the information is collected through interviews and survey. The data itself are still qualitative and therefore this approach is more appropriate. Efforts have been made to conduct a combined study. The authors did survey analysis with SPSS software in order to find results about correlation between different factors or a cross-section of the phenomena. Unfortunately, the authors didn't get enough responses to our questionnaires so that the sample is too small to see any relationship between different factors.

3.1.2 Research Strategy

Case Study Design

According to Robert Yin, a case study is a comprehensive description and analysis of a single situation. The empirical investigation is about the contemporary phenomenon in the logistics and freight forwarding market. With the case study, it is easier to observe a more detailed and multi-dimensional picture of the studied subject. Case study research is a mix of theory and method. The aim of the research of this case study is to seek solution for LSP's business operation through a theoretical and empirical study. This means that on the one hand, theory helps to identify other similar events leading to the result that can only be generalized after further studies; on the other hand, case study is used to describe and explain phenomenon in order to examine the phenomenon. Yin (1995) says that theory can be used to guide the case study in an exploratory way. It also provides a broad starting point to give direction and

⁴⁸ Davis, M. B. (2007), *Doing a Successful Research Project – using qualitative or quantitative methods*, Palgrave Macmillan, China

⁴⁹ Holme & Solvang. (1997) *Forskningsmetodik: om kvalitativa och kvantitativa metoder*, Lund studentlitteratur

⁵⁰ Brannick, T. & Roch (1997), *An overview of the research process, Business research methods: Strategies, techniques*, Dublin: Oak Tree Press

⁵¹ Patel, R & Davidson, B. (2003). *Forskningsmetodikens grunder – Att planera, genomföra och rapportera en undersökning*. Studentlitteratur, Lund.

⁵² Ibid

guidance to the initial research questions. After the data collection, relevant theory has to be applied for case analysis. In order to avoid predetermining the results, a careful study has to be done especially when the paradox occurs between theory and case.

In addition, case study consists of either single or multiple cases. A single case study is used here, but with the complement of interview results collected from many logistics companies. Since a limited number of logistics companies are selected for our interview, it is a practice-oriented research that to contribute to the knowledge of one or more specified practitioners in the logistics and freight forwarding market. In this thesis, the case study has its own limitations. It narrows down the area of research: the research is limited to an individual or group of individuals so that the inferred research results are not universal.⁵³ Therefore it is difficult to generalise the results.

The Steps of Using Case Study for Making Investigation

1. *Determine and define the research question and purpose*, is the first step in this thesis. The research purpose was formed together with WWL, the purpose and scope of the study was determined. From the purpose the main research questions was derived. This question was further broken down into sub-questions to make it easier to handle and to meet the interest from the company side.
2. *Literature review*, is to initially gather relevant theory to form a framework that served as a guide throughout the thesis. The approach for this thesis is abductive, meaning that the theory will guide the empirical findings and vice versa. The main purpose for starting with a literature review before the actual collection of empirical data is to get ideas and create a framework to narrow the focus down and collect the empirical material more efficiently and precisely.
3. *Gather empirical material*, through semi-structured and in-depth interviews to get new ideas and reshape the theory. The theory served as an initial platform however during the collection phase the direction of the theory had to be adjusted according to the findings that were discovered in the empirical material. Both primary and secondary data are collected to serve the purpose of the study.
4. *Analysing of data*, the collected data was analyzed with the help of the theory. Since the abductive approach was used there was a good match between the theory and the empirical material. The aim of the analysis is to come up with recommendations for improvements regarding the operational guidelines and critical metrics. The conclusion of the exploratory analysis is based on step by step solving the sub-questions defined earlier in the first chapter. The authors have done a data analysis based on the responses from the survey and interviews by applying RBV theory. The empirical material collected from WWL and other companies are analyzed based on the understanding of Porter's competitive advantage theory, value chain and SCM theory, as well as the resource-based theory. In the metrics section, the KPI method is applied to develop an appropriate measurement according to the advantages and

⁵³ Ibid.

disadvantages identified in the survey study. The market analysis, scenario study, SWOT, and strategic analysis are applied for analysis as well.

5. *Conclusion and suggested guidelines*, is the final outcome of the analysis. Here the findings in this research study are summarized; by addressing the sub-questions the main questions will be answered. The conclusion serves as recommendations and guidelines for how to conduct the future operations for LSP.

The Application of the Theories

In this section the authors will explain in what way the theories in chapter 4 are used. In this thesis the theories are used in three different ways. Firstly, the theories of logistics and SCM, the Value system are used for collecting and presenting the frame of references regarding the thesis purpose and the research questions.

Secondly, the theory has been used to construct the survey questionnaire (see Appendix 22, Appendix 23, Appendix 24) especially the Resource Based View theory. The results analyzed from the survey questionnaire are used as a base for understanding the advantages and disadvantages of different types of LSPs. They are further discussed in the analysis chapter to answer the main research question based on both the theories and empirical findings.

Theories are used to analyze WWL's competitive position such as; Porter's Generic Competitive Advantages, RBV, SWOT and the Strategic Analysis Model are mainly applied for the case study to answer the sub-questions and draw conclusion for the operational guidelines for WWL from both the short and long term perspectives. The generic measurement system is used to guide the selection for the metrics methodology according to the defined performance model. The KPIs methodology is used to create and present metrics to measure the advantages and keep track of the disadvantages of LSPs in general for further improvement.

Porter's Five Forces Model is mainly used to understand the current market situation in both the logistics and freight forwarding market, as well as the Ro-Ro market. This theory provides an understanding for data consolidation from the interviews, and questionnaires for the analysis from an outside-in perspective. It helps to clarify under which conditions in the industry and rapid changing market environment; the different LSPs have strengths and weaknesses. In a similar way theories about Supply Chain Management and the Value Chain are used to create a conceptual understanding of how firms add value as well as providing the fundamental understanding for supply chains. Besides that, the RBV theory also is used to analyze the case study of WWL to answer the sub-question such as how to stay competitive by strategically managing their customers' outbound logistics supply chain from an inside-out perspective to draw a conclusion of operational guidelines for WWL.

All the theories are applied critically in the thesis to analyze and draw valid conclusions regarding the research purpose and questions. The critiques of each theory are bearded in mind when applied to present the empirical findings and case analysis. Both of the external environment of a company and internal conditions of a company are considered in order to conduct the analysis from both external and internal perspectives.

3.2 Data Sources

In order to answer the research question, it requires the collection of a large amount of theoretical and empirical materials. For the theoretical section, the sources are books, documents, internet archives and journals. For the empirical framework the materials are collected by conducting interviews, going through company-related websites, and work done by others. An effort was made to collect from both primary and secondary sources. In order to make sure that the analysis based on the information and data can meet the academic standards, the methods and criteria of collecting data are also considered, as well as the bias, limitations, and reliability of the sources.

3.2.1 Data Collection Methods

Data collection involves a wide variety of different methods. Once the cases have been selected, the various research methods need to be evaluated and selected. The data collection method is highly influenced by the methodology chosen.⁵⁴ Data can be collected in two forms: primary data and secondary data. In this thesis, methods are used in combination, and are presented as follows.

Primary data: Primary data are collected by interview, surveys, questionnaires, observations etc to address a specific research purpose. These first hand data are original in character. Research based on first hand information such as interview and questionnaire can be insightful to collect empirical data. In this thesis, data were collected through questionnaires, completed by interviews with company managers and by discussing with experienced lecturers and professors, so they are mainly qualitative. Semi-structured and in-depth interviews are the main techniques for collecting primary data in this thesis, because the authors' intention is to use interviews to gather data that are not recorded elsewhere and it also helps to capture different opinions. In order to avoid the bias, poor recall and inaccurate articulation, the authors prepare a questionnaire before an interview to show interviewees the focus and interest direction. The interview transcripts are documented but treated as confidential as the authors agreed with the companies.

Secondary data: Secondary data can be collected through qualitative sources and quantitative sources. The advantages of such types of data is the practicality, it saves time and involves less cost, less labour, more accuracy etc. In this thesis, for collecting empirical material, secondary sources have been used such as company related websites, annual reports of companies, literature reviews and work done by others. Those documents have the advantages of correctness, confirmation, and inference. However, the authors also beware of the limitations of the secondary data because documents are seldom literal records of what happened, instead, they are written for specific audiences and purposes. Therefore, the useful information is carefully selected to avoid bias in the research study.

⁵⁴ Herzog, T. (1996) *Research Methods and Data Analysis in the Social Sciences*. HarperCollins, New York.

3.3 Validity and Reliability

In this thesis, data has been collected at both first and second hand and the study is regarded as qualitative. There are two important concepts for this type of study: validity and reliability. Validity refers to the extent to which a chosen instrument measures what it is supposed to measure. The main concerns on the validity issues are whether the measured data is relevant and precise, and the extent to which can be generalized from those results. It is also a question of whether the measurement applied has tested the right variables concerning the research purpose, which is answered at the end of the thesis. In this thesis, the authors are aware of the possible errors and biases. In order to minimize them, the data analysis is conducted carefully and by proper methods. In this exploratory research study, the observations and findings are based on appropriate steps of interview and questionnaire design. However, since the responses from the survey and interviews are limited, it is difficult to generalize the findings based on a small sample, even though efforts have been made to increase the response rate and to conduct a combined quantitative and qualitative study. Besides that, the authors select 3PL representing the typical asset-based LSP whereas 4PL representing the typical non asset-based LSP, but there are other players (1PL, 2PL, 5PL) that are not covered in the research scope. Therefore it is difficult to generalize the advantages and disadvantages for asset-based and non asset-based LSPs that are identified in this study. The metrics that have suggested are only a sample developed from WWL's perspective; there might be other metrics that are connected with the advantages and drawbacks. The metrics presented only give an idea of how to develop a suitable measurement. It would have to be adapted according to individual companies' situations, so that it has a limited generalization.

Reliability is the extent to which research results would be stable or consistent if the same techniques were used repeatedly. According to Yin, the role of reliability is to minimize the errors and biases in a study. The validity of the findings of the thesis will be evaluated on the criteria of construct validity, internal validity, external validity and reliability.⁵⁵ Since internal validity is an issue only for causal case study, not for the exploratory and descriptive ones.⁵⁶ Therefore it is not discussed here. The tactics used in the thesis to meet the reliability requirements show in the following table. However, since responses from different companies have different backgrounds and purposes, the grading part in our survey is based on the comprehension of the manager that answered the questions, the reliability is affected and a careful analysis should be done to avoid biased opinions. In the analysis part of the survey study, the authors combined the interviews information that companies especially stressed together with the survey analysis. Since the sample size of the survey is very small, the results drew based on the RBV can hardly represent the strengths and weaknesses of all LSPs in the global logistics and forwarding industry, though they indicate to a certain extent about LSPs' key strengths and weaknesses. In order to conduct a careful analysis based on

⁵⁵ Yin, R. K (2003), '*Case Study Research Design and Methods*' (third edition) Sage Publications, United States of America.

⁵⁶ Harling, K (2002) *An Overview of Case Study*, Wilfrid Laurier University, Waterloo, Ontario, Canada.

small sample, the authors only select the factors that are outstanding in the data or interview contents which are used to complement the survey.

Table 2. Tactics Used to Meet the Reliability Requirements

Evaluations	Tactics Used in the Thesis	Phase
Construct Validity	<ul style="list-style-type: none"> • Multiple sources of evidence to collect data • Combined method of both questionnaire and interview • Questions asked in both questionnaires and interviews are focused to meet the research purpose 	Data Collection
External Validity	<ul style="list-style-type: none"> • Use replication logic in the case study complemented with survey and follow-up interviews 	Research design
Reliability	<ul style="list-style-type: none"> • Contact with 3PL & 4PL supply chain managers to make sure the right respondents in companies are responsible for the answers provided • Careful interpretation of the findings 	Data collection

Source: Modified from Harling, K (2002) ⁵⁷

Validity is in general always debatable.⁵⁸ According to Yin, biases could arise since case studies rely on qualitative research methods.⁵⁹ It is important to approach and perform the

⁵⁷ Modified from Harling, K (2002) *An Overview of Case Study*, Wilfrid Laurier University, Waterloo, Ontario, Canada.

⁵⁸ Dyer & Wilkins (1991): *Better stories, not better constructs, to generate better theory: a rejoinder to Eisenhardt*. *Academy of Management Review*, 16(3), 613-619.

case study by properly collected data in order to meet the validity and reliability standard. Therefore the case study should be done very carefully. All in all, different measures are adopted to conduct the research study in a proper way.

3.4 Limitations

Firstly, although the responses from the survey and interviews are all collected from international companies, they are located in Sweden, Norway, and Germany, which may bring biased opinions because they run global businesses but from a regional perspective. The conclusion that dawned cannot be applied globally because the thesis is developed based more on a Nordic perspective. Since the responses to the survey are based on managers' self-assessment, therefore it is more subjective. Secondly, in both the scenario study and strategic analysis, the differentiation strategy is based on a future state so it would have an impact on the company's internal resources to a certain extent. Therefore the authors have to conduct the analysis carefully. Besides that, as aforementioned, the focus of the thesis is on 3PL representing the typical asset-based LSP and 4PL representing the typical non asset-based LSP, although there are more actors within the asset-based/non asset-based scopes. Furthermore, the line between 4PL and 3PL is not always clear, especially in practice. Therefore it is difficult to generalize the advantages and disadvantages to asset-based and non asset-based LSPs that are identified in this study. The case study has its limitations. It narrows down the area of research: the research is limited to an individual or group of individuals, so the results inferred by this research are not universal and it can only be generalized to a limited extent.

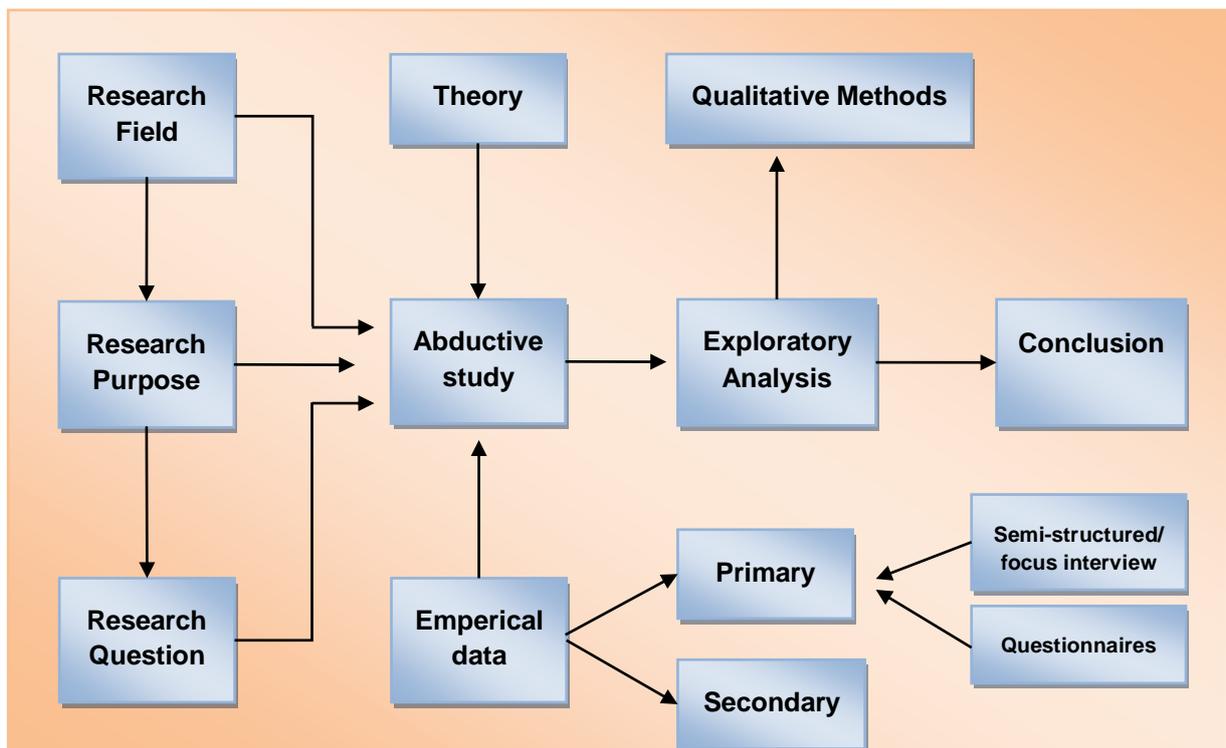
For the thesis, the authors use both the first hand and second hand data. The sources of information that are from second hand materials (such as documents, company related web sites, work done by others etc.) can mislead the thesis if it is not analysed properly because different documents are written to serve for different purposes. Our analysis of this project is of qualitative type. Therefore this type of analysis is more subjective having no support of the quantitative data. There are many well-known LSPs that replied our survey. The authors made efforts to use SPSS to analyze the survey results; unfortunately, the survey response rate is still not enough to draw conclusion based on statistical analysis. Last but not least, the ICT factor and human factor are excluded from the scope of the thesis because of the focus of the company and the authors' intention to narrow down the research scope. But these aspects can affect the validity of the conclusion for the comparison of asset-based and non asset-based LSPs' value.

⁵⁹ Yin, R. K (2003), ' *Case Study Research Design and Methods* ' (third edition) Sage Publications, United States of America, P.13

3.5 Outline of the Thesis

The research design and methodologies are summarized as follows. As can be seen from the picture, the research topic is narrowed down from the research field and the research purpose. The research method is abductive which means that the preferred approach is to be guided by both empirical data and theory simultaneously. The empirical data is gathered from both first and secondary hand sources. The nature of this thesis is explorative using qualitative methods. By following this research design leads to a conclusion that will answer the defined research question and sub-questions.

Figure 4 The Research Outline



4 Theoretical Framework

This chapter consist of four main sub chapters: the theory of supply chain management, the Porter's theory concerning the external environment of a company, the resource-based theory of competitive advantage, as well as the SWOT, in order to give a fundamental presentation of the theory. Furthermore the authors describe how the theory suggests companies may gain competitive advantage that leads to sustainable competitive advantage. The theoretical framework is based on literature studies, as well as the latest research journals and articles.

4.1 Supply chain Management

4.1.1 The value chain

According to Porter competitive advantages cannot be understood just by looking at a firm as a whole. Competitive advantage has to be broken down in value adding activities. Advantages can be gained by performing these activities more cheaply or better than the competitors. The value adding activities can be seen in the generic value chain, there are in total nine generic activities. The different activities are not independent but interdependent as they are linked together as a system. They can create competitive advantage in two ways; optimization and coordination. These activities are divided in primary and support activities as shown in the Appendix 8. The activities in the chain provide value; value is defined as the amount a buyer is willing to pay for the service provided by the firm. The chain displays total value and margin, meaning that when the firm is providing value that exceeds the cost for providing the value they generate profits.⁶⁰

In this thesis the most interesting activity is the outbound logistics, this involves actives associated with collecting, storing, and physically distributing the product to the buyers, such as finished goods warehousing, material handling, delivery vehicle operation, order processing and scheduling.⁶¹

4.1.2 The value system

A firm's value chain is part of a larger value system that consists of several connected value chains. Other chains that are involved are chains of the upstream suppliers and downstream channels and buyer's chains. The success of gaining and sustaining competitive advantages depend on the understanding of the whole value system rather than just the understanding of

⁶⁰ Porter M.E., 1985. *Competitive Advantage Creating and Sustaining Superior Performance*. The Free Press, New York.

⁶¹ Ibid.

the firm's own value chain.⁶² (Appendix 9) To gain competitive advantages as a chain it is important with vertical integration, to coordinate with downstream and upstream actors to achieve benefits. Nowadays the value chain is seen more as a network rather than just isolated chains.

4.1.3 SCM and Supply Chain Integration

Integration in the supply chain is achieved through improved coordination upstream and downstream. This would result in improved performance in the chain. Internal integration is seen as a prerequisite for external integration.⁶³ This is in line with what has been discussed in the value chain earlier. There are four different phases of integration according to Christopher⁶⁴ that starts in internal integration; baseline, functional integration, integral integration, external integration.

In the first phase departments of the company are all separated in a functional manner. They optimize only within their own department, which leads to sub optimization. The other departments are seen as competitors rather than partners.

In the phase of functional integration a greater communication between departments is taking place. The functions that are dependent on each other will naturally form integrated blocks in which information is shared. This should lead to faster and better response to problems and customers needs and requirements.

Fully internal integration is achieved in the third phase. In this phase all the departments now strive towards common goals. Before an external integration can take place the company must first achieve internal integration, information must flow without any restriction within all the departments of the company. To achieve this level of integration a robust IT-infrastructure is required.

The last stage represents the goal of external integration; this means having coordinated process all striving in one direction, customer satisfaction. All in all this is the very essence of what SCM is all about, to optimize and improve the performance of the entire supply chain.

Christopher receives support for his idea, which is shared by other researchers, that integration is process that takes place step by step progressively.^{65,66} Nowadays more and more 3PLs are capable of providing this systems and services for further integration and collaboration with their clients. However, integrating and collaborating of processes, technology, people and services are difficult due to culture differences in the organizations, differences in values, beliefs and commitment to the relation.

⁶² Ibid.

⁶³ Harrison, A. & Hoek, R. (2008) *Logistics Management and Strategy Competing through the supply chain*, Prentice Hall, Gosport

⁶⁴ Christopher, M. (1998) *Logistics and Supply Chain Management*, Pearson Education Ltd, Harlow.

⁶⁵ Alter, S. (1996), *Information Systems a Manager's Perspective*, The Benjamin/ Cummings Publishing Company Inc.

⁶⁶ Speakman, R. E., Kamauff Jr., J. W. and Myhr, N. (1998), *An empirical investigation into supply chain management: a perspective on partnerships*. Supply Chain Management, Vol 3, No. 2 pp. 53-67.

4.1.4 Critiques of SCM

Companies frequently participate in supply chains/supply networks. A company can have many suppliers sometimes hundreds of suppliers. Collaboration and cooperation in the supply chain can lead to many of benefits. But which parts or links of the supply chain should be selected as potential collaboration partners? It is unrealistic to think that a company would be able to manage a deeper cooperation with all their suppliers. The scope of SCM has to be defined in such a way that it is possible to manage. One of the weaknesses of SCM concept is that is not clear who will take responsibility over the supply chain and since there tend to see the supply chain from their own internal perspective and putting their own interests over what would be best for the supply chain as a whole.

Members in the supply chain are categorized in primary and supporting members.⁶⁷ Primary members are “*those autonomous companies or strategic business units who carry out value-adding activities in the business processes designed to produce a specific output for a particular customer market*”. It Narrows down the scope of SCM to the primary members, having a close collaboration and cooperation only with those companies that are closest to the firm. In this way the chances for SCM to be successfully implemented increases. The alternative would be to let a third party control the supply chain. This is where the concepts of 3PL and 4PL become interesting as the potential supply chain manager.

4.2 External Environment of a Company

4.2.1 Porter’s Generic Competitive Advantages

According to Porter⁶⁸, there are three potential successful generic strategic approaches that make firms outperform the others: Cost leadership, Differentiation, and Focus.

Cost leadership – In order to achieve this, company needs to have a perfect control overhead, vigorous reduction of cost and aggressive construction of efficient-scale facilities. However, implementing a cost leadership strategy probably needs heavy start-up capital investment, attractive pricing, and start-up losses to gain market share.

Differentiation - refers to differentiating the product or service offering of the firm, which will create unique sense. However, differentiation creates a trade-off with cost position, because it is costly for differentiating products or services such as extensive research, excellent product design, high quality materials, etc.

Focus strategy – means a firm focusing on a particular buyer group, segment of product line, or geographic market, etc. The premise for this strategy is that the firm is able to serve its narrow strategic target more effectively or efficiently than competitors who are competing more broadly. As a result, a firm can achieve either differentiation from better meeting the needs of the particular target, or lower costs in serving this target, or both.

⁶⁷ Cooper, M. and Lambert, D. (2000), *Issues in the Supply Chain Management*, Industrial Marketing Management, Vol 29, Issue 1, January 2000, p 70

⁶⁸ Porter, M.E. (1998) *On Competition*, Boston: Harvard Business School.

The cost leadership and differentiation strategies seek competitive advantage in a broad range of industry segments, while focus strategies aim at cost advantage (cost focus) or differentiation (differentiation focus) in a narrow segment.⁶⁹ In order to stay competitive in the long term, a firm must choose one of the three alternatives that are the most appropriate positioning for them and the scope within which it will attain the competitive advantage.

In competitive advantage, Porter states that any attempt to combine or reconcile strategies will result in firms becoming 'stuck in the middle' due to the existence of an inevitable trade-off. However, 'A firm that is stuck in the middle will earn attractive profits only if the structure of the industry is very favorable, or if the firm is fortunate enough to have competitors that are also stuck in the middle.' (Appendix 10)

4.2.2 Porter's Five Forces Model

Porter five forces model can be used to gain insight into the factors that influence the market which influence a company's strategies for their competitiveness. This model is considered as an outside-in business strategy that can help to identify the potential profitability of a particular business, product or service.

Porter's five forces model involves: Threat of Entry, Competitive Rivalry, Supplier Power, Threats of Substitutes, Buyer Power. (Appendix 11) It should enable organizations to find their position in an industry, so that the company is able to defend itself against competitive forces.⁷⁰ Porter argues that with an analysis of the industry based on the Five Forces it would be possible to predict the future development of that industry, and the future competitive conditions. According to Porter these predictions are possible because it is assumed that the industry structure is stable, and changes occur in slow processes.⁷¹

4.2.3 Critiques of Porter's Theory

Porter's five forces model has several weaknesses. It was developed during the early 1980s, at that time most industries had a stable development if compared to today's situation. The five forces model assumes a static market in which changes are foreseeable, which is no longer the case in many industries today. Porter's model is rigid and that is also its weakness, a company would have to change its strategy many times based in the external environment to be successful. It would be too narrow-minded to focus solely on achieving competitive advantage over competitors, suppliers and customers. In today's volatile market, fast changing technological development and dynamic competition it is more difficult to assess current and potential competitors.⁷²

⁶⁹ Porter, M.E. (1980) *Competitive Strategy*, Free Press, New York.

⁷⁰ Porter, M.E. (1980) *Competitive Strategy*, Free Press, New York.

⁷¹ Grant, R. M, (2008) *Contemporary strategy analysis*, Fifth edition, Blackwell publishing, UK.

⁷² Recklies, D. Accessed 2009-05-26 URL: http://www.themanager.org/Models/P5F_2.htm#Critique

4.3 Internal Conditions of the Company - Resource Based View (RBV) Theory

According to Barney, a wide variety of variables have been developed to characterize the firm's sustained competitive advantage, such as 'resources' (Wernerfelt, 1984; Barney, 1991), 'capabilities' (Stalk, Evans, and Shulman, 1992), 'dynamic capabilities' (Teece, Pisano, and Shuen, 1997), 'core competencies' (Prahalad and Hamel, 1990), 'invisible assets' (Itami, 1987), or even 'knowledge assets'. However, they all belong to the common theory of competitive advantage, which is called 'resource-based theory of competitive advantage'.⁷³

The RBV theory begins by addressing causality and the origins of competitive advantage, with the focus on the internal parameter, in order to investigate how competitive advantage is achieved by strategically deploying its resources and capabilities, and how competitive advantage might be sustained over time. According to this theory, competitive advantage occurs only when there is a situation of resource heterogeneity (a company differentiates from other companies of the same industry due to different resources across companies and their individual unique resources). And second, the assumption of resource immobility supposes the inability of competing firms to obtain resources from other firms.⁷⁴ Based on these two assumptions, the researchers have theorized that when firms have resources that are valuable, rare, inimitable, and organized to exploit the competitive potential, they can achieve sustained competitive advantage by implementing unique value-creating strategies that cannot be perfectly duplicated or substituted by their current potential competitors.⁷⁵ In this chapter, the resource-based theory of competitive advantage will be studied in order to build up a theoretical background for investigating which LSP is more competitive under certain circumstances and how to strategically deploy supply chain management in freight forwarding to obtain competitive advantage leading to good performance.

4.3.1 Resources and Capabilities

Resources and capabilities are closely related to each other. While resources act as a foundation, capabilities are the skills of a firm developed from the resources. There is a link between resources and capabilities, which lead the company to gain competitive advantage.

The resources, defined by Wernerfeld, are those tangible and intangible assets which are tied semi-permanently to the firm at a given time.⁷⁶ Barney reserves the term for anything that enables the firm to conceive of and implement strategies that improve its efficiency and effectiveness. He further classifies resources as physical capital resources, human capital resources, and organizational capital resources that can be used to implement value-creating

⁷³ Barney, J. B. (2003) *Resources, Capabilities, Core Competencies, Invisible Assets, and Knowledge Assets: Label Proliferation and Theory Development in the Field of Strategic Management*. In Helfat C.E, *The SMS Blackwell Handbook of Organizational Capabilities*, Published by Blackwell, UK, pp. 422-426

⁷⁴ Barney, J.B. (1991) *Firm Resources and Sustained Competitive Advantage*, Journal of Management.

⁷⁵ Ibid.

⁷⁶ Wernerfelt, B (1984) *A Resource-based View of the Firm*, Strategic Management Journal, Vol.5, pp. 171-180

strategies. Not all of the resources can contribute to the creation of competitive advantage. They derive their competitive potential from being valuable, rare, imperfectly imitable, as well as sustained by organizational operations (VRIO framework)⁷⁷. It is through the integration and collaboration of sets of resources and capabilities that can generate synergy to create competitive advantage.

Resources provide a foundation for building capabilities. Capabilities involve the ability of a company to coordinate and activate their resources productively and express what a company really can do.⁷⁸ An organizational capability is “a high-level routine (or collection of routines) that, together with its implementation of input flows, confers upon an organization’s management a set of decision options for producing significant outputs of a particular type.”⁷⁹ Resource-based theory not only conceives firms as a bundle of resources, but also focuses on the competence derived from resources that are deployed to yield a desired result. However, Leonard-Barton emphasizes that the core capabilities of a firm may also become core rigidities that limit a firm’s ability to significantly develop different capabilities.⁸⁰ A firm’s current routine-based capabilities limit the firm’s ability to create new capabilities and new routines. Nevertheless, competitive advantage can be gained if companies can jump from the constraints of their old routines and develop new efficient and reliable ones that competitors can hardly imitate or compete with. Capabilities can be identified through one of the common approaches - value chain analysis.⁸¹ The value created for customers is created from resources and capabilities that company strategically deploys and integrates at each phase of the value chain, which is already explained in the first section of the theory.

As a subset of competencies/capabilities, dynamic capability enables firms to create new products/processes, and address rapidly changing environment.⁸² This type of creative capabilities is related to a firm’s ability to develop novel strategies faster than its competitors through the recognition of the value of different resources.⁸³ It is based on the functional capabilities and derived from the company’s strategic assets and core competencies, consisting of a process of learning, reconfiguration, coordination, and integration. (Appendix 15) Although dynamic capability can renew a company’s competence, it is still necessary but not sufficient for creating competitive advantage. Therefore the dynamic

⁷⁷ Barney, J. B. (2003) *Resources, Capabilities, Core Competencies, Invisible Assets, and Knowledge Assets: Label Proliferation and Theory Development in the Field of Strategic Management*. In Helfat C.E, *The SMS Blackwell Handbook of Organizational Capabilities*, Published by Blackwell, UK, pp. 422-426

⁷⁸ Grant, R. M, (2005) *Contemporary strategy analysis*, Fifth edition, Blackwell publishing, UK.

⁷⁹ Winter, S. G. (2003) *The Satisficing Principle in Capability Learning*, in Helfat C.E, *The SMS Blackwell Handbook of Organizational Capabilities*, Published by Blackwell, UK, pp 277-282.

⁸⁰ Leonard-Barton, D. (1992) *Core Capabilities and Core Rigidities: A Paradox in Managing New Product Development*, *Strategic Management Journal*, 13: 111-125

⁸¹ Grant, R. M, (2008) *Contemporary strategy analysis*, Fifth edition, Blackwell publishing, UK. pp 145.

⁸² Helfat, C E (1997) *Know-how and asset complementarity and dynamic capability accumulation: the case of R&D*, *Strategic Management Journal*, Vol 18, No. 5, pp 339-360.

⁸³ Collis, D J (1994) *How Valuable are Organizational Capabilities?*, *Strategic Management Journal*, Vol 15, No 8, Winter, pp 143-152.

capability has to interact with other strategic assets (internal & external) to enhance and sustain competitive advantage.

4.3.2 Gaining and Sustaining Competitive Advantage

In order to create competitive advantage through resources and capabilities, one has to understand their sources of competitive advantage. According to Barney (2006)⁸⁴, there are four important questions about the resources and capabilities while creating and analyzing can help the company to gain competitive advantage.

Valuable: the resources must have strategic value to the firm, enabling the firm to exploit environmental opportunities or neutralize threats.

Rare: the resource must be unique or rarely found amongst the current and potential competitors of the firm.

Imperfect imitability: It must not be possible to perfectly duplicate or substitute the resource. Barney (1991)⁸⁵ also categorizes the reasons for costly to imitate the resource and capabilities: It may due to company's unique historical conditions; or because the link between the capability and the achieved competitive advantage is ambiguous such as numerous small decisions to develop resources; or because it is socially complex resources.

Organized to exploit the competitive potential: These are regarded as complementary resources and capabilities because they need to combine with other resources and capabilities to realize the full potential for competitive advantage. They include the company's formal reporting structure, its formal and informal management control systems, and its compensation policies.

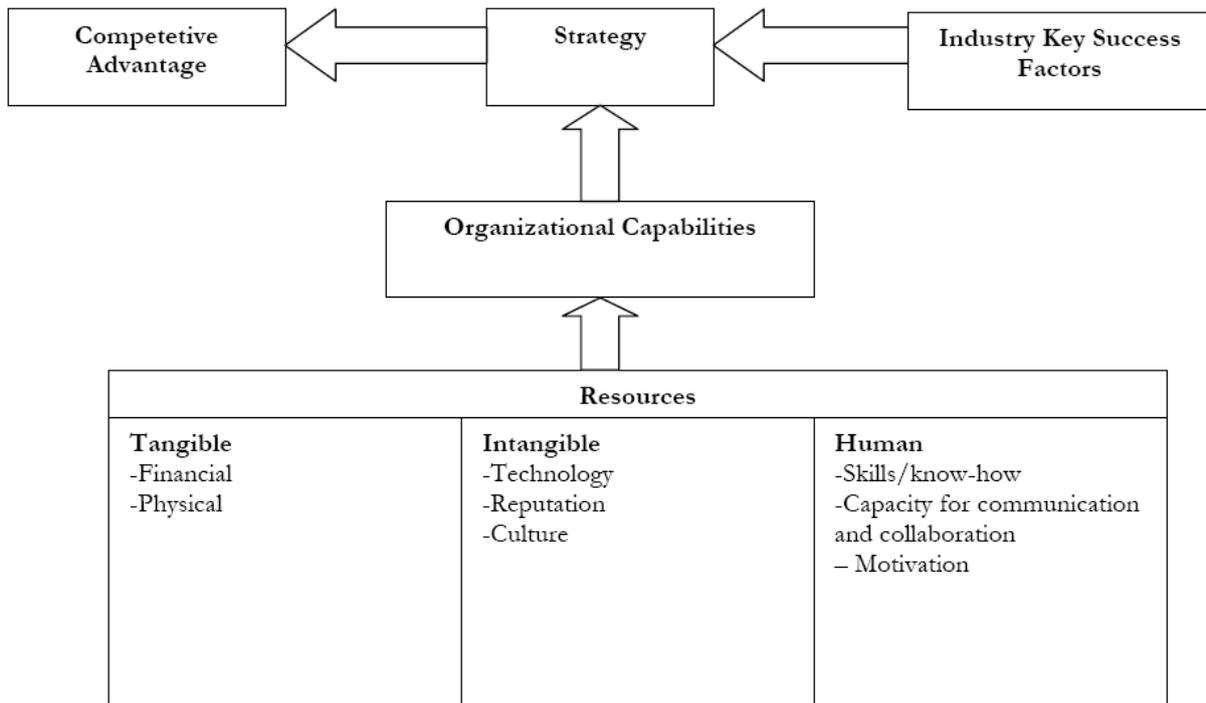
When a company's resources and capabilities are valuable and rare, the company can gain a temporary competitive advantage. If there is a cost disadvantage to imitate or substitute the resources and capabilities, it erects mobility barriers and keeps the first mover advantage to the existing company.⁸⁶ It is possible to copy a single resource, however if a company's resources bundles are integrated and organized by value-added activities that create competence of a company, imitating a single resource would be meaningless. All in all, with proper management control, a company's resources can provide a foundation for building capabilities, which, in turn, upgrade the resource base and create competence which becomes the sources of competitive advantage (see Figure 5), which can only sustain in the rapidly changing market conditions if the company's resources and capabilities meet the above-mentioned four requirements.

⁸⁴ Barney, J.B., and Hesterly, William S. (2006) *Strategic Management and Competitive Advantage Concepts*, Pearson Education, Inc., New Jersey, pp. 93-94

⁸⁵ Barney, J.B. (1991) *Firm Resources and Sustained Competitive Advantage*, Journal of Management, 17/1:99-120.

⁸⁶ Zahra, S. A. and Das, S. R. (1993) *Building Competitive Advantage on Manufacturing Resources*, Long Rang Planning, Printed in Great Britain, Vol. 26, No. 2, pp. 90-100.

Figure 5 The Links among Resources, Capabilities, and Competitive Advantage



Source: Grant, Robert M. (2008)⁸⁷

4.3.3 A practical guide for the application of RBV

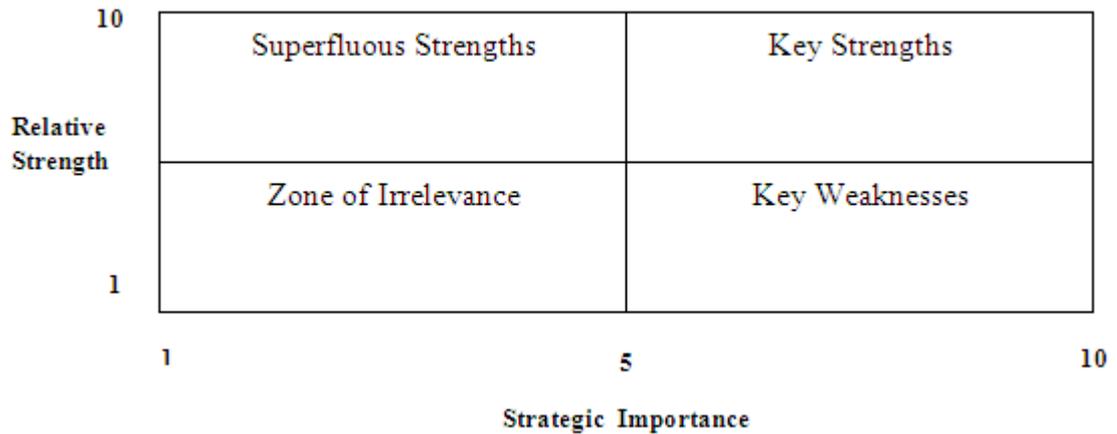
In order to put the RBV theory into practice, as Grant (2008)⁸⁸ suggested, there are three steps need to be followed based on the understanding of the principle concepts and frameworks of RBV.

- The first step is to identify the key resources and capabilities by listing the resources that underpin the capabilities at each stage of the value chain, which also have value in the market.
- The second step is to appraise resources and capabilities against two criteria, namely, importance, strengths & weaknesses. The importance means the resources and capabilities that are the most important for a company to gain competitive advantage, which is based on the objective of making superior profit. Therefore managers have to look beyond customer choice to the underlying strategic characteristics of resources and capabilities. The strengths & weaknesses can be drawn by conducting benchmarking of resources and capabilities relative to competitors. (Figure 6) At the end, the two criteria have to be put together to highlight a company’s key strengths and weaknesses.

⁸⁷ Grant, R. M, (2008) *Contemporary strategy analysis*, Fifth edition, Blackwell publishing, UK. pp 143-149.

⁸⁸ Ibid.

Figure 6 Assessing Resources and Capabilities



(Source: Grant (2008) p. 147)

- The last step is to develop strategy to exploit the key strengths and manage the key weaknesses, as well as dealing with the superfluous strengths. In relation to the key strengths, company has to fully exploit them to the maximum effect and develop competitive advantages for the future, for example, by acquiring external complementary resources. The choices to cope with the weaknesses are diversified. In general they can be summarized to a few principal management strategies, namely avoidance/elimination, reduction, transfer and acceptance.⁸⁹ The most successful solution to cope with weaknesses is to outsource the functions depending on the capabilities, or reduce the dependency on the function. It takes time and efforts to turn the weaknesses into strengths, especially when the weaknesses are difficult to avoid or transfer. In this case, company has to develop or create resources and capabilities to cope with them. Concerning the superfluous strengths, there are two strategies in general: lower/cut the investment in the inconsequential strengths, or incorporate them into valuable resources and capabilities by innovative strategies.

4.3.4 Limitation of RBV

The RBV provide an inside-out approach on a company's strength and weakness by assessing the company's resources and capabilities to gain competitive advantage in the long run. However, there are some critiques that one has to keep in mind when applying the resource based theory of competitive advantage.

First, RBV lack of the concern on market and external factors, so it is regarded as a complementary to industrial organization analysis.⁹⁰ They are important because the environment change may change the significance of resources to the firm.⁹¹ In the phase of

⁸⁹ Zsidisin, GA & Ritchie, B. (2008) *Supply Chain Risk, a handbook of assessment, management, and performance*, Springer Science Business Media, LLC, New York.

⁹⁰ Porter, M.E. (1980) *Competitive Strategy*, Free Press, New York.

⁹¹ Penrose, E.T. (1959) *The Theory of the Growth of the Firm*, John Wiley, New York.

appraising resources and capabilities, the assessment of the resources and capabilities in relative importance and strengths also depends on the market situation and external factors.

Second, the RBV approach lack specificity because some capabilities such as top management skills, strategic decision making, innovation, or product development mean little without being specific about the activities and processes that comprise them.⁹² Due to the ambiguity of some strategic and organizational processes, it is difficult to appraise the capabilities of the company, let alone developing strategy to deal with them.

Third, the relationship between resources and capabilities is blurry. It is difficult to tell the character, the causality and the strengths/weaknesses of the relationship because in most of the cases they are mixed and interrelated. Besides, appraising resources and capabilities may involve objective judgement, for example, assessing the comparative strengths and weaknesses of a company's resources and capabilities relative to competitors, and evaluate the importance of the resources and capabilities with a biased opinion.

Last but not least, the RBV is criticized for 'presenting a very static view of what is essentially a dynamic process'. According to Eisenhardt and Martin, RBV breaks down in high velocity markets, where the strategic challenge is maintaining competitive advantage when the duration of that advantage is inherently unpredictable.⁹³ RBV look at a company's current resources and capabilities therefore is difficult to meet the demands of rapidly changing environment and escalate to a higher level by jumping out from the current pattern.

4.4 SWOT

Real opportunity and suitable strategy can only be identified when there is a close fit between environment, company vision and mission, as well as resources and capabilities. SWOT analysis provides a theoretical guidance to identify a company's existing strengths and weaknesses from internal perspective, in relation to the emerging opportunities and threats from the market environment perspective. Therefore, it shall help to identify the internal and external factors that are either favorable or unfavorable to accomplish the objective of a strategy, and it is useful for 'what-if' analysis. (Appendix 12) Since the thesis is mainly use an inside-out approach, the SWOT analysis shall be better integrated into the RBV. Different circumstances and study objectives make the useful factors in the four measurements differ. Thereby this thesis only focuses on the factors that are necessary to solve the research problem.

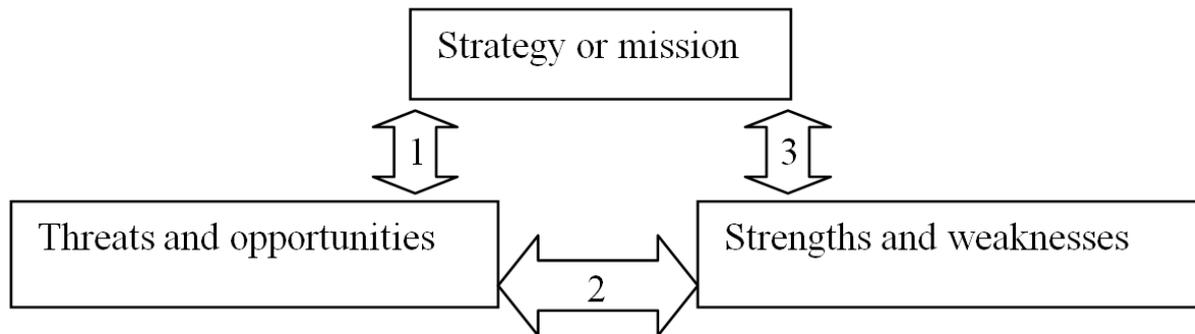
Björn Alarik suggested a strategic analysis model when applying SWOT analysis. (Appendix 14) It consists of three parts:

1. Strategy versus environment

⁹² Johnson, G.; Scholes, K. and Whittington, R. (2008) *Exploring Corporate Strategy*. Pearson Education Limited.

⁹³ Eisenhardt, K.M.; Jeffrey A. M, (2000) *Dynamic Capabilities: What are they?*, John Wiley & Sons, Ltd, Strategic Management Journal, 21: 1105-1121.

2. Environment versus internal resources
3. Strategy versus internal sources.



Source: Lecture Slides from the course Industrial Organization and Business Strategic Management

Figure 7 Strategic Analysis Model

Although there is critics claimed that the assessment of strengths and weaknesses may be unreliable, being bound up with aspirations, biases and hopes.⁹⁴ Therefore it is important to relate the strength and weaknesses to a context of a situation. SWOT analysis and the strategic analysis help each other to build a logical framework guiding systematic discussion of a firm's resources and alternatives that emerged from the RBV. Both of the RBV and value chain analysis complement the void of SWOT analysis to analyze resources and capabilities in a context of a situation which make the result more useful.⁹⁵

4.5 Performance Metrics from Supply Chain Perspective

There is a rule of thumb that 'We can't manage what we can't measure'. According to Omli et al. (2003), "effective performance measurement systems are critical to ensuring project success. Project performance has to be measured systematically and thoroughly, not on an ad hoc basis."⁹⁶ Although risks and uncertainties are inherent and endemic, proactive and effective control approach can monitor the process and drive a company to continuously improve in the long run. This is the first step towards increasing the performance of the whole chain.⁹⁷

Critical metrics has been changed greatly from measurement systems based on financial accounting systems, which have long been the primary tool of most businesses for

⁹⁴ Mintzberg, H. (1990) *The Design School: Reconsidering the Basic Premises of Strategic Management*, Strategic Management Journal, Vol. 11 pp.171-195

⁹⁵ <http://www.coursework4you.co.uk/swot.htm> (accessed at, 2009-04-21)

⁹⁶ Omli LE, Svendsen EK, Karlsen JT (2003) *Aiming for high value creation of projects – how to secure return on . Oslo, Norway.*

⁹⁷ Popovska, E & Popovski, G (2005), *Shortening delivery time as tool for gaining competitive advantage*, Logistics and Transport Management Master Thesis No. 2005:94

performance measurement.⁹⁸ Generic measures of performance, such as time, quality, and cost, never become obsolete, but firms now seem to be revamping the notion of performance and describing it in new terms such as responsiveness, agility and leanness.⁹⁹ It is no longer sufficient for companies to either be cost efficient, or deliver high quality or services.¹⁰⁰ Companies are changing to more complex measures of performance. LSP act as a part of their customer's supply chain. Consequently, as their customer's definition of best performance changes, the way LSP monitors their logistics performance must change accordingly. In order to provide a benchmark for advantages that LSP provide for customers, a suitable critical metrics is essential to drive LSP to improve their performances to achieve company's strategic objectives and meet customer's expectations.

The research underlying this thesis focusing on outbound logistics processes, and aims at providing suggestions for critical metrics that measure the advantages the LSPs have. In order to realize this, it is necessary to include both metrics and methods for capturing and processing data in a measurement system. According to Ljungberg, a measurement system is 'a set of related measures – described by rules and procedures for capture, compilation, presentation and communication of data- that in combination reflect key performance and characteristics of selected processes effectively enough to allow intelligent analysis leading to action if needed.'¹⁰¹ Holmberg suggested a conceptual model of a performance measurement system as described in the following figure. The performance model is intended to be based on strategy and a guide to the selection of performance measures and design of measurement methods.¹⁰² It includes the descriptions of processes of how products and services are created within a system to customers, such as the supply chain strategy, the scope and structure of supply chain, and the level of integration in the supply chain.¹⁰³ This measurement system provides a model to link between strategy and action to measure if the output meets customer requirements and company goal.

⁹⁸ Adams, S.M., Sarkis, J. and Liles, D.(1995) *The development of strategic performance metrics*, Engineering Management Journal, Vol. 7, No. 1, March.

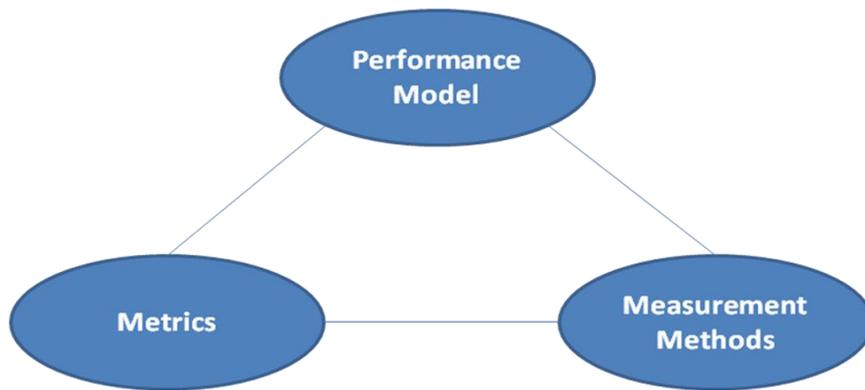
⁹⁹ The Global Logistics Research Team at Michigan State University (1995) *World Class Logistics-the challenge of managing continuous change, prepared for the Council of Logistics Management*, Oak Brook.

¹⁰⁰ Holmberg, S. (2000) *Supply Chain Integration through Performance Measurement*, Department of Design Science, Logistics, Lund University.

¹⁰¹ Ljungberg, A. (1994) *Measurement of Service and Quality in the Order Process*, Lund University.

¹⁰² Holmberg, S. (2000) *Supply Chain Integration through Performance Measurement*, Department of Design Science, Logistics, Lund University.

¹⁰³ Ibid.



Source: Holmberg (2000)¹⁰⁴

Figure 8 A General Measurement System

4.5.1 Measurement Methods

The key performance indicator (KPI) method is developed to identify critical factors relevant to a company's strategy and focus on strategic analysis and development. There are several steps to develop an appropriate KPI.

Success Map

When designing a measurement system it is important not to start with focusing on what to or how to measure. The success map is a cause and effect diagram that explains the company's strategy and the manager's theory about how the business operates. The purpose of using the success map as a tool is that the company's strategy can then better be aligned with its KPIs and what critical success factors the company should focus on. Once the important factors to measure have been identified the next step is to define KPIs to address these factors.¹⁰⁵ An example of a success map can be found in Appendix 13.

The Performance Measure Record Sheet

The record sheet is a framework, based on extensive literature review, summarizing recommendations for how to create a good performance measure.¹⁰⁶ The main purpose of this framework is to increase the possibility that the indicator will correspond to the intended meaning. By using a standardized way of introducing new KPIs it helps to identify potential problems with the KPI. Further it will also help to understand the meaning and interpretation of each KPI.¹⁰⁷

¹⁰⁴ Ibid.

¹⁰⁵ Neely, A. and Bourne, M., "Why measurement initiatives fail", *Measuring business excellence*, 2000, Vol. 4, No. 4, pp 3-6

¹⁰⁶ Neely A., Gergory M, and Platts K (2005). *Performance measurement system design, a literature review and research agenda*, *International Journal of Operations & Production Management*, Vol. 25, No 12, pp. 1228-1263.

¹⁰⁷ Parmenter, D. (2007). *Key Performance Indicators. Developing, Implementing and Using Winning KPIs* Hoboken, New Jersey: John Wiley & Sons.

Table 2 The Record Sheet

<u>Steps</u>	<u>Explanation</u>
Title	Having a clear title is important because it helps to avoid confusion
Purpose	Clear purpose, it is important to understand the purpose of the measurement
Strategic Goal	The measurement must relate to one of the business objective
Target	Defined level of performance to be achieved and a stated time for when it is supposed to be achieved
Formula	The formula of how the measurement is calculated
Frequency of measurements	Depending on the importance of the measurement and available data
Responsible for measuring	Responsibility for acquiring data and reporting
Source of Data	Routines for data collection from a reliable and consistent source
Responsible to React on the Data	A person that is responsible for taking actions based on the data
How to React on the Data	How should the management follow up on output of these measurements, how to establish continues improvements, communicate performance etc.

Source: Based on Neely¹⁰⁸

SMART

SMART stands for Specific, Measureable, Achievable, Realistic and Time sensitive and it is a methodology for setting target goals for each KPI. When implementing KPI's it is very important to define a target goal for specific Key Performance Indicator, SMART provides a set of criteria for how to set goals¹⁰⁹. The criteria are:

- **Specific**, goals should be as specific as possible. Having vague or unclear goals will not serve its purpose. It should be easy to tell when a goal has been achieved.

¹⁰⁸ Neely, A. and Bourne, M., "Why measurement initiatives fail", Measuring business excellence, 2000, Vol. 4, No. 4, pp 3-6

¹⁰⁹ Shahin A & Mahbod MA, "Prioritization of key performance indicators. An integration of analytical hierarchy process and goal setting", International Journal of Productivity and Performance Management, 2007, Vol. 56, No. 3, pages 226-240

- **Measureable**, the goal must be measureable one way or another either qualitatively or quantitatively. Further it should be put in relation to expected or standard performance.
- **Achievable**, the goal should be stated in such a way that it would be a challenge to achieve it. But it should not be impossible neither should it be too easy.
- **Realistic**, as a further development of the later goals must not only be achievable but also realistic. A goal can be achievable but it may not be realistic given certain working environments.
- **Time sensitive**, it is important that the goal has a time limit, a deadline for when it has to be achieved. This makes it easier to track improvements, and develop strategies to reach the goal in time.

Further it is important to involve the staff when the goal is formulated. Good communication between the manager and the staff is the key for success. It helps the employees to feel that they are a part of companies' success.¹¹⁰

4.6 Summary

In order to view the competitive advantage from both internal and external perspectives. To study the rivalry in a competitive environment, Porter's five forces model was presented. To describe a company's internal activities on the supply chain which generate value and develop competitive advantage, Porter's value chain and SCM theory was presented. RBV have been studied to address the origins of competitive advantage, with the focus on the internal parameter. It provides a theoretical guild for investigating how competitive advantage is achieved by strategically deploying its resources and capabilities and build core competencies that can sustain the competitive advantage over time. SWOT and strategic analysis provides a practical tool to connect the external and internal factors concerning the competitive advantage of a firm. Regarding performance measurement, the KIP method is selected to design an appropriate metrics to link between strategy and action to measure if the output meets customer requirements and company goal. The following figure is composed to illustrate the authors' view of the overall theoretical frame work of this thesis.

¹¹⁰ Max D & Bacal R (2004). *Perfect phrases for setting performance goals*. United States: McGraw-Hill Professional.

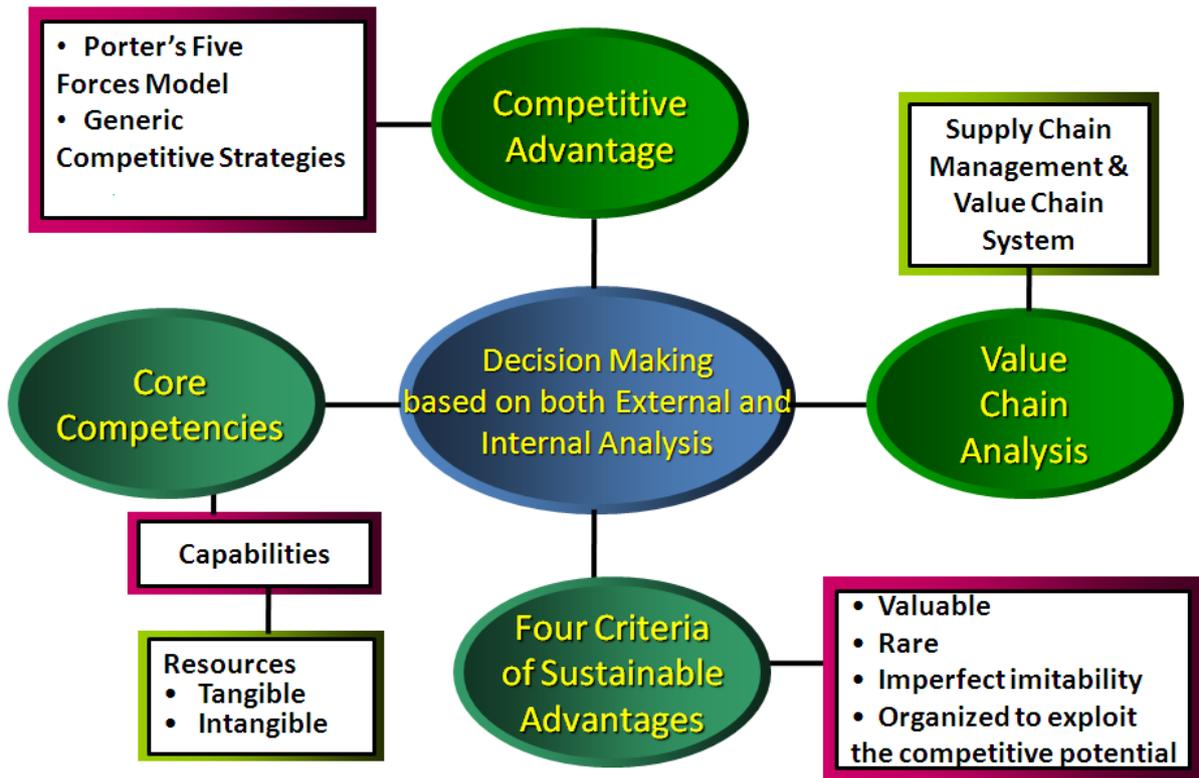


Figure 9 of the Theoretical Framework

5 Empirical Framework

The empirical investigations and surveys will be presented in this chapter. This section starts with a general market description in logistics and freight forwarding. It follows with a description of WWL in the Ro-Ro shipping market and presentation of WWL's SCM profile and products offer. Then it continues with an appearance of WWL's SCM, and the freight forwarding business with a focus on the research problems in this thesis. Detailed information about the risks involved in SCM from a legal perspective that has been concerned in the company is presented as well. A brief summary will complete the empirical part of this case study.

5.1 General Market in Logistics and Freight Forwarding

The global logistics and freight forwarding market is in a state of rationalization and consolidation. The biggest players are Schenker, DHL Global, Kuehne & Nagel. Outside the top three there is a large difference in size of the others. The top ten companies have together around 40% of the global logistics and forwarding market,¹¹¹ which indicate that the market is extremely fragmented. The market is characterized by few global players and vast amount of regional players. As the market is in a stage of consolidation there are tendencies that the already big players tend to become even bigger through acquisition or merger. The market structure indicates that there is a potential demand for more professional services to choose the most suitable suppliers for customers and manage their supply chains. According to Håkan Larsson¹¹², the logistics market is fragmented in terms of numbers of players on a total basis. In the global market, there are very few global players. In Europe, there are fairly few pan-European logistics providers. They are the all-round players offering the extensive network service. Besides those comprehensive LSPs, there is huge amount of local, regional, and niche players, as well as hauliers with freight forwarding function. That is what makes this market very heterogeneous. From customers' perspective, there are more and more companies being global or international, when they are expanding to new countries, they demand logistics services from providers who can provide a complete network of services that cover all the areas where they are. *“The tendency is that there will be continuous demand for high quality and low cost service, even tougher. But there will be more engagement in the climate issue and environmental aspects. There will be more investment in that field.”*¹¹³

¹¹¹ UNCTAD (2007) Review of Maritime Transport 2007, United Nations Conference on Trade and Development Geneva, United Nations Publications

¹¹² Håkan Larsson, guest professor at School of Business, Economics and Law at Gothenburg University with a long experience in shipping and a member of the Wallenius Board

¹¹³ Ibid.

When a new LSP role emerges, it indicates that there are customers' demands in this specific service. The competition and cooperation between them create a 'co-petition' environment that shows in the Figure 10, which give a general idea of how the overall market of 2PL, 3PL, and 4PL looks like, but the intention of the thesis is not to give an overview of how big the market is and how many players are acting in this market.

According to a manager interviewed by us, the biggest difference between 3PL and 4PL concepts is that 4PLs compose solutions with many different transport providers. They pick the best ones that fit in the tailor-made solution to achieve cost efficiency. The asset-based 3PLs try to achieve competitive pricing by having a very cost efficient solution, try to make it streamlined and efficient, putting a lot of customers in the same system preferably with the same requirements, needs, then fine tune the system.

The non-asset-based LSPs need relatively low capital to enter the market which means low barriers for entry in and exit from the market. Currently, although the 4PL market is relatively young, some of the managers see the 4PL field as a growth business because as customers' supply chain become more and more sophisticated, 4PL can act as a general contractor, outsourcing services from 3PLs, hauliers, forwarders, brokers etc to organize Supply Chain solutions to provide cost-efficient services and cost reduction for customers. It seems that 4PLs are more active in the European market, but probably lack of global coverage.

Both of the asset-based and non asset-based LSPs target at the same group of customers in the common market, but they also excel on their own market and provide services that complement each other. Therefore in some of the cases, their values enhance each other's competencies to meet the more and more stringent customers' requirements, but in the other cases they compete against each other. It all depends on the customers' needs because customers are holding the power, for example, they have a strong influence on LSPs' pricing strategies and they can decide on how integrated the relationship with LSPs should be. Good and close relationship with customers is very important for LSPs to gain the competitive advantage. The more integrated a LSP is in the customer's supply chain, the higher the switching cost would be for customers so that the longer relationship can sustain. Joint planning and mutual investments goes hand in hand with long term relationship development. In general, the more complex customer's supply chain is, the more specialized services they need. There is where 4PLs can break in to take the market share. Their customers tend to be big sized companies with complex supply chain therefore a 4PL can operate efficiently with a small customer base. Since it can provide the critical mass needed and it allows the 4PL to design and organize the tailor-made solutions around each customer. Since it takes time for 4PL to gain new customers and integrate in their Supply Chains, the focus for 4PL is to retain the current customers and playing in the market that brings them the most profit. The typical customer type for 4PL tends to be logistics buyers with complicated requirements. 4PL can provide tailor-made services for them. Since 4PL contracts others to perform the transport, they also have to take the responsibility to coordinate the customer's request and carrier's interest at the expenses of their own loss. It also requires different levels of LSPs to be involved as showed in the collaborative logistics management model (Figure 2). However,

customers also hesitate to lose control and to be dependent on their LSPs, there is a general tendency that customers outsource relatively commoditized services and keep strategic logistics services in-house. There is Lead Logistics Service Provider (LLP) in the market, customers can outsource multiple 3PL management to one LLP, but customers contract the suppliers by themselves and outsource the management to LLP. It can give customers certain amount of control over the supply chain, but customers also have more responsibilities because they have the contracts with the carriers.

To most of the customers, branding image is important because good reputation associates with good services. However in the case that the buyer is a 4PL company and the contracted 3PL service provider also has the competence as 4PL, the strong branding image may keep distance between the buyer and supplier because they may be competitors in some other markets. In general, 4PLs still prefer not to buy services at the same level to avoid favoring the competitor. They try to buy simple, but deliver complexity. Whereas 3PLs are developing functions and services that beyond are the traditional ones. The biggest challenges for 3PLs right now in general are the recession in the current business environment, volume drops and forecasting of volumes. One of the 3PL manager said that *“we can be competitive on one part of the journey but not on every aspect, so we need to go outside to buy the transports. The biggest challenge is to get the business and cope with the restrictions to go out and buy the transport.”* Regarding the competition between 3PLs and 4PLs, there is a trend that both of them try to keep the value-added services in-house but outsource the services that are lower level than what they can offer. On the other hand, some of the 2PLs are also developing their services beyond the basic transport services to stay competitive. Therefore they intend to establish a direct close relationship with customers. It makes the competition even fiercer.

In a good market situation, there is enough demand that can keep all the LSPs busy. However, in the current economy downturn, the demand is shrinking therefore the common market become more important for different layers of LSPs and the competition among them become fiercer. Regardless of which level of LSPs, they all have their strengths and weaknesses. But the most important thing is how their customers perceive these. For example, regarding 3PLs, their neutral position is questioned because there is a risk that they intend to maximize the utilization of their own assets and cannot quote competitive price from some of the suppliers. According to one manager from 4PL company which are derived from 3PLs, *“The carriers we deal with are sometimes competitors with our mother company. We have therefore to be very clear about the neutrality and maintain this reputation. It would be devastating for us if we would be interpreted as a channel for benchmarking on the market for our mother company. Therefore we have to really nourish and guard our relationship with all the external service providers.”* However, from the interviews with LSPs’ customers, the authors discovered that the neutral position of an LSP is not a decisive factor at all when customers choose their LSP. The same applies if their LSP is asset-based or not. The most important thing for customers is who can bring the best solution and most value for them. From a customer perspective it neutrality is not of minor significance but for the LSP it might be more important. In the case that the LSP is derived from or owned by a large shipper/manufacturer, the mother company might block the competition from the external LSPs.

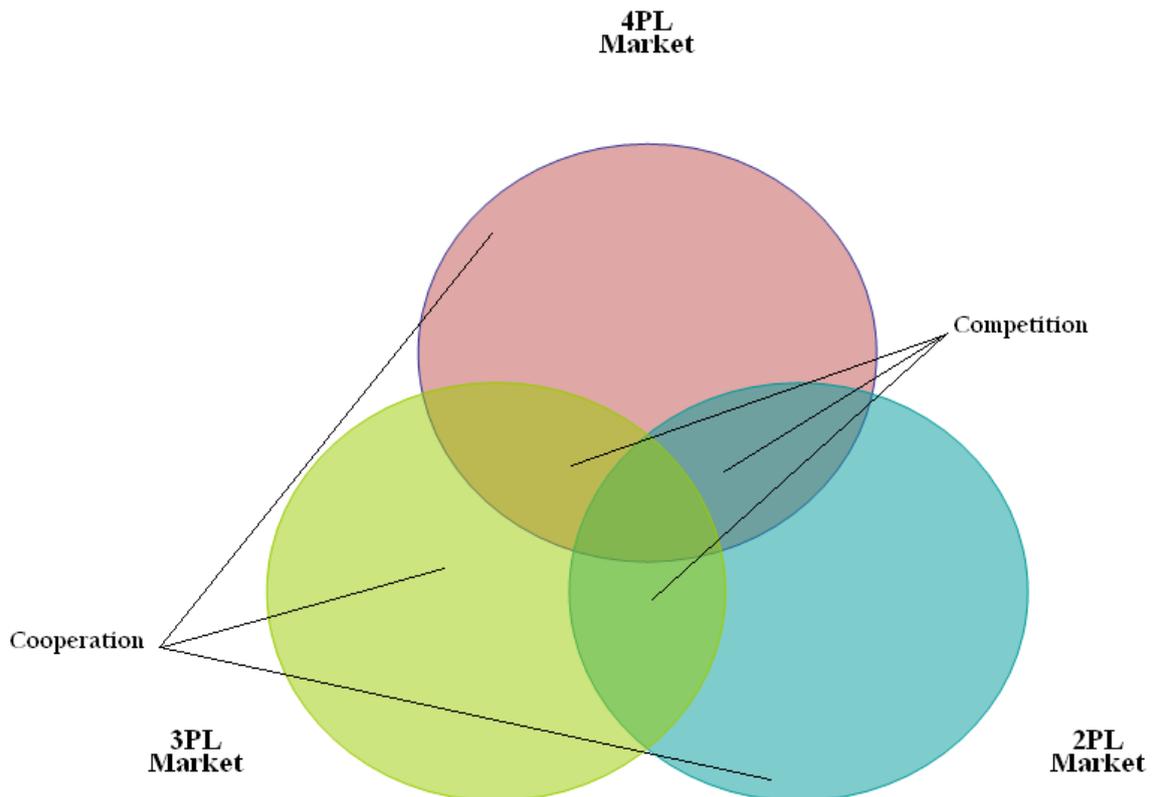


Figure 10 The overall logistics and freight forwarding market structure

Government (at both national and supranational levels) plays as the complementary force in setting up legal boundaries to regulate dominant players, competition and cooperation etc, which is described connected to the company's legal concern at the end of this chapter.

According to the survey and interviews, the challenges for LSPs in general are the continues pressure from customers to lower costs while requiring ever increasing value and service performance, striving to be competitive on the whole chain, dropping volumes and managing growth in the recession, as well as forecasting of volumes.

5.2 WWL in the Outbound Logistics Market

The outbound logistics supply chain is very complex, especially for automobile or H&H (High and Heavy). There are a lot of unit specific events during transport, such as changing destination from dealer to dealer (when cars gets sold on the way to the dealer), particularly the long overseas distance. The Ro-Ro and non-containerized shipping is one of the fastest growing segments within the shipping industry. There are around seven significant players in the Ro-Ro ocean sector, which account for around 70%-85% of the total sector's revenues.¹¹⁴ This market is much more concentrated comparing with the global logistics and freight forwarding market, with fewer but bigger customers. This is because of the high

¹¹⁴ Wilh. Wilhelmsen, The Danish Society of Financial Analysts Company Forum 26th May, 2005.

URL (accessed on 26th of April, 2009):

http://www.finansanalytiker.dk/dokumenter/presentationer/2005/2005_virksomhedsdag/Wilhelmsen.pdf

capital investments needed to enter the market and high barriers for entry in and exit from the market. WWL is one of the world's largest actors in the global Ro-Ro sea transportation market.

However, the world is experiencing a severe recession nowadays, with a global scope and impact which is larger than most expected. The automotive market has been severely impacted and the demand of global vehicle transportation is dropping significantly. The automotive volumes shipped have by now decreased with 30-40% compared to the same time last year for WWL.¹¹⁵ It is not predicted for any significant up-turn in the market until 2010.¹¹⁶ As the trade patterns and markets change, it has a considerable impact on WWL, especially the automotive segment which account for approximately 52% of the total ocean revenue.¹¹⁷ How to deal with the dropping volume is a big question that the strategy has to cope with in the current environment.

The supply chain from WWL perspective is from factory to dealer. When WWL does freight forwarding as part of the SCM for customers, they buy the service from other suppliers but take full responsibility for the outbound supply chain. The customers for WWL are mainly the automobile manufacturers; WWL is regarded as a specialist in the market. Comparing the Ro-Ro market with the logistics and freight forwarding market, there is a relatively limited customer base in the Ro-Ro market with a few large manufacturers. As cited from Håkan Larsson¹¹⁸, *"I don't know any major freight forwarder who is to a great extent involved in the transportation of automobiles or trucks or high & heavy. The asset-based LSPs involved in this business have a very good grip of the market."* In this economic downturn, the slow demand and over supply will last for one year or two. There are scrapping and lay-ups, as well as cancellation on new building contracts to adjust capacity according to the new demand level. The rate is going down due to the pressure from automotive industry and excess capacity. There will be much less profit, but no crisis because there are relatively few players. There are small amount of customers in this market, but they do demand high quality of services. In general, it is difficult for the non asset-based LSPs in the outbound supply chain market for Ro-Ro to add value to customers due to the complexity of distribution, as well as the expertise needed in the global market.

The WWL's SCM is not only niche serving Ro-Ro shipping market but also have the option to diversify because it involves the logistics and freight forwarding services. Therefore WWL face a choice to stay focused or to diversify the SCM services. WWL is facing competition from different types of competitors, for example, from the European perspective, there are LSPs specializing in the import related logistics and transportation into Europe such as pan-European services, then there are also strong regional LSPs. Besides these, there are also LSPs that are integrated with manufacturers' operation or derived from manufacture's

¹¹⁵ http://www.2wglobal.com/www/newsFeatures/newsShowPages/show_wwwnews.jsp?newsRepository=www_news&oid=21779 (accessed on 2009-04-26)

¹¹⁶ Ibid.

¹¹⁷ According to the interview with a manager at WWL

¹¹⁸ Håkan Larsson, guest professor at School of Business, Economics and Law at Gothenburg University and a member of the Wallenius Board

in-house operation, as well as haulers that expand the services to 3PLs but they are limited to regional services. From a global perspective, there are big LSPs that are all-round players that are active in many markets, both inbound and outbound. However, because WWL specialize in factory to dealer SCM services specializing in Ro-Ro shipping, the competition from the global actors is limited.

Nowadays many customers are still not open to the potential savings delivered by LSPs because they are afraid of the loss of the in-house expertise and competence, it also indicates that there is a lot of potential in the market, especially in the current market downturn, when customers prioritize their core business and focus on cost reductions which might change their attitudes towards outsourcing the management of the outbound supply chain.

5.3 WWL SCM Products Offer and Profile

5.3.1 SCM Products and Services

WWL’s SCM product consists of three main services: Process Management, Visibility & Reporting, and Supplier Management. They can also be broken down into standard and optional service (Table 3). These services are the very core of the SCM solution provided by WWL. The description of each choice is described in detail in Appendix 16. In order to reduce the risk of non-compliance, different metrics serve for various purposes are applied to control the performance and continuously improve value to customers.

Table 3. Supply Chain Management Service Components

Process Management	Visibility & Reporting	Supplier Management
<ul style="list-style-type: none"> • Order Planning & Execution (S) 	<ul style="list-style-type: none"> • Tracking (S) 	<ul style="list-style-type: none"> • Procurement and Contracting (O)
<ul style="list-style-type: none"> • Event Management (S) 	<ul style="list-style-type: none"> • Performance Reporting (S) 	<ul style="list-style-type: none"> • Payment Administration (O)
<ul style="list-style-type: none"> • Claims Management (O) 		
<ul style="list-style-type: none"> • Network Optimization (O) 		

Source: Company information, S = standard, O = Optional

5.3.2 Different Roles of WWL in Providing SCM Services

Customers’ value the most is either lead time or cost saving, reliable and predictable service. In general, WWL is very integrated with the clients’ supply chain, for example, the sales data, order information per unit, buy services together, cost sharing agreement, gain sharing when WWL improve supply chain by lower the cost along the supply chain. WWL has strong

customer relationship, the only company in the ocean part provide global from factory to dealer strategy, strong network especially the part built by WWL's assets. Good volume mix in terms of products and customer base.

In which role WWL functions to meet customers' expectation largely depends on the contract that they have with their customers. For example some customers would like to purchase only the ocean transportation service, while others prefer one stop shopping. According to the manager, *"There is a tendency that for those customers that have been in the market for quite some time, the more reluctant they are to outsource SCM services, because they have resources to develop most of the functions internally. Whereas those relatively young companies that want to expand fast in the market, they are willing to purchase SCM solutions from WWL rather than handle the supply chain themselves"*. In short, the WWL's role as LSP for the customers is determined by their agreement with each specific customer. The focus in the thesis is the overlapping in SCM services based on their own asset and freight forwarding service in the SCM department, which shows in the following figure.

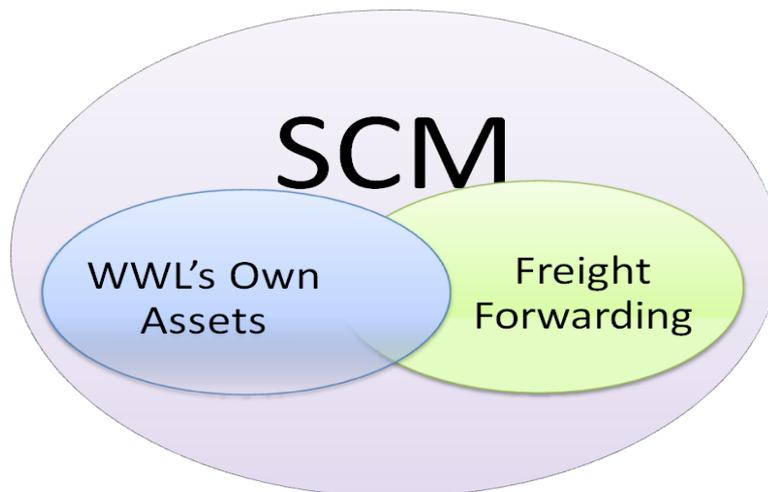


Figure 11 The Overlapping between SCM Service and Freight Forwarding Service

WWL acts as a 2PL service provider when providing only single stand alone services to customers such as the four products except SCM. In these cases WWL is just providing the transport and is not involved in the rest of the outbound supply chain.

By providing forwarding services and offering 'from factory to dealer' services, WWL acts as a 3PL service provider with high asset base, for example, the investments in vessels, warehouses, truck fleet, and rail wagons. This involves planning their customer's outbound supply chain and carrying out the logistics activities fully or partly by themselves. WWL provides value to its customers by performing transport services and delivering logistics solutions globally, including order planning and execution, event management, claims

management, track and trace service, procurement and contracting suppliers, payment administration.

WWL also acts as a 4PL service provider by offering global integrated supply chain solutions. They offer their customers network optimization, better visibility and reporting (e.g. performance reporting), supplier management, process management. The services provided by WWL fits well within the scope of a 4PL service provider, by acting as an integrator, planning, coordinating and managing their customer's outbound supply chain. Those value added services help their customers to achieve reduced costs, greater reliability, and more control. Furthermore WWL also provides consultancy and strategic optimization services for the entire supply chain in order to generate value to customers by their experience and knowledge expertise. However, the 4PL services only account for a small fraction of WWL's total SCM business. The 1PL-4PL solutions in WWL are defined as follows.

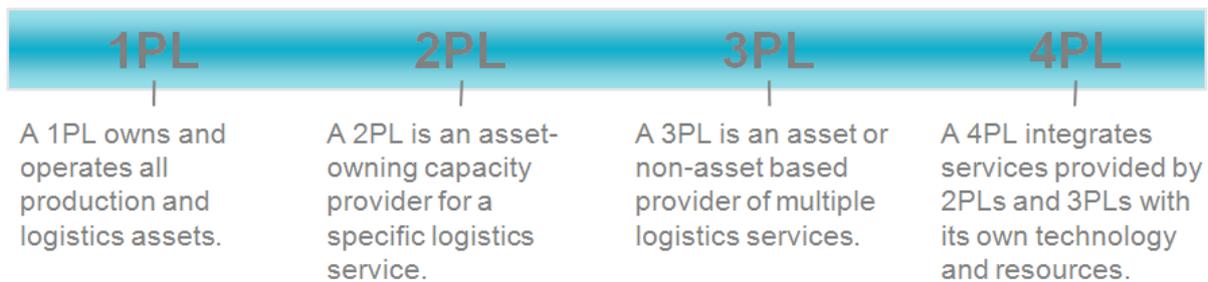


Figure 12 WWL's Logistics Solutions¹¹⁹

In general, those services provided by WWL's SCM have different focuses and are achieved to different extents, although there is similarity in the services that 3PL and 4PL services provided, such as visibility and reporting, supplier management etc. It shows that WWL are advanced in both physical and administrative services as a 3PL service provider. WWL's own assets are the big advantage to the company to attract customers to use their services. Whereas being a 4PL service provider, the ability to meet customers' complex expectations is the point that attracts customers, but it is still under development. WWL provides few administrative services as 4PL and WWL does not integrate or control its clients' supply chain from a holistic perspective. The cost responsibility regarding different roles of WWL shows in the following figure. It also indicates that it requires much higher investment as being 3PL service provider than 4PL. In order to maximize the strategic value that WWL can generate to the customers, it also depends on customers' expected levels of services and the relationship. The challenge for WWL is how to build a consensus on issues of mutual interest and win-win result. This cannot be done without a strong supply chain leadership.

¹¹⁹ Cooper D. (2009) *Time to change your logistics strategy?*, Venture Magazine No. 2

Customer Cost Responsibility	Cost Driver	2PL	3PL	4PL
Logistics Supplier Management	# of Logistics Suppliers	High	Medium	Low
Internal Logistics Management	# of Logistics Staff	High	Medium	Low
Logistics Technology	Systems Costs	High	High	Low
	Overall Cost	High	Medium	Low

Source: WWL (2009)¹²⁰

Figure 13 The Customer Cost Responsibility of WWL Regarding Different Roles of LSP

5.4 Forwarding Services

5.4.1 Goal of the service and the main activities

The goal for the forwarding department is to help customers through innovative forwarding, transport and logistics solutions. These services are provided for the distribution of vehicles, rolling (high & heavy) and static cargo. How it is done depends on region to region but also on the type of contract WWL has with the client. For some customers WWL is responsible for the purchasing and contracting in other contracts the customer do the contracting and WWL is only responsible for booking and managing the units.

The main activities in freight forwarding can be organized in the following categories:

General freight forwarding activities relate to import and export services (including import and export documentation), as well as general activities such as forwarding/transportation to other destinations.

Customs formalities deal with all the needed information and documents for customs clearance.

Issuing specific documents for WAF trade includes issuing cargo tracking notes and waivers.

Issuing quotes include negotiation of rates with shipping lines and subcontractors for WWL agents and other third parties. WWL forwards to external suppliers today are mainly done for the inland distribution since WWL has limited assets in that area.

¹²⁰ Cooper D. (2009) *Time to change your logistics strategy?*, Venture Magazine No. 2

Organize surveys and COC inspections include damage surveys and Certificates of Conformity inspections for specific destinations.

Handling static & project cargo includes FOB delivery to export terminals.

Stock management involves management of inventory for clients.

5.4.2 Services Categories

- **Import service:** WWL provide many services to customers, involving organizing terminal handling, port/release documents for pick-up, import customs clearance, releases for import Dept. to other forwarders, procurement of services, organizing total transport chain, as well as conducting survey for customers etc.
- **Export service:** WWL provides various services together with its external partners, involving organizing terminal handling, port documents for delivery, LC handling, handling customs docs, POV's, procurement of services, organizing total transport chain, as well as conducting survey etc. Take export operation of WWL in German for example, packing and loading services are provided by one of WWL's partners - Atlantik Hafenbetriebe Company (AHB). AHB in charge of roll trailer packing and handling for bulk and non-containerized cargo, container-packing, as well as seaworthy packing.
- **Transshipment:** This service is the shipment of goods to an intermediate destination, and then from there to yet another destination.
- **Projects:** This service is about entire logistics solutions to customers with special needs. The focus is to provide solutions that cover the whole outbound supply chain this operation includes coordination of sub-companies and specialized companies for pre - and on-carriage and final handling at the destination covering the whole chain. Examples of this could include survey reporting, import solutions, truck on carriage, and transportation of flat racks for loading and unloading of trucks.
- **Non-WWL cargo:** WWL deals with basically complete service portfolio offered to non WWL cargo, such as container business.

5.5 WWL's Customer-oriented Strategy

Finish vehicle distribution is relatively complicated compared to the distribution of other cargo. This requires the company to adapt their strategy to the market situation and customers' expectations. According to a manager from WWL, *“Car distribution has the complexity of unit specific events which needs to be managed during the outbound supply chain. These events, such as damaged units for instance, need to be rerouted to workshops to get fixed, and then back to the supply chain. Change of destinations several times because the unit is sold from dealer to dealer during the supply chain, especially on long journeys such as from Europe to Australia is another example of event management. Large standardized systems operated by large global parcel logistics operators may not be able to deal with such*

events”¹²¹ Therefore the capability to adapt to events on the outbound supply chain is critical for the quality of the service, which requires WWL to have flexibility to cope with such customer requirements.

WWL’s ocean service is the core of the company. WWL is tightly associated with its ocean product by its customers and there is potential to grow with in this segment. In order to meet customers’ demands and the supply chain goals of the company, WWL focuses on reducing costs and decreasing lead times, but also provides customized services accordingly. There are different aspects that customers are looking into, which show as follows.

- Customer’s current logistics strategy and expectation for future logistics development
- How many points of contact (logistics suppliers) does a customer want to manage in their supply chain
- Customer’s need to own the technology and transfer fixed logistics systems costs to a variable per unit cost by using WWL’s services
- The level of logistics services a customer expects.

Different solutions are provided to customers according to the character of the group that they belong to. In order to achieve reductions in logistics, people, process, and system costs, three solutions are offered. (Figure 14)

Components	Process Management, Visibility & Reporting, Supply Management		
Solution	<u>Third-Party Logistics</u>	<u>On-Site Personnel</u>	<u>Fourth-Party Logistics</u>
Description	Outsource specific supply chain processes.	Outsource people and process costs for end to end management.	Outsource people, process, and systems costs for end to end management.
Example	Freight Forwarding, Transportation and Inventory Management	Factory to Dealer Management with on-site WWL Personnel	Factory to Dealer Management with WWL Technology
Benefits	Reduced Costs, Greater Reliability, More Control		

Source: WWL (2009)¹²²

Figure 14 WWL’s Solutions for Process and Supplier Management

5.6 General Risks involved in SCM

There are some risks associated with the services that WWL provides. They can be categorized in the following way: Ocean Transportation Compliance Considerations, Non WWL or customer contracted service providers and professional liability.

¹²¹ A Manager from Supply Chain Manager in Business Development, Wallenius Wilhelmsen Logistics.

¹²² Cooper D. (2009) *Time to change your logistics strategy?*, Venture Magazine No. 2

The risk associated with WWL's SCM is the compliance of ocean transportation regarding the legal issues that the company is facing. WWL has already had legal assessment for this risk in place (Appendix 20). WWL has limited authority to influence non-WWL or customer-contracted providers in the supply chain. This creates a challenge for WWL when a manufacturer wants to outsource the management of the supply chain but wants to keep the contractual relations with the suppliers and at the same time keep WWL responsible for the performance of the supply chain.

The risk of professional liability means that WWL could be liable when it's undertaking the responsibility to provide a SCM solution, if something goes wrong during performance any service provided by WWL, the company will be held liable for that.

These risks are applied in general for all the services provided by WWL, but there are cases in which some services have special risks that are not mentioned here due to the nature of that service.

5.7 Ocean Transportation Compliance Considerations

There is a legal aspect that has to be taken into consideration when doing business. WWL is subject to stricter competition rules because of its high market share. WWL is now, after restructuring of the organization, part of the same economic entity as their sister company EUKOR (which has the same ownership as WWL). According to most jurisdictions, it means that they are now regarded as the same company. The consequence is that WWL and EUKOR is now allowed to cooperate, since they are regarded as the same company. Another consequence is that the two companies combined market share is now belonging to the same economic entity. This means that WWL/EUKOR has a high market share in certain areas which could be regarded as holding a dominant position by the authorities. Therefore WWL is now subject to stricter competition rules. The area of focus in this thesis will be Europe and North America in which WWL/EUKOR has a market share of around 40%. According to the legislation, the market share threshold is from 35% in general within EU (30% if the within a consortia), above that is regarded as dominant position.¹²³

5.7.1 Rules and regulations in the EU

In 18th of October 2008, a new legislation came into effect regarding competition rules in EU.¹²⁴ Before that time, there had been a block exemption to liner shipping consortia from competition rules. The block exemption was adopted in 1995 and had since then been

¹²³ EU portal (accessed 2008-03-10)- URL-
<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/644&format=HTML&aged=0&language=EN&guiLanguage=en>

¹²⁴ (accessed 2008-03-10) URL:
http://ec.europa.eu/competition/antitrust/legislation/maritime/technical_paper.pdf

renewed twice. It has now however been abolished.¹²⁵ It means that conferences are no longer allowed. The main changes in the regulation are that conference block exemption was abolished, the commission gets jurisdiction over all segments of shipping including tramp shipping.

The antitrust area covers two provisions of the EC Treaty. Article 81 states that agreements between two or more firms that restrict competition are prohibited, with only some exceptions. Under this rule, cartels (price-fixing, market sharing) are illegal. However this article can be exempted from through self-assessment, which means that some agreements can still be considered valid even if in violation of article 81, as long as they fulfil certain requirements stated in article 81(3). There are three basic cumulative conditions for exemption that has to be met.

- 1) It has to be shown that benefits can be achieved for all parties involved that could not have been possible otherwise
- 2) The restriction of competition was a necessity in order to gain the benefits,
- 3) There should be no elimination of competition.

The company has to make a self assessment: if the conditions are fulfilled, there would be an exemption from article 81 that would allow for extended cooperation. However it is important to know that this assessment could be challenged by the commission or anyone else, the EU's "rule of reason" is that the benefits should outweigh the negative effects on competition. Therefore it is important to clearly show the benefits and clearly state the negative impacts. Questions that would be important to consider are: what is the real effect of the cooperation on the particular market? Is it Transparent? What is the market share? If it is concluded in the assessment that the company is not violating article 81, then it is allowed to continue with the agreement.

According to article 82 it is illegal to abuse dominant position, examples of abuse are predatory pricing aiming at eliminating competitors from the market, anticompetitive conduct that excludes competitors and strengthen the dominant position.¹²⁶ It is worth to notice that behaviour which is allowed for a non dominant actor might not be allowed for a dominant actor. Dominant actors need to act with more caution than other competitors in the market. These two provisions can be found in Appendix 17. As described before, WWL/EUKOR has a high market share and could be regarded as dominant. The general rule is that a market share above 35% is presumed to be dominant, below 35% can still be regarded as dominant if competitors are small. WWL is active in different markets; therefore whether or not it has a dominant position depends on in which market it competes. In this thesis the focus will be on the trade between North America and Europe.

¹²⁵ EU portal (accessed 2008-03-10)- URL- <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/644&format=HTML&aged=0&language=EN&guiLanguage=en>

¹²⁶ The EU portal (accessed 2009-03-10) - http://ec.europa.eu/competition/antitrust/overview_en.html

The Consortia Regulation 823/2000 provides a block exception from the competition laws; it is the last existing exemption in the transportation sector. However it applies only to international liner services chiefly by container. In WWL's case, it means that the exemption cannot be applied directly to WWL because the company is not a container carrier (even though occasionally carry containers), but is considered by the EU Commission to be a 'specialized carrier'. However, it is arguable that WWL could use the principles of the regulation when it comes to operational cooperation by analogy and thereby justify operational cooperation even in the segment of the shipping industry of WWL. The most important rules to follow are still article 81 and 82. These rules are international, and similar provisions can be found in the North America and the rest of the world as well.

Regarding the planned space charter agreements, according to the competition rules, WWL can cooperate with EUKOR but not with any other competitor except for ad hoc space charter arrangements unless it qualifies for an individual exemption. In practice, when doing planned space charter agreement with competitors except EUKOR, WWL applies the consortia regulation (823/2000) by analogy and consider through a compliance assessment whether or not planned space charter agreements can be acceptable, i.e. an assessment of the relevant market share in the specific trade. In other countries (US, Japan, Korea etc) but EU, it is more flexible for planned space charter agreement.

5.7.2 US rules and regulations

The US laws are similar to the Europeans, they both aim at ensuring that competition functions properly and to prohibit conduct that would reduce competition artificially. The US antitrust laws consist of mainly two clauses;

- ❖ Section 1 of the Sherman Act - prohibits agreements that unreasonably restrain trade
- ❖ Section 2 of the Sherman Act – prohibits unilateral abuse of monopoly power.

These are the equivalent to article 81 and 82 in EU. However there is one exemption relevant to the shipping business, they are stated in the Shipping Act. The shipping act contains a long list of exemption to the antitrust laws covering different types of agreements all related to shipping activities. The requirement is that any exemption made with reference to the shipping act must be filed with the Federal Maritime Commission (FMC) in order to be valid. FMC is also the organization that has oversight in the shipping sector, effectively replacing the antitrust laws. These regulations can be found in Appendix 18.

One point that is important to notice is that even if these laws are similar to the article 81 and 82 in the EC Treaty there are some differences between them. One of them is the difference between a monopoly and a dominant position. An analysis of both the product and geographic markets determine market share in this case.¹²⁷ The general rule is that 70% and above constitutes presumption of monopoly power. Less than 50% is regarded as no

¹²⁷ Product market - products that have similar uses. Geographic market - area that customers can turn to sources of supply.

monopoly power and between 50-70% is a factual inquiry and could be considered a monopoly. Whereas the line for dominant position is drawn around 40%. Competition authorities cooperate together, for example if European court were to investigate a case of violation to the antitrust laws which originates in America, it should still be regarded as under the European jurisdiction. It means that in cases with trade with other nations, both legislations will have to be followed.

When determining whether a company has violated section 1, proof is required of: that an agreement and that the agreement is an unreasonable restraint of trade.

When determining if section 2 has been violated proof is required of: the monopolization (the monopoly power), and the unlawful acquisition or maintenance of that power.

5.7.3 Exclusive long term contracts

Some long duration contracts can be seen as abuse of dominance because they tie up the customers, especially exclusive contracts that exclude competition. It puts significant barriers to entry for competitors and restricts competition. A company that has a dominant position is not allowed to tie up significant market share in exclusive long term contracts. A contract should not contain clauses that offer rebates based on loyalty, incentives for buyers to offer exclusivity or bundling services together giving the customer no choice but to buy the whole package or not buy anything at all. It is important to note that long term contract itself is not illegal, whereas the abuse of dominant position by long term contract that is prohibited. Consideration to the situation has to be taken during these assessments:

- A comparison with normal commercial practice in the industry to determine if the contract is long or not.
- The market share covered by the contract is also relevant for the assessment.
- The duration of the agreement.
- Whether or not it was the customer's choice also has significance, the customer must always have a choice and a contract should not be imposed on the customer.

Long term contract is a sensitive subject from the legal perspective. However there is a block exemption for vertical agreements (agreements between a company with either customers or suppliers). There are three requirements that have to be fulfilled for the exemption to be applied. The first condition is that the agreement doesn't contain any "hardcore restrictions". The second condition concerns the market share, there is a threshold of maximum 30%. Thirdly there are requirements relating to three specific conditions. The list of the hardcore restrictions can be found in Appendix 19. The specific condition consists of: *non-compete obligations during the contract; non-compete obligations after termination of the contract, and the exclusion of specific brands.*¹²⁸ Within these conditions there is a maximum contract length that is stated to be 5 years. Longer than 5 years means that such agreements are no longer part of the exemption. For WWL this means that if the market share is below 30% and

¹²⁸ European Commission (2002), *Competition policy in Europe- The competition rules for supply and distribution agreements*, Luxembourg: Office for Official Publications of the European Communities

the agreement doesn't exceed 5 years there will be an automatic exemption from the competition rules. Therefore a self-assessment must be made by WWL in order to make sure that they fulfill these requirements.

5.7.4 Competition rules and pricing

Predatory pricing and discriminatory pricing are illegal as it is a violation to article 82. The definition of predatory pricing is to set prices below average or below actual costs with the intention to eliminate the competition. Whereas discriminatory pricing is to offer the same goods to similar customers at different price levels which totally disregards the supply costs. Some types of discounts can also be seen as illegal depending on what basis they are given, for example, loyalty rebates are illegal. This is because it gives incentives to the customers to buy all the services from one supplier. If this supplier is a dominant actor it will disrupt the competition, however, if discounts are given on a cost basis it is considered to be acceptable business practice.

5.7.5 SCM and competition rules

Potential competition issues exist for WWL with their SCM product offering. In the current business model, WWL offers both ocean transportation and the SCM solutions for their clients. If WWL is offering their ocean transportation and SCM solution in the same market there are potential problems if ocean transportation is carried out on vessels that do not belong to WWL. The potential problem is that WWL is not supposed to know the rates of their competitors. Knowing the rates of competitors could be seen as a possible violation of article 81, which states that price-fixing is illegal whether or not it is directly or indirectly. The scope of this law is broad, in general it is considered illegal to contact competitors to discuss competitive matters such as; rates, charges, surcharges, discounts, terms of sale and customer relations. This behaviour would be very close to illegal cooperation which would be a clear violation of article 81. In the case of WWL's SCM solutions, sometimes the company might be asked by customers so that WWL could be in a position where they could access to sensitive information from competitors. In this situation, according to the legal expert, whether or not WWL has been appointed as the provider of SCM services has no bearing on the question whether or not WWL thereby is compliant with competition regulations with regard to access to sensitive information. *"It is the access to the information itself that is the issue from a competition law viewpoint"*¹²⁹. Assessments have to be made on a case to case basis, this assessment involves several factors such as, the relevant trade, the cargo, market share (and/or combined with EUKOR), what type of information is available, to what extent and how will it be available. This is not something that is specific only to ocean transportation; it involves all other transport legs such as inland transport. WWL is not supposed to know the rates for the same service they are offering. The issue is the access itself to sensitive information, in situations where it is unclear if a business opportunity is aligned with competition law, an assessment has to be made about the legal status. This is something that is made on a case to case basis, where specific areas are looked into such as

¹²⁹ Linda, H – Legal counsel at WWL

the relevant trade(s), the relevant cargo, the relevant market share of WWL (and/or combined with EUKOR), which information will be available and how it will be available (potential full access to supplier rates).

The current set up has some other practical problems, for example, when acting as a forwarding agent to competitors, trust will be an issue. The competitors might not be very willing to share information with WWL, the thought of having your main competitor as your contracting agent might create discomfort and mistrust. Other problem might be to obtain competitive prices from competitors. There is always a risk that competitors might choose to charge WWL a higher price than they would otherwise to a neutral forwarding agent because of no intention to develop long term relationship with their competitor.

WWL is well aware of the difficulties. In order to cope with them the company has developed guidelines for how to handle the SCM business opportunities involving ocean transportation, the Ocean Transportation Competition Compliance Considerations Program. The legal guidelines contain a three step assessment in which it is evaluated if the SCM business opportunity is in compliance with existing competition law, the whole process will also be documented with accordance to EU's "rule of reason". The guidelines can be found in Appendix 20.

6 Analysis

This chapter includes an analysis of the theoretical and empirical findings as presented in the previous chapters. Firstly, the advantages and disadvantages between asset-based and non asset-based LSPs are investigated based on the responses from the questionnaire. Then the WWL company assessment is conducted in order to clarify two strategies that are concerned. Secondly, the scenario study, SWOT, and strategic analysis are conducted to find out which strategy can enhance WWL's competitive advantage and bring more value to customers. The operational guidelines are presented for the development of WWL's SCM. At last, the performance metrics that can be used to measure and enhance LSPs' advantages are presented. Each section within this chapter is analyzed in connection to the research problem and sub-questions.

6.1 Advantages and Disadvantages of LSPs

In order to compare the advantages and disadvantages of asset-based and non asset-based LSPs, surveys and interviews have been conducted investigating logistics companies' self-assessments of their own businesses. Since the survey sample is small, the results cannot represent the strengths and weaknesses of all LSPs in the logistics and freight forwarding industry, especially all the international companies that responded the survey since they are European-based. But they indicate to a certain extent the LSPs' key strengths and weaknesses and reflect some useful information about LSPs in general. In order to conduct the data analysis carefully, only those factors that are outstanding to each of the company were selected. To increase the validity, the survey results were complemented with interviews. One of the factors what repetitively came up during interviews was the importance of the environmental factor regardless of whether the LSP was asset based or not.

6.1.1 3PLs

For 3PLs, the following points show the factors that are the most important to gain competitive advantage based on the objective to make profit for the company. All the factors listed here are not in any order.

- Reliability
- Cost-reduction capability for clients
- Flexibility and adaptability to market fluctuation

Besides that, for 3PLs, the factors that show the highest relative strengths comparing to their competitors based on their own self-assessment are as follows:

- Joint planning with customers
- Improve space, capacity, and time utilization for customers
- Intellectual capital/knowledge-based skills/knowledge expertise

The factors that have the combined highest scores in both Relative Strength and Strategic Importance are regarded as strengths, and the vice versa for the weaknesses. (Appendix 22)

The survey also shows that the global players have the advantage of flexibility and adaptability to market fluctuation, such as DHL and Schenker. They also have the strengths of both economies of scale and scope.

Concerning the pricing strategy, according to Andersson¹³⁰, pricing is one of the biggest problems right now. There is a distinction between pricing strategy and pricing methodology. A strategic question for the companies are if they should charge based on a premium or on a cost basis. But there are also difficulties when it comes to calculating the price, what methodology to actually use? This is not something that is only connected to the field of logistics but it affects all new services that are advanced. There is an uncertainty on how much to charge for them. In the beginning it is also difficult to predict what the cost for providing the new service is going to be. Therefore a open book agreement were the customer is charged for the costs while adding a profit margin on top of that is recommended at least at the beginning.

Table 4 Strengths and Weaknesses for 3PLs with Assets

Strengths (3PLs with assets)	Weaknesses (3PLs with assets)
Assets (both transport assets and supporting assets)	Flexibility and adaptability to market fluctuation
Economies of scale	Pricing strategy that drives company performance towards customers' expectations (high risk sharing, high return)
Providing multi-clients synergies	
Responsiveness to the change of customers' needs at the operational level	
Integrity, trustworthiness, and reputation	
Improve space, capacity, and time utilization for customers	

¹³⁰ A well-known associate professor in the field of third party logistics from Chalmers University of Technology

6.1.2 4PLs

For 4PLs, the following points show the factors that are the most important to gain competitive advantage based on the objective to make profit for the company. All the factors listed here are not in any order.

- Cost-reduction capability for clients
- Meet service-levels commitments
- Overall supply chain visibility across a variety of platforms

Besides that, for 4PLs, the factors that show the highest relative strengths comparing to their competitors based on their own self-assessment are as follows:

- Meet service-level commitments
- Integrity, trustworthiness, and reputation
- Intellectual capital/knowledge-based skills/knowledge expertise

Although 4PLs suppose to have no or only light assets, the ability to access to assets and the best practice in the market to drive cost for customers is important. One 4PL company manager stated that *“we do cherry picking and we pick the best ones that fit in the solution that tailored for the customers. What we do is that we sacrifice any synergy effects to be more process-oriented rather than function-oriented, it enables us to organize the company around each customer.”* However, when customers select their LSPs, the availability of the appropriate physical equipment, size and quality must be assessed. The size and quality of fixed assets help in efficient handling of the duties by the providers.¹³¹ It may explain the perception going on in the industry that asset-based 3PL could be one of the most suited candidates to evolve to 4PLs providers. Regarding the neutral position of 4PL, one manager explains that *“A completely independent 4pl is fully dependent on alliances with all the carriers”*. Therefore the ability to access to assets to wide network and the best practices in the market are critical for 4PLs. The most notable strengths and weaknesses among 4PLs without assets show in the following table.

Table 5 Strengths and Weaknesses for 4PLs

Strengths (4PL)	Weaknesses (4PL)
Providing competitive prices to customers	Dependency on other actors in the transport and logistics network
Integrity, trustworthiness, and reputation	Difficult to make customers to pay the value 4PL create for them due to intangible and highly mobile characteristics of knowledge-based competencies

¹³¹ Hum, S.H. (2000) *A Hayes-Wheelwright framework approach for strategic management of third party logistics services*, Integrated Manufacturing Systems, Vol. 11 No. 2, pp. 132-7.

Ability to access to assets and the best practices	
Cost-reduction capability for clients	
Cost-efficiency of the services	
Overall supply chain visibility across a variety of platforms	
Relatively neutral position	

❖ 3PLs' strengths vs. 4PLs' strengths

According to the survey responses, the performance attributes that are focused on by 3PLs in order to enhance the strengths are assets, reliability, cost, and responsiveness. The ones that are focused on by 4PLs are reliability, cost, responsiveness, and agility. The differences in the focused performance attributes between them are that 3PLs focuses more on the assets, whereas 4PLs focuses on the agility rather than assets which has little importance to them. Both the 3PLs and 4PLs highly value the factors of 'meet service-levels commitment' as well as 'Integrity, trustworthiness, and reputation'.

Comparing the strengths of both 3PLs and 4PLs, it is interesting that some of the factors complement each other. 3PLs strengths indicate the factors at a more operational level, whereas 4PLs' strengths indicate more of the 'soft side', such as integration and cost reduction. It might explain why there are demands for services from both of them. 3PLs obviously gain competitive advantages due to its assets and economics of scale, as well as multi-clients' synergies. According to one 3PL manager, *"the large customers are also the base for our business in the networks. We need that base in order to give competitive prices. This also benefits the smaller customers because the fixed cost has already been paid."*

4PLs need critical mass to justify the efforts spent on the tailor-made solutions. However the economies of scale is not that important for 4PLs as it is as for 3PLs because 4PLs tend to be smaller customers for hauliers so they can get good price, but if the amount that a 4PL need to transport exceed the limit available for a small shipper, the hauliers have to invest just for transport their cargo, then the fix cost will be added on the price. The economies of scale are not always beneficial for 4PLs.

The 3PLs' strengths are more operational-oriented, for example strengths are linked with tasks of the daily operation such as improve space, capacity, and time utilization for customers, adaptability to the change of customers' needs etc. 3PLs are flexible in the services provided at the operational level because they have control over the cargo transported by their own assets.

4PLs have other competitive edges, such as focusing on cost-reduction and cost-efficiency on the whole chain, providing conveniences to customers and meeting their specific requests.

4PL's competencies are flexible in designing cost efficient solutions for the whole chain and implement it by purchasing services from 3PLs or 2PLs. They also tend to be more flexible in market fluctuation.

For both 3PLs and 4PLs, when they are selecting suppliers, the most important factor is still the reliability of the supplier rather than cost. It shows that the long term relationship and trustworthiness are primarily important in the buyer and supplier relationship. There are several common points that both 3PLs and 4PLs are putting efforts on, such as reputation, value proposition, cost, quality, lead time, flexibility, optimization, visibility, geographic coverage, knowledge competence, and ability to gain access to best practice.

❖ 3PLs' weaknesses vs. 4PLs' weaknesses

The weaknesses of 3PLs are more concerned with pricing strategy and flexibility to the market fluctuation, whereas 4PLs act more as a link between customers and suppliers so that the issues concern more about 'buyer - 4PL – suppliers'. There is a tendency that the 3PL's weaknesses are the points that 4PLs try to turn to strengths. This can be seen especially when it comes to pricing and cost reduction, flexibility to the market fluctuation, and risk sharing.

3PLs also develop some of the functions and solutions similar to 4PLs, but the scope is limited because they focus on the services provided by their own assets so that they cannot be as flexible as 4PLs when optimizing the whole chain. According to a manager interviewed by the authors, "*3PL is good in many aspects but are not capable of fulfilling in all the requirements as 4PL by definition*". The volume to 3PLs is important so that 3PLs are not as flexible as 4PLs in the market downturn. However, the critical mass of each customer to 4PLs is important because they have to justify the cost of the tailor-made optimization solution of the supply chain. It is a balance between a tailor-made cost-efficient solution and the extra cost-margin added on for 4PL's service. Some of the 4PLs are derived from big shippers or manufacturers, so that they have expertise for few big customers, but it might limit their customer base because their system is very much integrated to the parent company or with big customers which the LSP have developed long term relationship with.

According to Nemoto and Tezuka (2003), the disadvantages of LSPs in general are that it is not easy to establish a reliable and win-win partnership between the company and the LSP. One of the suggestions they mentioned is constructing a risk-sharing scheme between the company and the LSPs to establish reliable partnerships. 'Gain sharing' is a popular example of a rewarding scheme in which the third party logistics service providers hold part of the risks, and then is given incentives based on the increase of the company's profit.¹³² However, in practice, 3PLs almost never use 'performance-based pricing', and for 4PLs, due to intangible and highly mobile characteristics of knowledge-based competencies, it is difficult to realize it too. As one of the managers from a 4PL Company stated: 'In general, it is difficult to make customers pay for the knowledge and the value you create because it is not as tangible as assets. It is difficult to find good gain sharing models.' Therefore it demands further studies and practice to solve this issue.

¹³² Nemoto T. & Tezuka K. (2003) *Third-party Logistics in supply-chain management*, Hitotsubashi University, Japan. Edited by Taniguchi, E., and Thompson R. G., WIT Press, Southampton, Boston, pp. 153-163.

6.1.3 Asset-based LSPs

According to Sheffi, the asset-based and non asset-based LSPs originated from sophisticated logistics department of large shippers, the asset-based LSPs invest in assets that are used to serve their parent company (manufacturer) and then sell the extra capacity in the market place. Another business philosophy taken by some LSPs is not to own any transportation asset and the focus is on the people and the systems as the major assets, which leave the company free to use the transportation assets of all common carriers and bid all the freight under their management in large blocks.¹³³ Nowadays, there are also asset-based and non asset-based LSPs developed from independent common carriers (not close to any transport buyer), the asset-based LSPs are good at operation especially the service provided based on their own assets, whereas the non asset-based LSPs are good at coordination and optimization in general. Both types of the LSPs can help customers to focus on their core business, reduce fix cost to variable cost, and increase cost-efficiency in the services.

Advantages of Asset-based LSPs

One of the biggest advantages of being asset-based is that it gives the confidence and reliable services to customers because they have control over the assets which enable them to provide flexible services upon customer's requirements. This type of LSPs understands operation and customers' requirements on running a supply chain. There is discussion about if asset-based LSPs only focus on maximize utilizing their own assets. It could be good for customers if the services provided by their own assets are competitive and the price have relatively low cost-margin.

There are perception that asset-based LSPs are the most suited to develop the services as non asset-based LSPs. Actually the prerequisite is that only if the relationship between them can be regulated and maintained, because 3PL have certain assets that can back up the development of non-asset-based LSP, to provide confidence and reliable supports to the relatively new business model of SCM, however, 3PL have to eliminate favoring their own assets' utilization when they provide 4PL solutions.

Disadvantages of Asset-based LSPs

The disadvantage is that investments in assets are costly so that asset-based LSPs can hardly provide services based on their own assets for customer's whole supply chain, especially if it is at a global scale. They are more competitive on one part of the chain but not every aspect, if they want to expand the services, the purchasing capability and knowledge competence are important to compete in a complete market, otherwise they should stay focused to specialize on one part of the supply chain to keep competitive advantage in that market segment.

One drawback of having assets is that they constitute a fixed cost for the LSP, this means that in times when demand drops the LSP still have higher cost compared to non asset-based LSPs. The asset-based LSPs are comparatively vulnerable in market slump. Another point is

¹³³ Sheffi Y (1990) *Third Party Logistics: Present and Future Prospects*, Massachusetts Institute of Technology, Journal of Business Logistics, Vol. 11, No. 2, 1990.

that the assets might limit the company's potential to diversify their service because the assets invested are the focus of their business.

6.1.4 Non Asset-based LSPs

Advantages about Non Asset-Based LSPs

Not having any assets does provide some benefits for an LSP. In general non asset-based LSPs are more flexible than compared to asset-based because they are more neutral. They have a greater freedom to develop business models since they are not linked to any specific assets therefore have a greater flexibility in the solutions that they can provide. They are free to pick the best suppliers from the market and can provide best of breed solutions. A key strength is that they have access to assets and best practices in the market. It also helps to build up the reputation and make customers trust on their services because their assets are intangible such as people and system.

One of the biggest strengths is the value that they could provide to the customer through design SCM and optimization. By focusing on holistic solutions and innovation of the supply chain, it can lead to cost reductions for the client. However this would also be true for any asset-based LSP providing similar functionality, but a non asset-based LSP could have an advantage and there is no constraint because they have none or limited own physical assets.

Being asset neutral would be another advantage. However it is difficult to assess the value of asset neutrality in general. From the interviews conducted by the authors, the asset neutrality is not a critical factor for customers because they tend to focus more on the solution and potential value that the LSP could provide them.

Non asset-based LSPs have an advantage in economic downturns, their capacity can be adjusted easily if compared to those asset owing LSPs. The benefit is that they are more flexible in market fluctuation because their costs can be reduced together with capacity.

Disadvantages about Non Asset-based LSPs

One of the disadvantages of being non asset-based is that they have less control over the cargo if compared to asset-based providers. Since the cargo is not transported by own assets, non asset-based LSPs have to rely on cost-efficient asset-based LSPs, therefore the flexibility to respond to changes in customers' needs at the operational level might be affected.

Other disadvantages that non asset-based providers have in general are that it is difficult to make customers to pay for the value that they create. It is difficult for non asset-based LSPs to argue about how much tangible asset has they invested to create value and prove their reliability. A cost discussion on value is more abstract and some customers dictate a cost based pricing for non asset-based LSPs which may disregard the value provided. It is also difficult to find a good gain sharing model. Some of the LSPs were originally developed from large shippers' or manufacturers in-house department. They are very integrated so it might be difficult to extend the customer scope.

Furthermore, non asset-based LSPs need to have good reputation to convince customers that they are reliable. That might explain the reason why non asset-based LSPs have to show their

ability to access to assets and the best practices in the market. On the other hand, non asset-based LSPs have a relatively bigger risk of being replaced. To clarify, if a non asset-based provider is offering a LLP solution and develops this for the customer, once the solution is designed, there is not much protecting the LSP from being replaced by someone else or by the customer if they in-source the solution.

If a non asset-based concept is going to function effectively, it requires a certain complexity. That is why their customers tend to be large shippers that demand specific or complex solutions.

6.1.5 General Discussion on LSPs

From the Nordic perspective, regarding Sweden and Norway as the reference points, there are also many LSPs that act in between asset-based and non asset-based. Each type of LSPs has the strengths and drawbacks, so in some cases they cooperate with each other, but in others they compete severely as showed in the Figure 10. Nevertheless, they are all under the continuous development. There is an indication that those LSPs acting in between asset-based and non asset-based would invest in the terminal/warehouse services and extra value-added services upon customers' interests. Some of the non asset-based LSPs are derived from asset-based LSPs, the parent company can help to bring the confidence for the non asset-based LSPs to convince customers that they are reliable. On the other hand, the asset-based logistics service providers are developing the 'soft-side' of the services and keep the transport operation service competitive. Based on our survey, it tends to be more common to see the LSPs with a mixed profile of asset-based and non asset-based. It indicates that assets or ability to access to assets are important to build confidence when at the beginning of building a trustworthy relationship, but the best way to convince customers is the value that a LSP can bring. Asset-based LSP and non asset-based LSP have different strengths and weaknesses. The type of LSP which is more competitive depends on various market situations, customers' preferences, and individual company's competencies.

For customers, LSPs having assets or not is not a major concern, although they are aware of the benefits and drawbacks. The most important thing is the value proposition and solution that can meet customers' expectations. In the rapid changing market, customers hold the power to decide the most suitable services they want to buy, therefore the asset-based or non asset-based could be perceived as different ways to approach customers, but the purpose is clear—bring the most value to satisfy customers' expectations. The doubts from customers' side for both non-asset and asset-based LSPs are similar: Can they deliver the value that they promised? Will they favor themselves or providing services to maximize customers' value? Can the benefits they provided for us outweigh customer's loss of the knowledge competence and the control over the supply chain?

6.2 Analysis on the Case of WWL

6.2.1 Market Analysis from WWL's Perspective

WWL offers customers SCM solutions from factory to dealer, and are involved in the Ro-Ro shipping, the terminals & inland distribution, and the freight forwarding etc.

As described before these markets have different characteristics, being competitive in all of the market will be a challenge. For example, the Ro-Ro shipping market is very concentrated, few big players but owns most of the market share. Their customers are also big and limited in numbers. The general logistics and freight forwarding market is much more fragmented with few global players and countless regional players with different sizes. Staying competitive in all these markets requires resources and capabilities, skills and competencies in both Ro-Ro shipping as well as inland transport and freight forwarding.

In the case of WWL's SCM, it requires not only expertise in Ro-Ro shipping, but also inland distribution and warehousing. As it would require specific knowledge about local conditions which vary from region to region in order to be able to provide competitive solutions compared to the established local players. The scope of the problem becomes obvious if the factory to dealer concept is to be applied globally. It would require immense resources to build up this competence both within the company and develop the network externally. In addition, the market demand for SCM specializing in Ro-Ro shipping is uncertain, because there are a lot of big shippers that having their own logistics in house departments.

It is important to consider if there is a market for a 4PL player in the Ro-Ro sector. As have been mentioned the Ro-Ro sector is characterized by few customers and few suppliers. The question is if there is any room for a 4PL that would act as a middle man between the manufacturer and the Ro-Ro carriers that offer similar services. The 4PL concept would make more sense in an environment that is more fragmented and where there are more service providers to choose from. In the Ro-Ro market there is a risk that the 4PL would become just an increase in cost margin. If a 4PL concept is to work, entire transport solutions have to be offered.

WWL focuses on customers' outbound logistics supply chain management. There is a possibility that their customers already have their distributions fixed by 4PL or in-house logistics department who can integrate and manage the overall supply chain. WWL's 4PL services might have a challenge to be competitive in the general logistics and freight forwarding market.

6.2.2 Analysis Regarding the Legal Restrictions

One strategy to make sure that competition law is adhered to would be to create a separate legal entity. The real issue concerning competition rules and WWL with the SCM-business is only triggered when a business opportunity involves a trade where WWL is active as the ocean carrier and where WWL has a significant market share. By affecting the market share legal compliance can be assured. Therefore creating a separate independent legal entity that provides the SCM service, the market share would decrease and thus eliminating potential legal issues. Since the competition rules apply for any company, regardless of business, they

would still apply for the new organization but the assessment would be different. If the established company would separate from WWL, its market share would therefore be lower since the comparison would be made with similar companies. However this solution is not without consequences, there are costs associated with setting up a new company and reorganizing the current operation of WWL. The organizations would have to be separated, such as separate management and commercial operation. This would also lead to the need of more personnel and resources.

Another way is to stick to the current legal guidelines. Since as explained before the real issues only rise under certain circumstances. Assessments will then have to be made by the legal department on a case to case basis. Since the legal assessment has always been done that prevents WWL involving in any legal issue, it appears that the current situation is not much of an obstacle to the business operation although it brings some extra work. To assess the level of protection it is important to determine to which degree the guidelines are followed. Do the guidelines reflect reality? The guidelines do provide protection however it requires that the guidelines are adhered to.

6.2.3 Scenario Study and Discussion

Scenario Study for WWL

The purpose of this thesis is to investigate how to best apply the concepts of asset-based and non asset-based service providers. WWL is used as a case study. By applying this to a real case, it will help the authors to further investigate the advantages and disadvantages of asset-based vs. non asset-based LSPs. Moreover a recommendation is given to WWL based on the findings of the comparison between asset-based and non asset-based.

There are two scenarios based on two different strategies that WWL can adopt to retain the current customers and to grow the SCM business.

- ✚ The focus strategy is when a firm is focusing on a particular buyer group, segment of product line, or geographic market, with the strategic target at differentiation-focus in a narrow segment. In the case of WWL it means to focus on the current ocean customers and keep them close to WWL by keeping the current SCM operation as part of WWL.
- ✚ The differentiation strategy refers to differentiating the product or service offering of the firm, which will create unique sense. This strategy seeks competitive advantage in a broad range of industry segments. For WWL this means differentiating the SCM product by forming a separated legal entity which allows for the development of new business models of SCM.

Table 6 Scenarios for WWL

Scenario 1- Focus Strategy :	Scenario 2 - Differentiation Strategy:
WWL keeps the current SCM operation as it is today.	WWL divide the SCM to form a separated legal entity from WWL. But this independent company would still belong to the same owner of WWL.

Scenario 1

The first scenario is studied based on the strategy that WWL keeps the current SCM operation in the same legal entity. There are some legal restrictions but WWL have been using this strategy for quite some time. WWL has the assets to provide the factory to dealer services mostly in-house, so that the service is reliable and flexible. The following figure shows our understanding on the consequences of keeping the current operation.

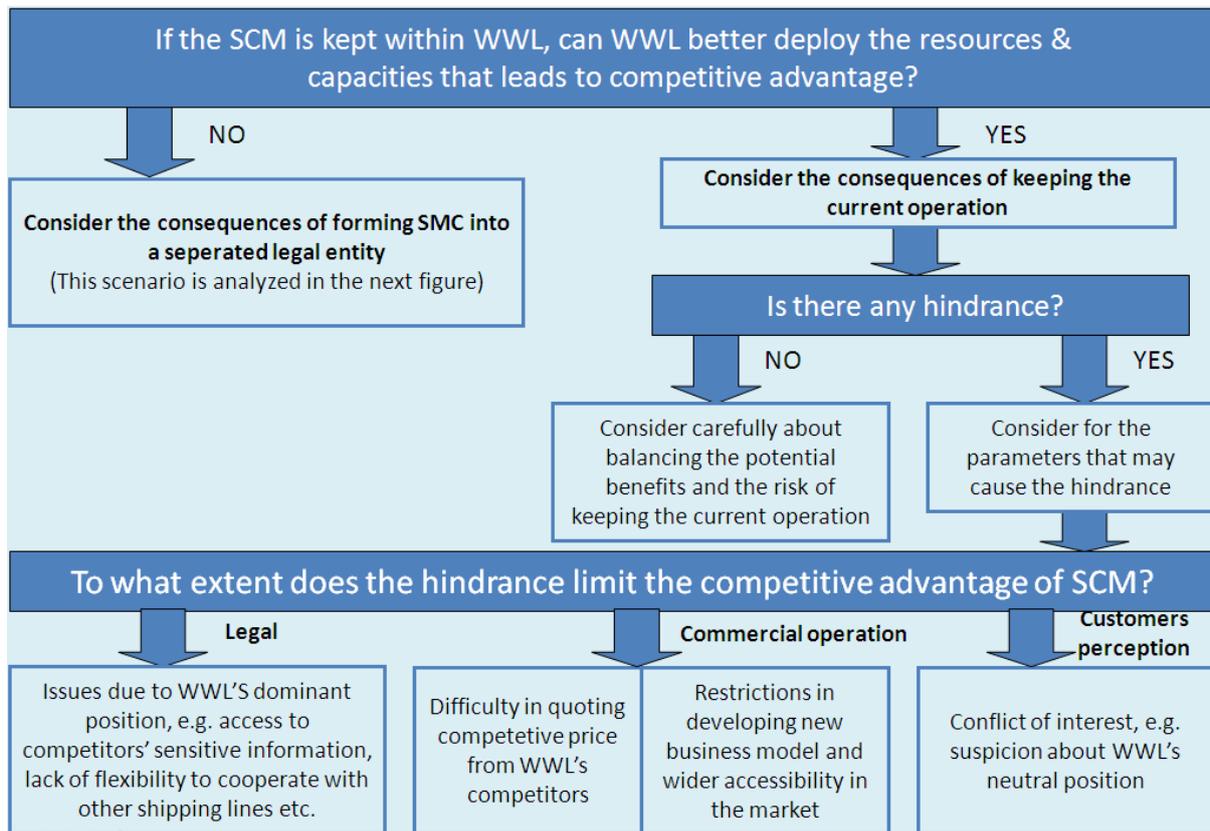


Figure 15 Scenario Study Based on the Focus strategy

As shown in the Figure 15 there are some issues and potential risks with this strategy. There are ways of mitigating these issues. First of all the reasons caused those issues will be investigated and then suggestions for actions will be presented in the form of guidelines.

One of the issues what WWL is facing is legal concerns with its operation when it comes to their SCM product. The root of the problem has to do with the fact that WWL holds a

dominant position in the market on certain trade lanes. Part of the problem can be explained with how WWL is organized, the SCM product being part of WWL which creates a situation in which there is a risk for accessing to sensitive information, less flexible to cooperate with other shipping lines due to WWL's dominant position etc.

WWL has experienced problems with quoting competitive prices from competitors at times. The main reason for this is that their suppliers are also the competitors on some other part since there might no intention to develop long term relationship; therefore they are unwilling to cooperate.

Regarding the risk of conflict of interest, according to Sheffi, asset-owning third party logistics providers may be strongly committed to the effective utilization of their own assets, so they have an inherent potential conflict between their customers' interest and their own.¹³⁴ However, it is not a problem so far because most of the current SCM customers are using WWL's ocean services and having good relationship with WWL. WWL's asset to customers is a big advantage because it is one of the points that attract customers. If WWL continues to focus on customers who intent to use WWL's assets, the customers' perception of the neutral position will not be an issue. The most important thing is the value that WWL can create for customers, so that if WWL's service is not competitive, WWL can contract others or act as LLP to make sure that customers get the best service. Giving great control to customers is one way to eliminate customers' suspicions.

Concerning the difficulty in quoting competitive rate, in the inland distribution, WWL has limited asset therefore there is a need to purchase services from external suppliers. The freight forwarding is mainly taken place in the inland distribution; whereas in the ocean part, WWL could either suggest customer to negotiate the rate with competitors or charter some space from competitors' vessels through the operation. When WWL is holding a dominant position and providing SCM service, the only way to become the preferred ocean service provider is to provide competitive price and service on the ocean part, and then accessing sensitive information would not be a problem. However, if the demands for global factory to dealer services increase in the future which require more cooperation with other shipping lines and even competitors, WWL should consider separation.

Scenario 2

The second scenario would mean a total reorganization of the way that WWL are currently doing business today.

The SCM can be separated to set up an independent legal entity. The separated independent company of SCM will at least have a separated management and separated commercial operation, which associate with extra costs and work. Nevertheless, they will have a strategic partnership with WWL and it will be one of the biggest strengths to both the separated company and WWL. WWL can free themselves from the previous restrictions but also have

¹³⁴ Sheffi Y (1990) *Third Party Logistics: Present and Future Prospects*, Massachusetts Institute of Technology, Journal of Business Logistics, Vol. 11, No. 2, 1990.

to pay the price and deal with risks and uncertainties. The future scenario can be better analyzed by using analogy.

➤ Advantages in Scenario 2

There are several advantages that support this strategy. Firstly, WWL has no restriction to serve customers with all kinds of requirements, and they can still do cross selling between companies, so that WWL can fully explore the 2PL, 3PL, and 4PL markets. Besides the benefits that there would no longer have a legal restriction to the issues concerning the dominant position of WWL, the separated legal entity of SCM can approach customers with a more neutral image and eliminate the skepticisms among potential customers because there will be a clear clarification on the relation between two companies. Being independent gives the necessary freedom to develop new models in doing the business, which in turn can attract potential customers in a wider market. It may bring the dynamic effect for WWL in the long run. Being asset light can provide the separated independent company flexibility that not only helps WWL to expand the current customer base but also extent the carrier network. Another benefit is that it can help to leverage the risks in economic downturn because non-asset-based LSPs are more easily to adapt to the changing demand. In other words, if one company is experiencing a downturn, it can be mitigated by focusing on the development of the other. By this strategy, the risk can be spread on both of the companies so that it makes the whole WWL group less vulnerable to the demand fluctuation. Moreover, the separated SCM Company will run business behind the name of WWL which can result in higher customer recognition.

➤ Risks in Scenario 2

There are not only benefits, but also risks that limit the competitive advantage of SCM. It shows in the following figure. In this scenario, the separated legal entity of SCM will become a non asset-based LSP, however, it might still not be perceived as neutral because customers always associate the SCM with the owing company WWL. The potential customers for WWL's SCM are those who would like to use WWL's ocean service. The company has the focused strategy so that diversifying the SCM is a gradual process. The market and WWL's customer base is relatively small, the value that the separated legal entity can create would be limited, especially if WWL still focuses on the customers who intend to use the Ro-Ro shipping service. Developing 4PL services will require certain critical mass/volume from each customer, from the Ro-Ro shipping segment, it is uncertain if it is possible to get this volume. There is also a risk that WWL would loss competitive advantage by becoming broad and wide because the company may loss experience and expertise in the focused market segment. The competition in the logistics and freight forwarding market is fierce, so it requires investment, knowledge and expertise, network, and competence to diversify the SCM services. Another uncertainty is that WWL may have to deal with the 'co-petition' situation among separated legal entities if two companies are responsible for different profit and loss statements.

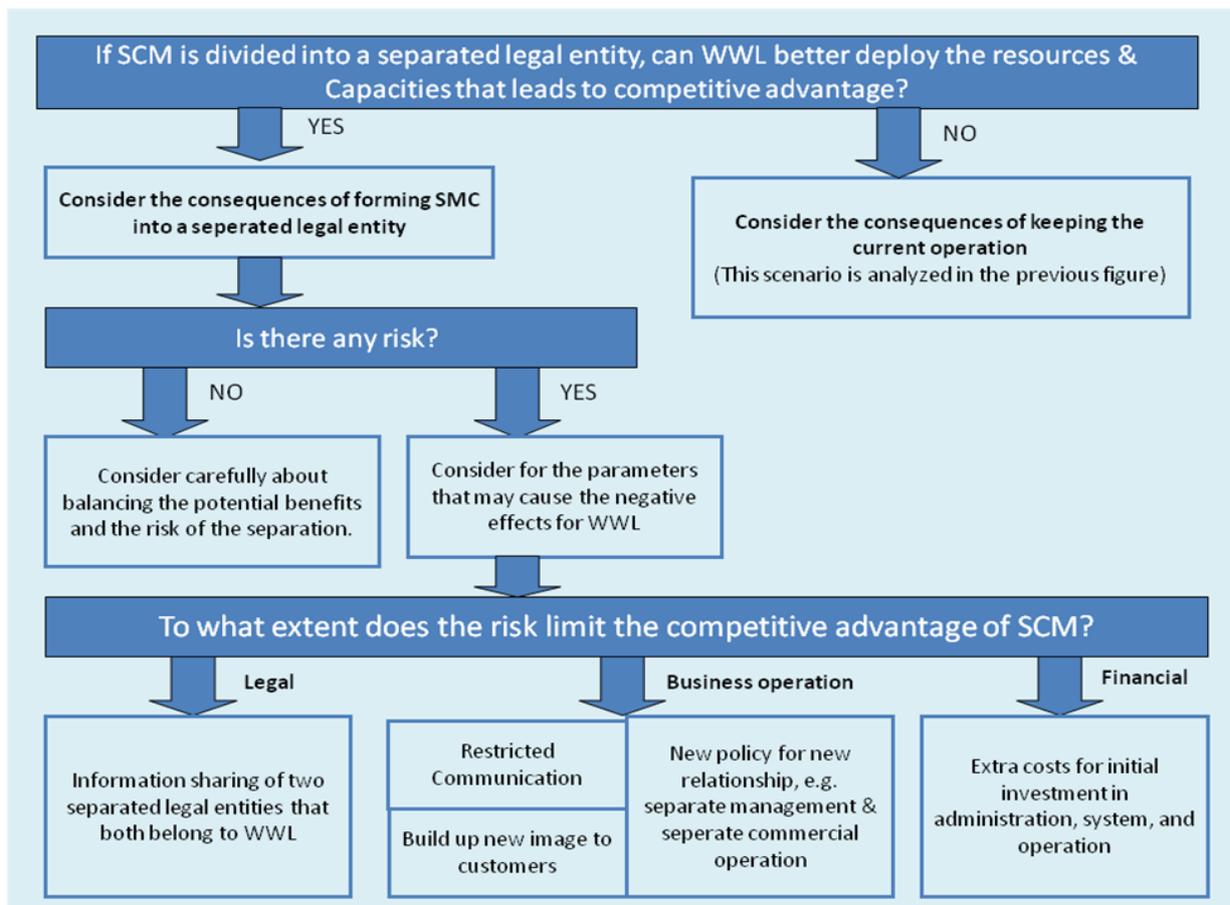


Figure 16 Scenario Study Based on the Differentiation strategy

Discussion on the Scenario Study

Regarding the application of the outside-in approach, according to porter’s generic competitive advantage theory, the first scenario can develop SCM services within the company to help WWL focusing on the core business in which WWL has invested the most assets (the ocean part). Regarding the second scenario, if WWL would separate SCM as an independent legal entity that can provide services beyond the current ones (3PL services based on own assets), it will help WWL to access the potential customers and a broader market.

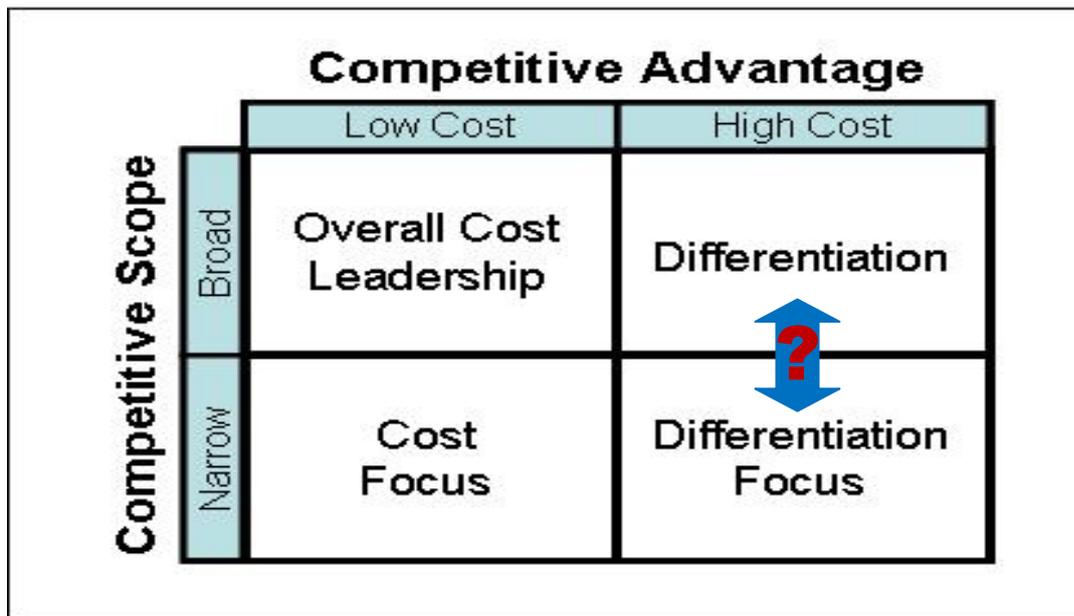
However, if WWL intends to eliminate the potential problems and risks but still prefer to keep SCM within the company, WWL will face a risk of being ‘stuck in the middle’ situation. (Appendix 10) The consequences will be that WWL would lose the focus and cannot gain competitive advantage in each of the strategies. As Porter explains “Company tries for competitive advantage through every means and achieves none, because achieving different types of competitive advantage usually requires inconsistent actions. Becoming stuck in the middle also afflicts successful firms, who compromise their generic strategy for the sake of growth or prestige.’ It is a particularly big problem for a focuser; once they have dominated their target segments they might seek new business. But focus involves deliberately limiting sales potential. Success can lead a focuser to lose sight of the reasons for

its success and therefore compromise its strategy for the sake of growth. In the case of WWL which has a strong position in the outbound finished vehicle and high & heavy industry, there is a risk that if a differentiation strategy is adopted the company might lose focus. As expressed by one of the managers *“If we now start to offer warehousing and small package distribution for example (as 4PL) we do not have the experience and knowledge and so there is danger that we try to do too many things and we lose the focus and ultimately will not be successful.”*¹³⁵ Apparently, WWL has to make a choice about how to compete, in other words, which strategy it should follow and how to develop to gain and sustain competitive advantage.

To further clarify the point, currently WWL is gaining competitive advantage through the generic strategy of focus. The scenario 1 is to follow this generic strategy. The scenario 2 is to separate the SCM from WWL to form an independent legal entity which means WWL could ‘go broad’ and gain competitive advantages through a differentiation strategy for the new separated entity, whereas WWL will still keep the focus strategy.

However, if WWL intends to develop the SCM beyond the 3PL services based on the assets within the same company to attract potential customers and reach a wider market then there is a risk of being stuck in the middle. (Figure 17) For example, developing the 4PL service to reach more customers is a differentiation strategy; whereas the company’s current strategy is a focus strategy. If WWL pursues the two generic strategies within the same corporate entity, according to Porter, *“each generic strategy is a fundamentally different approach... a firm must make a choice among them. The benefits of optimizing the firm’s strategy for a particular target segment (focus) cannot be gained if a firm is simultaneously serving a broad range of segments (e.g. differentiation)”*. Further Porter also argues that *“sometimes a firm may be able to create two largely separate business units within the same corporate entity, each with a different generic strategy”*. The prerequisite is that the different units pursuing different generic strategies must be strictly separated in a firm otherwise it might compromise the ability of any of them to achieving its competitive advantage. How to make the choice depending on if there is a choice that can benefit WWL by creating two largely separate business units each targeted at a different segment.

¹³⁵ Interview with Christian Fuss, Head of Supply Chain Management, Logistics Region Europe, Wallenius Wilhelmsen Logistics



Source: Modified from Porter's Theory

Figure 17 Generic Competitive Strategies

Regarding the application of the inside-out approach, in the market, there are different types of LSPs that have varying levels of services and performances, a company can differentiate from other companies because LSPs have different tangible and intangible resources and competencies that enable them to achieve superior performance in different market segments and develop strategic partnership with suppliers and customers. Based on this understanding, the authors postulate that there is a situation of resource heterogeneity and immobility concerning LSPs. According to RBV, a firm has a core competence that enable the firm to successfully diversify into new markets by exploiting the competence in new product market settings.¹³⁶ Therefore LSPs strategically deploy resources and capabilities to access to different market segments which can yield profit and wider customer base. Although the market is extremely fragmented, there are few LSPs can fully satisfy all types of customers in the market segments. LSPs compete in different market segments, in which their resources and capabilities can be best utilized to meet customers' expectations. (The capability of LSP from the RBV can be defined in this thesis as the ability of LSPs to deploy resources to satisfy the customers' expectations and attain superior performance. Therefore LSPs should make a choice to select where to compete.) Following this logic, LSPs should target at a segment that they have the most competence, and strategically deploy resources and capabilities to meet customers' demands in that targeted market segment. According to the survey study, it shows the strengths of asset-based/non-asset-based LSPs when competing in different market segments. This is considered to apply for the case study of WWL. WWL undertakes outsourced logistics activities mostly from manufacturers and provide 'factory to dealer' service where they have a comparative advantage to perform especially if the SCM

¹³⁶ Prahalad, C.K., Hamel, G.(1990) *The core competence of the corporation*. Harvard Business Review 68 (3), 79-91.

involving the Ro-Ro shipping market. WWL is an asset-based LSP, which brings cost-efficient and flexible services for customers. A large proportion of WWL's network is built on its own assets, it is one of the biggest advantages but also make them focus on the assets, but that might limit the potential development of the SCM. The question is should WWL diversify the services and exploit the potential market and customers, or it is more beneficial if WWL focus on the core competence in the current market segment that generate the most revenue to the company?

The company's resources and capabilities are assessed to find out if it can achieve sustained competitive advantage. WWL's current resources and capabilities are valuable, rare, and imperfect imitable, because WWL has one of the largest Ro-Ro fleet, and there are a lot of investments in tangible resources in the supporting services to realize 'from factory to dealer' strategy (e.g. inland and terminal services, technical services). Besides that, WWL also has substantial intangible resources such as the reputation, skills and know-how etc. However, it needs further discussion on if WWL is organized to exploit the competitive potential and sustain the competitive advantage in the rapid changing market or not. Besides that, one of the noticeable weaknesses of asset-based LSPs from the survey is lacking of flexibility to cope with market fluctuation. According to RBV, in moderately dynamic markets, small and frequent variations through related experience (small losses and crises) deepen capabilities and shape the path of evolution of dynamic capabilities through learning mechanisms.¹³⁷ The theory encourages companies to stimulate the learning mechanisms by developing dynamic capabilities that can leverage the risks in market fluctuation.

6.2.4 SWOT Analysis based on WWL's Current Condition

SWOT Analysis		
	WWL's Resources and Capabilities	
	Tangible	Intangible
Strengths	<ul style="list-style-type: none"> ➤ Global Network ➤ Market leadership in Ro-Ro shipping and strong competence in ocean and terminal services ➤ High investment in assets (e.g. vessels/vehicles, warehouses, technical 	<ul style="list-style-type: none"> ➤ Good reputation and confidence in developing business with the name of WWL ➤ Synergies generated among different departments ➤ The current WWL's ocean customer-base constitutes

¹³⁷ Eisenhardt, K.M.; Jeffrey A. M, (2000) *Dynamic Capabilities: What are they?* John Wiley & Sons, Ltd, Strategic Management Journal, 21: 1105-1121.

	<p>facilities) that make their services reliable</p> <ul style="list-style-type: none"> ➤ Control over the transport and logistics services provided by their own assets makes WWL flexible to meet customers need ➤ Supply chain visibility ➤ 'From factory to dealer'-one stop shopping service to reduce their number of vendors ➤ Cost reductions for customers 	<p>growth potential for WWL's SCM</p> <ul style="list-style-type: none"> ➤ Good buying power due to control of large transport volume
<p>Weaknesses</p>	<ul style="list-style-type: none"> ➤ Difficult to access the complete market and some potential customers ➤ Risk of sharing sensitive information between departments ➤ Difficult to quote competitive price from some hauliers 	<ul style="list-style-type: none"> ➤ Difficult to prove the neutral image to customers ➤ Less flexibility in choosing suppliers because of their own investment in assets and legal restrictions ➤ Difficult to develop new business model of SCM
	<p>External Environment</p>	
<p>Opportunities</p>	<ul style="list-style-type: none"> ➤ The global logistics and freight forwarding market is extremely fragmented that there are market potential to get new business and customers ➤ Customers' demand for LSPs' services due to more and more companies tend to cut their assets invested and costs in logistics ➤ The majority of WWL's ocean customers are manufacturers' in-house logistics departments which haven't outsourced their outbound logistics supply chain 	
<p>Threats</p>	<ul style="list-style-type: none"> ➤ 4PLs in the outbound market for break bulk and Ro-Ro are struggling to find place to add value ➤ Knowledge-based competence is highly mobile, therefore there is a risk of substitution and it is difficult to make customers pay for the value created 	

- General tendency for companies to outsource relatively commoditized services and to keep more strategic logistics services in-house due to fear of dependency, loss of control and internal competence.
- Question of neutral position of 3PL with freight forwarding function in the market
- Economic crisis and decreasing transport and logistics demand from automotive industry, cost focused customers will make it more difficult to sell value adding activities
- Competitors' unwillingness to cooperate with 3PL that has similar competences as them

Regarding the two strategies, in order to find out which one is better favored by the internal and external factors to accomplish the objective of WWL, the strategic analysis is conducted through three steps:

1. Strategic analysis based on the focus strategy

2. Strategic analysis based on the differentiation strategy

3. Discussion and recommended operational guidelines

6.2.5 Strategic Analysis for the Focus strategy

Strategy versus Environment

The strategy is defined as keeping the SCM as part of the WWL organization and the goal is to grow SCM with the current customer base. One of the purposes of the strategic analysis is to find out if the strategy can cope with the future threats and take advantage of opportunities.

There are opportunities that WWL could make use of. First, it is possible to benefit from the demand for outsourcing logistics services as cost cutting is high on the agenda for many companies. Many manufacturers have their own in-house logistics departments, during recession it is likely that the customers would chose to focus more on their core business, the question is if handling the outbound logistics really is part of that? Companies will review their current supply chains and this brings new opportunities for LSPs to gain market share because there are new potential customers in the market.

Ocean carriers are replaceable there might be little incentive for a customer to stick to one particular ocean provider if there are other alternatives that offer the same services. If WWL manages to make use of the opportunity and sells their SCM solutions to their customers, the customers might prefer to use WWL as an ocean provider as well. This would tie the customers closer to WWL.

There is potential to gain new business that is outside WWL's main customer segments. However it would require a different approach than WWL's current focus strategy which sacrifices potential business opportunities in other customer segments.

How well can the strategy cope with external threats? Even if the strategy cannot protect WWL from all threats, most of these threats are of minor significance. However it's important to point out that there are threats that can prevent WWL from being successful. Arguably the most important is the current drop in demand from the automotive industry because of the economic crisis. This is a serious threat since it affects WWL's main customer markets, it is difficult to predict how long this will last but most believe that there will be a turning point.

Another potential problem that would directly affect WWL's chances to be successful is the general reluctance to rely too much on LSPs because customers fear of the dependency on the LSPs for losing control, visibility and internal competence. As a response to this, some of the customers prefer to outsource relatively commoditized services and keep more strategic logistics services in-house. The difficulty is to win customers' trust on the services provided by the LSPs at the first place. If customers are unwilling to outsource it would mean a serious limitation to the success of WWL's SCM solutions. WWL's has recognized this fear and by approaching the customers showing the benefits and value they can create for them, but the decision still in the customers' hands. Another possible solution is to have clear-cut contracts in place to relieve customers' fear.

To conclude the current strategy still works; it can differentiate WWL's SCM services and make use of most opportunities and provides protection against most threats. However the company is facing great challenges that the current drop in demand from the automotive industry and customers fear of dependency. This will make it more difficult for the company to achieve its goal of growth when its main customer segment is affected by the demand drop. It may also affect the customer demands for the SCM services.

Environment versus Internal Resources

The purpose of the SWOT is to see if the strengths can protect it from the threats and if it helps to take advantage of the opportunities.

➤ Strengths and Opportunities

From the SWOT two main opportunities can be identified, one is to expand into in the fragmented global logistics and freight forwarding market and gain new business and new customers. The other is to take advantage of the demand upswing for LSP service due to the current financial crisis.

WWL have strengths that support these opportunities. WWL has a global network and is a market leader on certain trade lanes. Further the company has a good reputation and a proven record. The synergies between different departments are supporting each other which also differentiate WWL's SCM services. This gives WWL a good chance to benefit from the opportunity to grow in the fragmented market.

WWL has good chances to gain business in the upswing of demand for LSP services because it already has a well known reputation among the current ocean customer base. Further WWL has a good relationship with its customers, which makes it easier to approach and present new SCM solutions to them. Because of the current situation many customer put a lot of emphasis on cost, since one of the strengths of WWL is to redesign and provide cost reductions for its clients there are good chances to gain more business in the SCM sector.

➤ Strengths and Threats

There are a couple of threats that WWL has strengths to cope with to a certain extent. There is one group of threats that are a result of either WWL's company structure or customers and competitors perceptions. If customers question WWL's asset neutrality or competitors are unwilling to cooperate, the root of the problem is the same. It has to do with that the SCM solutions by WWL but not by an independent organization. Another issue is that of fear of dependency that also is related to customer perception. Regardless of what strengths WWL has it will not affect their competitors attitudes, but it would be possible to affect customer perception. With a good reputation, a proven record it might make issues such as asset neutrality less important. Customers tend to focus more on value than on how the actual transport will be carried out. Showing customers in what way cost reductions can be achieved should be first priority when approaching customers especially in the market downturn.

However WWL's strengths cannot protect the company from all threats, the risk of substitution is always present and getting customers to recognize the extra value can be a challenge. WWL exposes itself to increased risk especially when providing LLP solutions, where it would be relatively easy for the customer to replace WWL with another supply chain manager if WWL only manages the solution without being actively involved. Another more serious threat is that current demand drop, even if WWL can offer cost reductions to its clients it will not affect the drop in transport volumes.

➤ Weaknesses and Threats

In this section the main question is how well do the weaknesses match with the threats? The purpose is to see if there are weaknesses that make threats particularly difficult to overcome. In WWL's case there were some weaknesses that matched quite well with threats.

A weakness is the difficulty to maintain a neutral image to the customers. The threat is that customers might start to question WWL neutrality. What is left is to assess the relative importance of this shortcoming. According to interviews asset neutrality is not a major issue even though it might be a concern for the customers.

WWL at times had difficulties in getting competitive quotes from suppliers because some of the suppliers are also competitors and has no will to develop long term relationship with WWL. As it is part of WWL's risk assessments to predict situations like this, WWL can involve the customer in an early stage to avoid these situations the problem tend to be minor. Besides that, since Ro-Ro shipping is a niche market with small amount of players so that space-chartering agreements are commonly used in this industry. On the distribution and freight forwarding part, WWL should develop long term relationship with suppliers to avoid this issue.

WWL has difficulties with accessing the complete market and this weakness has a very good match with that there is a fear for dependency, an unwillingness to rely too much on LSPs. This is a more serious issue than the two above as it will make it considerable more difficult for WWL when gaining new customer growing their SMC business. Another weakness that also goes hand in hand with fear of dependency is that WWL is a little inflexible or restricted when choosing suppliers, this is because of legal aspects especially on the ocean leg but also because the company has invested a lot in vessels.

➤ Weaknesses and Opportunities

How do the weaknesses affect the possible opportunities? Do they make it harder for the company to realize the opportunities? WWL's weaknesses affect one opportunity in particular, getting new customers and expanding in the logistics and freight forwarding market. Since the company has difficulties in accessing the complete market, receiving competitive quotes from competitor, WWL is somewhat inflexible in choosing suppliers. This will make it more difficult to realize this particular opportunity and perhaps the company is better off putting efforts on other opportunities than this one.

To conclude the strengths make it possible to use the opportunities in the market and can provide protection to some threats. However WWL's strengths cannot protect the company from all threats, with the most important being current drop in transport volumes. When it comes to its weaknesses they made one threat more serious, the fear of dependency that might restrict WWL's success. Further they make it harder for WWL to expand into new markets.

Strategy versus Internal

When reviewing the strengths and weaknesses the purpose of the SWOT is to see if the company strengths are good enough to realize the strategy and if the weaknesses make it hard to realize the strategy and further, what kind of resources and capabilities must be required, improved or added to overcome these weaknesses.

➤ Strengths and Strategy

WWL's strengths could be divided into two groups. One group has to do with WWL's strong position as an ocean carrier the other group is related to WWL's skill as a supply chain manager.

Having a global network, being a market leader in Ro-Ro shipping, having a strong tradition and reputation within this field, WWL's strongest strength is its ocean product. This is also where the company has its most customers; at the moment it is only a fraction of all its ocean customers that currently use WWL's SCM solutions. This means that there is good growth potential within an already existing customer base. The benefits of this have already been described earlier in the Environment versus Internal Resources section. This situation fits WWL's current strategy well as it has chosen to focus on the existing ocean customers.

Regarding the other group of strengths, those are more related to WWL's skill as a supply chain manager. WWL has made investments in assets (vessels, facilities and trucks), even if the majority of own assets are within the ocean part having assets provide greater control over the services and the cargo. It also provides greater flexibility to meet customers' needs, for example if all the assets are owned it would be easier to change and redirect if the final destination were changed during the journey. These strengths support the main offering, the concept 'From factory to Dealer'. Arguably the most important aspect of this concept is the potential to create cost reductions for clients, in the end of the day this is what many customers focus on. WWL's strength creates a good foundation, on which the company can create attractive value propositions for customers, this is critical if the company wants to be successful realizing its goal.

➤ Weaknesses and Strategy

When examining WWL's weaknesses it can be seen that the most important also have the same origin, they all come from the organizational structure of the company. Having difficulties in quoting competitive prices from competitors, asset neutrality issues and inflexibility when choosing suppliers they are all related to WWL's organizational setup and the fact that SCM service is offered by WWL but not by an independent company. Among these weaknesses the most important one is inflexibility when choosing suppliers. This weakness has potential to make it more difficult to realize WWL's objective in the long term if there is a restriction when choosing their suppliers. The legal aspects would require an assessment in these cases, and usually it is not a hindrance to develop the business opportunity in the short and medium term. If WWL would directly try to negotiate rates with a competitor there would be more potential problems, difficulties in getting competitive rates would then also become an issue. One possible way of getting around this whole problem is to let customers do rate negotiations with competitors directly. However this way of working is less straight forward if compared to an independent non asset-based provider which would have more freedom to meet customers' various demands. To conclude in theory it might seem like a great disadvantage, but in reality it doesn't constitute a real hindrance although it requires a little extra effort.

To sum up the company's strengths make it possible to realize its strategy and grow in its existing customer base by providing attractive value propositions. In regard to WWL's weaknesses the most important ones have the same origin, the company structure. Although they are not a hindrance to WWL's operation in the foreseeable future, it would be more beneficial for the company if the long term strategy would consider how to deal with the potential risks and problems.

6.2.6 Strategic Analysis for the Differentiation strategy

Strategy versus Environment

In order to decide whether adopting the strategy to separate SCM as an independent legal entity from WWL is good or not, it is necessary to relate the strategy to external environment as the first step. By identifying the most important future threats and opportunities, the

company can identify whether or not this strategy can cope with the threats effectively and take advantage of the opportunities.

There exist many opportunities in the market. The majority of WWL's ocean customers are manufacturers' in-house logistics departments which haven't outsourced their outbound logistics supply chain. The differentiation strategy can better serve customers because the independent legal entity of SCM has more flexibility. Less strict legal restriction for non-dominant player in the market is another opportunity. WWL is an asset-based LSP, providing 2PL - 4PL solutions. The real restriction when it comes to competition rules and WWL with the SCM-business is only triggered when a business opportunity involves a trade where WWL is active as the ocean carrier and where WWL's market share is quite significant. However, according to WWL, the legal restriction is only a potential risk that WWL has to be aware of rather than a real problem for the company. Nevertheless, by changing the corporate set-up, WWL can bypass the legal restrictions altogether because the markets share of a separated independent company of SCM will fall dramatically comparing with other similar companies.

The other opportunity is potential market and customers for LSPs. The differentiation strategy can help WWL to reach a wider market, and provide more value-added services to customers. Besides, this strategy can provide WWL more space to develop new business model that would enhance the strengths and leverage the risks in the long run. If the SCM would be independent and separate from WWL, both of the companies may access more customers so that they can complement and enhance each other's competencies by cross-selling. The separated company of SCM can approach customer with a more neutral position, which in turn, can attract potential customers and extend the carriers' network. However one of the WWL's objectives is to focus on the existing customers and provide SCM services to those ocean customers who intend to outsource their outbound logistics supply chain. The differentiation strategy is not that useful to serve this objective because keeping SCM within WWL can add value to customers together and tie customers more to the line by linking the single stand alone products. The differentiation strategy is more useful to serve the objective of growth by expanding the SCM services to attract potential customers and access a wider market. However, in the outbound supply chain market, non asset-based LSPs would face a problem in the Ro-Ro market, because they would need to get a critical volume in order to justify their costs and get competitive price from suppliers. It might be difficult in the Ro-Ro market to gain the needed volumes unless the non asset-based LSP has a strong value proposition. In order to add value, the separated legal entity of SCM could diversify the services and develop new business model in a wider market.

Threats and opportunities are two sides on the same coin. There are a lot of uncertainties on whether or not the strategy can cope with the threats. Firstly, as aforementioned, there is fierce competition in the global logistics and freight forwarding market. WWL has to differentiate themselves from others if WWL expand the service to a wider market which would be a challenge for the separated independent legal entity of SCM. In order to gain sustainable competitive advantage, the separated independent company has to take the development process from a long-term perspective to erect mobility barriers to protect the

competitiveness of the company. Furthermore, there is a general tendency for companies to outsource relatively commoditized services and to keep more strategic logistics services in-house. It will bring uncertainties and risks to the separated legal entity of SCM due to customers' reluctance to buy the services.

All in all, as the market changes and WWL's dominant position in the market grows, the differentiation strategy can take advantages of the opportunities, so that it should be considered to sustain competitive advantage and gain market share from a long term perspective. However, in the short run, WWL shows more interest in the strategy that can sell more services to existing ocean customers, and the uncertainties as well as risks that would prevent the differentiation strategy to cope with the threats effectively.

Environment versus Internal Resources

In the extremely fragmented logistics and freight forwarding market, there are many similar choices and services available for customers. That's where 4PL can break in to deploy and optimize those available resources in the market to best serve the company's objective. According to a manager¹³⁸, *"4PL is a young business. There is plenty of room for business development, and currently, the potential customers are not taken yet."* On the other hand, according to the 3PL study, *'there is a general tendency for companies to outsource relatively commoditized services and to keep more strategic logistics services in-house.'*¹³⁹ It may indicate that the potential for the growth of LSPs does exist, but it still largely depends on customer's willingness to buy the services, which turn, depends on how LSPs can show the value to customers. One issue need to be mentioned is that it is especially important to mitigate customers' fear of dependency, loss of control, visibility and internal competence. A clear-cut contract and agreement between them to a certain extent could be helpful to relieve customers' worries. LSPs can also propose a solution to let customers contract suppliers but outsource the management to the LSP. By this way, customers can have control over the supply chain, but complemented by LSP's knowledge. Since WWL's current 4PL solution is still immature, the internal resources cannot enable them to pursue the opportunity and diversify the service yet.

WWL's resources and capabilities enable them to provide solutions as 2PL-4PL. The current WWL customer base is to a large proportion building on the demand for the 3PL's services based on WWL's assets. The differentiation strategy can help them to explore the potential development in the market and give space to develop new business models in the long run with less strict legal restrictions, although it is at the expenses of cost and reorganization. According to one manager in the interview, *"Similarities can be drawn in general when a big group is experiencing to go into a new business area. When a company intent to play on new rounds, they have to have a separate set-up and keep their fingers away because they have to*

¹³⁸ A 4PL manager who was interviewed by the authors.

¹³⁹ Langley, J (2008) The State of Logistics Outsourcing, 2008 *Third-party Logistics Results and Findings of the 13th Annual Study*, Capgemini U.S. LLC.

give freedom for the development, not to drag them in the traditional way. It is also applied for the traditional 3PLs set up 4PL solutions.” However, in WWL’s case, the current focus is the ocean customers. WWL intends to provide different SCM solutions to meet customers’ expectations. This focus might prevent them from fully develop their 4PL solutions, because their target customer group would still be the ocean customers that use their own assets, which means WWL is limiting themselves to existing customers. However it is still possible to develop the 4PL concept to a certain extent. In a long term perspective, as market changes and WWL grows, it will reach a point where WWL and SCM have to separate from each other in order to better serve the customers.

In market downturn, non asset-based LSPs tend to be more flexible to tackle the problem of dropping volume because they have no assets invested in the business. However, since WWL’s 2PL-4PL services are mixed, the benefit of having 4PL solution to leverage the loss in the economic slump is not obvious. This strategy can bring the most advantage from the long term perspective because WWL could get more business opportunities and strive to continuous development through different business models as owing both non asset-based and asset-based companies. The cross-selling for the asset-based company and the non asset -based one can also act as channels to reach more resources and provide better services to customers. However, the future uncertainty is that although the SCM is growing, it may still need time to be nourished in WWL in order to prepare itself to compete independently in a different market condition.

Most of the weaknesses that showed in SWOT can be eliminated by adopting the differentiation strategy. However, the future uncertainties could bring new weaknesses depending on the separated company’s position relative in the fierce competitive market. Low entry barrier and substitution threats in the extremely fragmented global logistics and freight forwarding market require the separated and independent company to differentiate their service or provide more cost-effective services to stay competitive. One of the main weaknesses of non asset -based LSPs could be that it is difficult to make customers pay for the value they create because the knowledge competence has high mobility in nature. Moreover, the separated independent company will face the increasing dependency on carriers’ networks as the service diversifies in the future. The current customer base of the SCM is to a large proportion build on the demand for 3PL’s services with WWL’s assets. The Ro-Ro market and customers are comparatively small, it is difficult to add value as 4PL in this market, therefore in order to diversify services, WWL has to access to wider market, but may affect the focus on this niche market. As a dominant player in the Ro-Ro shipping market, WWL have to aware of the risk and expenses to go broad and diversify the services. The potential weaknesses make WWL vulnerable to threats and hard to take advantage of opportunities, especially in this unforeseeable market climate. The company strengths can protect it against threats and facilitate to take advantage of opportunities, such as the reputation of WWL behind the company, and shared resources etc. However, in the current downturn, the future development of SCM as an independent legal entity is still difficult to predict.

Strategy versus Internal Resources

The purpose of this strategy is to grow the SCM business meanwhile retain the current customers. The strengths of WWL are good enough to realize the strategy. However, there are many factors that may prevent them to reap the full benefits of the differentiation strategy in the short run. There would be extra cost and work associated with setting up a separate company for the SCM-business. Since it would be a total reorganization of the way that WWL is currently doing business today, it is necessary for the company to gradually adapt to the separate management internally. It is important to test how the strategy would work, then seize the right time to change to the new set-up. If WWL decided to stay focus on the current market, the separation is not necessary unless due to the legal restrictions. If WWL prefer to give space to develop new business model of SCM in a wider market, WWL's 4PL services need to grow and develop with the extending customer base. In short, the differentiation strategy cannot make a big difference for WWL to achieve the corporate objective in the short term, but the cost and reorganization will be significant. If WWL choose to stay focused, the only reason to separate is the legal restriction that the independent legal entity of SCM can be more flexible to cooperate with other shipping lines. The separation won't change the fact that WWL is a 3PL with asset. However, if WWL choose the differentiation strategy to diversify the SCM services, the company can give certain space for the development of new business model and new competence from a long term perspective. But the current focus of the company and internal resources might prevent the full implementation of the differentiation strategy.

6.2.7 Discussion

The choice of the most suitable strategy for WWL depending on the consecutive following questions:

The first one is how long the economic downturn will last? The revival of the markets means more demand in the global logistics and transport services. It will bring the confidence for companies that intend to grow in a broader market. The question here is if it is a good time for a separation at this point?

The second one is will the company choose to stay focused or diversify the services? The recommendation is to choose the option that can bring high profit margin to WWL, but it should not contradict to develop new services as long as they are strictly separated in WWL, otherwise it might compromise the ability of any of them to achieving its competitive advantage. Since the current economic downturn have a big impact on the market that generate the highest profit, the strategy should be to retain existing customers and market first, then start to diversify the services and competencies gradually to develop new business model and exploit potential business opportunities in the market.

The third one is the general tendency for companies to outsource, how will that develop? In outbound logistics supply chain automotive industry, the majority customers are manufacturers' in-house logistics department. Since logistics is regarded as one of the competitive parameters for companies, the focus to create this demand to outsource is to shift from simple make-or-buy decisions to more strategic considerations of service response;

customization and flexibility.¹⁴⁰ What will that take to create this demand? Does that justify the effort for the development of WWL's SCM? Customers should choose the suitable type of LSPs that can help the company to achieve the objective of the outsourcing. Currently, there is a tendency to outsource relatively commoditized services and to keep more strategic logistics services in-house. However, it is also one of the biggest difficulties in exploiting benefits and opportunities for full supply chain integration if customers are not open to outsourcing, which is the competitive corporate culture within organizations. It is the fear of losing competitive advantage and fear of dependency that an industry has to overcome if the benefits of integration are to be realized.

6.2.8 Summary of the Strategic Analysis and Suggestions

Strategy One

The strategy is defined as keeping the SCM as part of the WWL organization and the goal is to grow SCM with the current customer base. To conclude the current strategy still works, together with the strengths it offers good chances of making use of current opportunities and provides protection against most threats. However there is still room for improvement. The strategy and strengths cannot protect WWL from all threats and weaknesses but most of these threats are of minor significance. However the company is facing a couple of great challenges: the current drop in demand from the automotive industry and customer's fear of dependency. Further WWL's organizational setup might hinder WWL from further expansion, as the SCM business grows so will the potential issues. If WWL are successful in their strategy and manages to grow the SCM business significantly it would sooner or later face a situation in where a choice would have to be made about separating and making SCM a independent company. WWL should continuously develop the resources and competencies by keeping SCM within the company in the short term. By this way, WWL can develop closer relationship with customers and tie WWL's products together to better serve the ocean customers.

Strategy Two

The purpose of this strategy is to retain the current customers meanwhile grow the SCM business. When relating the strategy to the external environment, the most important future threats are that fierce competition in the fragmented logistics and freight forwarding market, 4PLs in the outbound market for break bulk and Ro-Ro are struggling to find place to add value, customers' tendency to keep more strategic logistics services in-house, and the economic crisis induce the slump in demand. Therefore in the short run, the uncertainties and risks prevent the differentiation strategy to cope with the threats effectively. The most important future opportunities are potential customers and markets for LSPs if WWL can reach the complete market and provide more value to customers. Besides, the less strict legal restriction for non dominant players will make the separated legal entity of SCM more flexible to cooperate with other shipping lines as well as develop new business model. As the market develops and WWL's dominant position in the market grows, separating SCM as an

¹⁴⁰ Skjoett-Larsen, T (1999) *Third Party Logistics – from an inter-organizational point of view*, Logistics Management Group, Copenhagen Business School, Denmark.

independent legal entity can take advantages of the opportunities, so that it should be considered to sustain competitive advantage and gain market share from a long term perspective. WWL's internal resources enable them to enhance the strengths to pursue the opportunities and eliminate the weaknesses to cope with external threats. The strengths of WWL are sufficient to realize the strategy of separating SCM as an independent legal entity. However, potential risks and weaknesses will emerge as well, which make WWL hard to take advantage of opportunities, at least in the short run. However, there are many factors that may prevent them to reap the full benefits of the differentiation strategy in the short run. To sum up, WWL should take the differentiation strategy from a long term perspective.

Suggestions

The two scenarios reflect two different strategies and approaches, essentially when it comes down to one question, does WWL want to diversify or stay focused? WWL has gone from being just a shipping line to offer more comprehensive services such as the factory to dealer concept. This is a development that is leaning towards differentiation. However, the differentiation is still limited because the strategy of the current SCM is to tie the five products together to better serve the ocean customers. As the business environment change rapidly, the company has to decide which strategy to follow as following both would have negative consequences.

Two approaches are presented each based on two different assumptions, one follows the focused strategy, and the other follows a gradual differentiation strategy. The purpose is to retain the current customer base, and grow the SCM in both short and long terms' perspective.

Based on the analysis, the scenario study shows that the differentiation strategy will benefit WWL in the long term, whereas the strategic analysis shows that the focus strategy is more suitable for the short and mid-term development, otherwise the potential risks and uncertainties will prevent the differentiation strategy to succeed. Therefore a combined solution between the focus and differentiation strategy is suggested if WWL develops significantly in the long term. The main focus will be to keep the current strategy (the focus strategy) in the short to medium term, but allow for gradual changes that will be more in line with the differentiation strategy in order to create dynamic capabilities to cope with the challenges in the long term. In the short to medium term, WWL should stay focused to convince the ocean customers to outsource the outbound SCM. As WWL develops significant resources and competencies along with the expanding customer base in the long term, the company can give room to nourish new business model to diversify and further develop the SCM services.

6.2.9 Operational Guidelines

The guidelines are based on the following objectives:

➤ **Concentrate on the products and markets that generate high profits for WWL**

➤ **Prove and market WWL's service based on the assets is competitive and**

customers can still hold control over their supply chain through cooperating with WWL's SCM

⇒ **Prove and market to customers that WWL's expertise can complement customers' competitive advantages and help to develop their competence configuration in a third party logistics relationship**

⇒ **Prove and market to customers that the value that WWL can create for them is specialized and can be differentiated from the competitors**

⇒ **In the long term, develop new business model gradually to see which strategy is the most suitable to fully exploit the competitive potential of WWL**

Operational Guideline for the Focus Strategy from a Short-term Perspective

The operational guideline for the current strategy is to stay focused to provide SCM services to existing ocean customers by showing them the value that WWL can create for them.

1. Strengthen the core competence in ocean and terminal parts to show customers that WWL has good control over the assets to provide competitive service to them. The neutral position would not be an issue because the quality and value is assured.
2. Be neutral and develop the freight forwarding competence to create the most value to customers, especially on the distribution from port to dealer part. Develop strategic long term relationship with suppliers to avoid difficulties in quoting competitive quotes from suppliers.
3. Conduct legal assessment according to the existing guidelines on a case to case basis (Appendix 20). In order to ensure that the laws are followed when providing SCM solutions, the following points should be considered: to which degree the guidelines are followed, discriminatory pricing, contract length when being dominant, accesses to sensitive information when acting as a supply chain manager, cooperation with competitors etc.
4. In order to avoid the issue of handling sensitive information and difficult to quote competitive price, WWL can develop Lead Logistics Solution.
5. Develop the expertise in SCM at the major hubs and trade lanes, and focus on the regional competence where the customers are.

One point need to mention is that if WWL promotes the 4PL solution, the company should define clearly this definition in the context of WWL (e.g. consultancy service for network optimization at a strategic level etc.) because WWL cannot fulfil the definition of 4PL theoretically. The other alternative would be to promote WWL simply as logistics service provider and provide supply chain management from factory to dealer, because customers might concern more on the value and solutions that WWL can offer.

Operational Guideline for the Combined Strategy from a Long-term Perspective

The operational guideline for the combined solution is developed based on the understanding of the long term objective of SCM, and the assumption that there will be increasing customer demand and market for 4PL service in the Ro-Ro and freight forwarding market. The following steps are suggested.

1. One of the purposes is to approach potential customers in the market with a more neutral image. WWL can keep 3PL service within the ocean sector which focuses on the Land - WWL's ocean – Land leg, which means there is no freight forwarding in the ocean service part, but the land service can be either from WWL or outsourced.

Besides, WWL could also implement two different generic strategies separately within WWL in order to achieve the benefits of both. It can also be used to convince customers that WWL is organized to meet their diversified expectations. The SCM involving the other solutions (such as 4PL) should setup as a separated department from Ocean and Inland departments. Since WWL as 3PL with assets has limits to fulfil the concept of 4PL, WWL can provide lead logistics service to develop the new business model which can also attract customers because customers can have WWL's knowledge but still keep control over their supply chain by cooperating with WWL. There should be clear-cut policy to regulate the communication and operation between the departments, and to provide a better visibility and transparency of the operations in WWL. The policy should at least cover the restriction to share sensitive information between SCM department and the rest of the departments (Figure 18). It takes time to build and maintain this neutral image to customers and convince them that WWL can create the most value for them and meet their various expectations. It could start from developing in a limited number of cases on a limited number of locations to build knowledge and competence. WWL can start to develop this at selected markets or limited regions to 'test' if it is worthwhile to further develop to this direction.

2. WWL's SCM has to provide but not limit to two types of services to meet diversified customers' needs. The purpose is to make sure that the different units pursuing different generic strategies must be strictly separated in a firm otherwise it might compromise the ability of any of them to achieving its competitive advantage.
 - The first type is SCM service from factory to dealer that requires only WWL's vessels to serve for the sea leg. The purpose is to develop SCM service focusing on WWL's own ocean assets.
 - The second type is SCM service that is more tailor-made to meet customers' complex expectations that are not limited to any supplier. The purpose is to diversify the business and develop new competencies and business model of SCM.
3. It is only necessary to conduct a legal assessment for the second type of service.

4. For the first type, since WWL has a great ocean customer base and the majority haven't been open to outsourcing the outbound supply chain, there are huge potential for the development of SCM. For those customers who have been using WWL's ocean services for long time, the reputation and trust relationship with WWL make WWL a good candidate to manage the customers' outbound logistics supply chain.
5. For the second type, since WWL has been serving as 2PL-4PL to meet various customers' demands, the combined set up is preparing WWL for separating SCM to establish an independent legal entity. Setting up the SCM department is for the purpose of providing space to exploit the potential of SCM services, if WWL prefers to diversify the SCM services. It needs little initial investment but could be more flexible in providing customized solutions. Besides, WWL could build a more neutral image to customers by showing how WWL is organized to work. Furthermore, if customers primarily are looking for cost savings and service improvements, a customized logistics solution will probably satisfy the objective. However, "*if the company wants to develop a new competence configuration in the third party logistics relationship which can complement their competitive advantage, a joint logistics solution might be preferable*".¹⁴¹ For WWL, if customers are concerned about the outsourcing or afraid of losing control and knowledge about their outbound SCM, they can maintain the contract relationship with WWL by outsourcing the management of their outbound supply chain, but customers contract with suppliers by themselves, so that they can maintain with WWL's knowledge and keep control over the supply chain at the same time. By this way, WWL can develop the 'soft side' competence to attract customers, such as communication with customers regularly, continues improvement on supply chain management through customers' feedbacks and performance measurement. According to Leonard-Barton, the core capabilities of a firm may also become core rigidities that limit a firm's ability to significantly develop different capabilities.¹⁴² In other words, a firm's current routine-based capabilities limit the firm's ability to create new capabilities and new routines. Dynamic capability enables firms to create new products/processes, and address rapidly changing environment.¹⁴³ For WWL, through providing lead logistics service, customers and WWL can perform as competent partner and critic to develop dynamic capabilities through collaboration. By being versatile, it supports the growth of SCM and can help to adapt the organization's mind-set to achieve the company's objective in the long run.

¹⁴¹ Halldorsson, A & Skjott-Larsen, T (2004) *Developing Logistics Competenceies through Third Party Logistics Relationships*, Department of Operations Management Group, Copenhagen Business School, Denmark, International Journal of Operations & Production Manag Management, Vol. 24 No. 2.

¹⁴² Leonard-Barton, D (1992) *Core Capabilities and Core Rigidities: A Paradox in Managing New Product Development*, Strategic Management Journal, 13: 111-125

¹⁴³ Helfat, C E (1997) *Know-how and asset complementarity and dynamic capability accumulation: the case of R&D*, Strategic Management Journal, Vol 18, No. 5, pp 339-360.

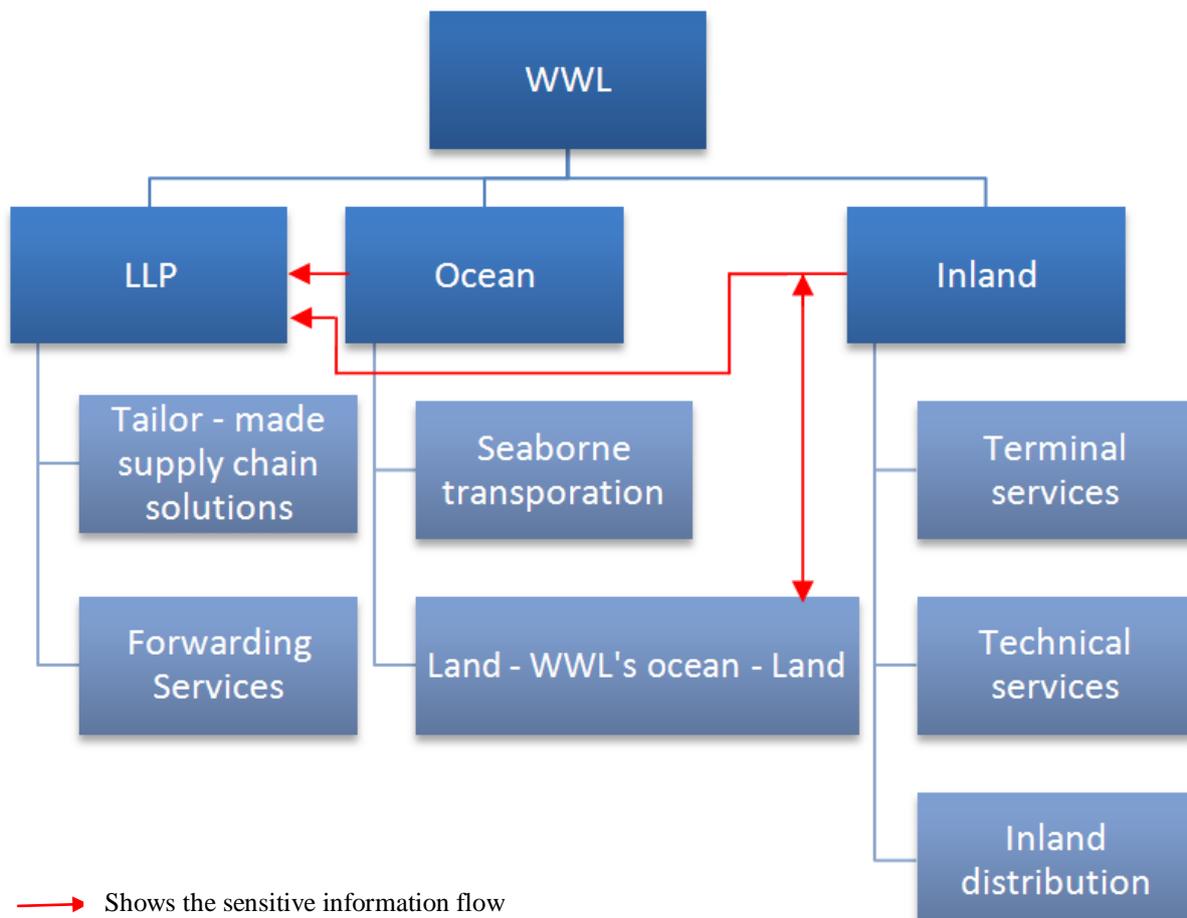


Figure 18 The Combined Set-up

Last but not least, a competent LLP is dependent on truly cost-efficient 3PLs and 2PLs. How it is labeled doesn't matter, the most important thing is to prove to customers that WWL can create the most value to meet their diversified expectations.

Critique

The side effects of this combined operational guideline are as follows. At first, it doesn't solve the legal and the neutrality issues, although the aim is to achieve a full separation in the long run. According to the theory of Porter's generic strategies, the combined set-up cannot change WWL's 'stuck at the middle' situation. In general it is difficult to compete in two different markets at the same time since companies will have competitive pressure from both markets. Few companies manage to stay competitive in situations like these.

Second, some of the customers don't care about if their LSPs are asset-based or not. But it may still bring confusion to the buyers and suppliers which result in a complex situation, for example, where suppliers for the 4PL department are competitors of the 3PL department. Third, it requires WWL to keep the 3PL and 4PL units strictly separated within the company, otherwise this setup may result in a situation that WWL would straddle in between the two strategies. Currently, WWL is providing 2PL-4PL services all mixed together. The combined setup will affect the current way of working and it may still restrict the development of 4PL

because the change is not enough to make space and freedom for it to develop. Fourth, it takes time to manage this ‘co-petition’ situation within the same organization because the two departments may target on the same customers but they also cooperate in some other cases. Last but not least, since the 4PL department and the ocean department are all marketing themselves by the same name WWL, it will create confusion to customers if they are not familiar to how WWL operates.

There are potential risks involved in this combined set-up. The current issues are still present but it gives an opportunity to develop the 4PL services and to see if future separation is viable or not. A full separation is the only way of overcoming these issues entirely, at the same time it is costly and involves massive internal reorganization. Keeping the current organizational setup would be another alternative because it works fine if WWL decides to focus on the SCM business that involves most of the assets. Regarding the drawbacks, the operational guideline for the focus strategy should be considered to implement. In the end it is up to the company to decide which option best suits their strategic goals and ambitions.

6.3 Critical Metrics Based on the Advantages and Disadvantages of LSPs

Based on the survey, interviews and literature the advantages and disadvantages of 3PL and 4PL respectively have been presented in this thesis. The purpose is to develop appropriate metrics to measure the advantages and disadvantages. The metrics have been developed mainly from WWL’s standpoint but the factors (advantages and disadvantages identified in the study) are more general and not directly connected to the company. This is also the reason for why the success map was omitted in the development of the metrics. Because the factors to be measured were collected from the survey, interviews and literature thus there is no need of the success map because theoretically it would require the metrics to be developed for one company specifically.

In developing these metrics the record sheet was used as a starting point together with the advantages and disadvantages of LSPs. The main purpose is to find a way to measure each advantage and disadvantage when possible. Some aspects are difficult to measure in a correct way or not meaningful to measure, aspects as pricing strategy, risk sharing, flexibility, neutrality and dependency are some of them. Other aspects are difficult to capture with only one metric and therefore several choices are presented.

Since the metrics were not developed for any specific company, although WWL was used as the stand point, as the representative for the Ro-Ro sector, there were some parts of the record sheet that could not be applied. There are aspects that are related to the company specific functions such as where the data is gathered from and who is responsible for measuring and so on, but it is not the focus of the study therefore only an example in Appendix 21 is given. The intention is to provide possible metrics to measure the advantages and disadvantages of 3PL and 4PL in general. It is important to clarify that when these metrics are implemented by the company the metrics should be reviewed and if necessary adapted to fit the organization’s strategy.

It is recommended that the company start by reviewing their own critical success factors by using the success map to find which advantages and disadvantages of 3PL respectively 4PL

best fit their organization and which might deserve more attention. The company should go through the record sheet to fill in the ‘gaps’ and make adjustments in line with their own business. Further it is also recommended that the company use the SMAT method to set appropriate targets for their metrics as part of the record sheet.

Caution should be taken when using the proposed metrics as they might only represent one possible way of measuring the advantages or keeping track of the disadvantages and there might be more ways of measuring the same advantage or disadvantage. Another factor that is important to consider is that the company should not focus on individual metrics especially when providing SCM solution. The overall supply chain performance should be evaluated from a holistic point of view, to avoid than any sub-optimization. Another weakness of using KPI in general is that KPIs must be changed according to the changes of corporate strategy and goal, as it is important that metrics are in line with the current strategy. Otherwise there is a risk that KPIs might become a hindrance to the business objectives rather than a means to achieve them.

Table 7 Suggested Metrics

Factor	Formula for metric calculation
Unit cost	Total shipping cost [administration cost + transportation cost + freight forwarding cost + fuel cost + warehousing/terminal cost]/number of units transported
Load factor	Load factor = average load/maximum load, during a period of time
Utilization of assets	Utilization of assets, percentage of own asset usage The ratio of actual output to the output that could be achieved if asset were used to its maximum capacity for 365 days per year. $\text{Asset Utilization} = [\text{actual output} / \text{maximum capacity}] * 100$
Performance	Collection Precision, Processing Performance, Delivery Performance, Lead Time, On time shipment $\text{Collection Precision} = [\text{Pick up date and time}] - [\text{Gate out date and time}]$ $\text{Processing Performance} = [\text{Time that order issued to service provider}] - [\text{Time that unit is available for transport}]$ Delivery Performance 1 = Actual delivery time against promised delivery time + delivery window Delivery Performance 2 = Actual transit time from order received until delivered at agreed delivery point $\text{On time shipment} = \text{number of orders shipped on time} / \text{number of total orders shipped}$ Lead Time = Calculate the time taken for each unit from transport order

	received until unit is delivered at agreed delivery address. Divide total number of days on total number of units for that specific leg. This will result in the average lead time for the period
Customers responsiveness	<p>Delivery Precision 1 = Deviation from schedule, e.g. actual collection time vs. schedule collection time, and actual delivery point vs. schedule delivery time, frequency and duration of delays</p> <p>Delivery Precision 2 = consists of two measurements, delivery on time and delivery in the right quantity</p> <p>Delivery on time = number of unites delivered in time/total numbers of units requested upon contract</p> <p>Delivery in the right quantity = number of units delivered/total numbers requested upon contract</p> <p>Response time = hours required to launch the action to change the order upon request</p> <p>Customer survey, conduct surveys to measure customer satisfaction.</p>
Information access	Minutes required to locate products and inform customers
Environmental aspect	Measure CO ² emissions for SCM solutions; for ocean transport sulphur emissions might be more interesting. Possible methods are Life cycle assessments
Cost-reduction capability for clients	<p>Measure the actual cost reductions for clients</p> <p>Cost reductions = Current ways of working – after implemented WWL solution</p>
Cost-efficiency of the services	<p>Measure current total cost and keep track of improvements for SCM solutions</p> <p>Cost of excess capacity</p> <p>Asset Utilization = [actual output / maximum capacity] *100</p> <p>Empty Running = the distance the vehicle travelled empty (km)</p>
Handling Security/Cargo damage issues	Transport Damage = [dollars of total amount of damages/dollars of total Shipments]
Trustworthiness	Customer surveys can be used to asset the company's performance as well as attitudes towards them

6.4 Summary of the Case Study

Regardless of strategy there are three important questions that need to be asked:

- Is there a market and potential customer demand?
- Does the company have the right competence?
- Does the top management support the strategy?

These questions are all critical for the success of the strategy, to help the company to decide if WWL should stay focused or differentiate. To summaries the aforementioned strategies, the pros and cons of each will be presented in the following table.

Table 8 Summary of strategies

Strategy	Pros	Cons
<p>A. Focus Strategy (Keep SCM within WWL)</p>	<ul style="list-style-type: none"> • No need for investments • Five products add value together for customers with good synergy • Stay focused to provide better services to the ocean customers • Act as 3PL to provide competitive services to customers based on their own assets 	<ul style="list-style-type: none"> • Neutrality issue • This setup might hinder WWL to develop new business model of SCM • Less flexible to cooperate with other ocean suppliers • Difficult to get competitive quotes from some suppliers • Risk of sharing sensitive information between departments • Mix two generic strategies together will be a problem when WWL develops in the long term • Confusion among customers and competitors when marketing under the same name 'WWL'
<p>B.</p>	<ul style="list-style-type: none"> • Solves all legal issues 	<ul style="list-style-type: none"> • Cost

Differentiation Strategy (Separate SCM from WWL)	<ul style="list-style-type: none"> • Give space to develop new business model of SCM • Able to exploit the potential to meet diversified customers' expectations and access wider market • Able to develop dynamic capability 	<ul style="list-style-type: none"> • Investment in reorganization • Cannot solve the neutrality issue completely • Have to build brand and establish customer relations
C. The Combined Solution (Create a subdivision)	<ul style="list-style-type: none"> • Not as costly and do not require as much internal reorganization as the full separation strategy • A 'test' to see if full separation is beneficial or not • Focusing on providing SCM to the ocean customers while developing new business model • Separate two generic strategies to maximize the benefits of each 	<ul style="list-style-type: none"> • Cannot solve the legal issues • Risk to involve in a situation where WWL is 'stuck in the middle' • Confusion among customers and competitors when marketing under the same name 'WWL' • Co-petition

To sum up, there are two directions for WWL to retain the current customers and grow the SCM business.

The first direction is a focus strategy; it can be realized by two steps. The first step is the current way of doing business which focuses on the ocean customers to provide better service for their outbound supply chain management. If WWL's SCM business grows significantly and there would be a lot of demands for the global SCM service. WWL's SCM business would grow to a certain point that the legal restriction would become a hindrance for WWL's development, and then the company should separate SCM as an independent legal entity to better focus on the ocean customers' expectations. This is the second step. Through this

strategy, WWL will always be regarded as an asset-based 3PL no matter if the SCM is separate or not. This strategy will keep SCM focused on the ocean customers and help to tie the customers closer to WWL at the expenses of developing new business model.

The second direction is a differentiation strategy; it can also be realized by two steps. The first step is the action suggested by the authors for the long term strategy. The combined solution will enable WWL to focus on the ocean customers while exploiting the potential of developing new business models. It will be a trial period that WWL can test if the full separation would be beneficial or not. As the market change rapidly, WWL can diversify the SCM services through marketing to new customers and developing with a wider customer base. In the long term, when the SCM would be ready to compete as an independent legal entity, the second step would take place. The full separation will be beneficial for WWL because the legal restriction can only be eliminated by this way.

In order to achieve continuous improvement it is important to measure, follow up and keep track of the advantages and drawbacks that the company might have. Thirteen factors are selected and presented with corresponding metrics for the company to assess and improve their performance.

7 Conclusions

7.1 Operational Guidelines and Critical Metrics

WWL provides global factory-to-dealer transport solutions for the automotive, agricultural and construction equipment industries, however the company is facing some challenges when offering SCM services to customers (Figure 15). If WWL were to change its strategy it would be possible to overcome many of the challenges that it is currently facing. There are two options, either to keep the current strategy and focus on existing ocean customers (the focus strategy) or to adopt a separation strategy of the SCM unit to establish an independent legal entity from WWL (the differentiation strategy). Both of strategies have their advantages and disadvantages (presented in Table 8), therefore the scenario study, SWOT and strategic analysis are applied to investigate which strategy can enhance WWL's competitive advantages in both the short and long term perspectives.

Based on the study, it shows that the focus strategy still works and will work fine at least in the short term. The company can deal with the issues even if there are some challenges. However the current organizational setup might bring potential problems to WWL and hinder the development of the SCM, (e.g. the legal restrictions). There is a risk that today's issues might grow in the future if the SCM business grows significantly. The differentiation strategy would eliminate most of the issues and restrictions and allow for potential diversification of the SCM services to exploit new customers and market. But it would also mean increased costs, work and re-organization. There are also uncertainties that would prevent this strategy from being successful from a short term perspective but the strategy is better suited for SCM development in the long term when the SCM grows significantly and there are a lot of demands for the service.

With this in mind a mixed approach was suggested that would gradually allow for changes that would benefit WWL in the long term. There are also potential problems involved, for example, since the 4PL department and the ocean department are all marketing themselves by the same name WWL, it will create confusion to customers if they are not familiar to how WWL operates.

The Guidelines were developed from two perspectives, short term and long term. These guidelines address one of the subtasks of operational guidelines: *How can WWL stay competitive by strategically managing their customers' outbound logistics supply chain?*

Another sub question is related to measurements and how to improve the service for customers: *What type of metrics can maximize benefits for both customers and LSPs?* By collecting the strengths and weaknesses from the survey, interviews and literature it was possible to narrow down the factors that were the most important for 3PLs and 4PLs respectively. Then the record sheet was applied to develop metrics to measure these factors. By measuring the strengths and weaknesses, continuous improvement can be conducted accordingly which will lead to better performance and customer satisfaction. It also shows

how to design the KPIs according to a company's situation. By this way, both companies and customers can keep track of the strengths and weaknesses of their performances.

7.2 LSPs Matrix

The matrix shows (Figure 19) different LSPs and their ability to be flexible in market fluctuation and to which degree that the assets are of strategic importance. Since assets are costly to purchase and maintain, 3PLs in general specialize the services based on their assets, such as ocean carrier, land haulier, warehouse, the rest are largely relied on the network and suppliers. In order to become a truly global player in the market, 3PLs have to develop the all-round competencies such as assets, suppliers' networks, and expertise for the whole supply chain. All-round 3PLs not only own a lot of assets but also have sufficient expertise and suppliers' networks that enable them to tactically and strategically deploy the resources and capabilities to achieve a great level of flexibility. Some of them also enjoy benefits of unified systems globally. The non asset-based LSPs/4PLs are flexible to use the transportation assets of all common carriers because their strengths are largely dependent on the alliances with suppliers, whereas asset-based LSPs tend to use their own assets when providing transport solutions.

On the other hand there are LSPs with less flexibility. They are more focused on one transport mode or on their main field of expertise or a specific region. These are 2PLs as basic transport capacity provider, and specialized 3PLs as niche players. Both 2PLs and specialized 3PLs tend to be less flexible in market fluctuation since they usually have a lot of investment on one part of the supply chain, or lack of the broad expertise or networks to offer extensive services beyond their main field of expertise. But within their field they are very competitive.

3PLs also develop some of the functions/solutions similar to 4PLs, but the scope is limited because they focus on the services provided by their own assets so that they cannot be as flexible as 4PL when optimizing the whole chain because the assets might limit the company's potential to diversify their service because the assets invested are the focus of their business. Therefore it can only work if the relationship between them can be regulated and maintained. 3PL have certain assets that can back up the development of non-asset-based LSP, to provide confidence and reliable supports to the relatively new business model of SCM. However, 3PL have to eliminate favoring their own assets' utilization when they provide 4PL solutions and give enough space for the development of new resources and capabilities.

Since investments in assets are costly, asset-based LSPs can hardly provide services based on their own assets for customers on the whole supply chain, especially if it is at a global scale. They are more competitive on one part of the chain but not every aspect, if they want to expand the services, the purchasing capability and knowledge competence are very important, otherwise they should stay focused to specialize at one part of the supply chain to keep competitive advantage in that market segment. The asset-based LSPs are comparatively vulnerable in market slump.

In general assets are of strategic importance to a certain extent to various LSPs, especially for specialized 3PLs that act in niche markets because these assets are made for specific purposes and the market and customer-base are relatively small, which makes it difficult for non asset-based LSPs to add value there; whereas for 4PLs in general, the ability to access to assets and the best practices in the market are of strategic importance.

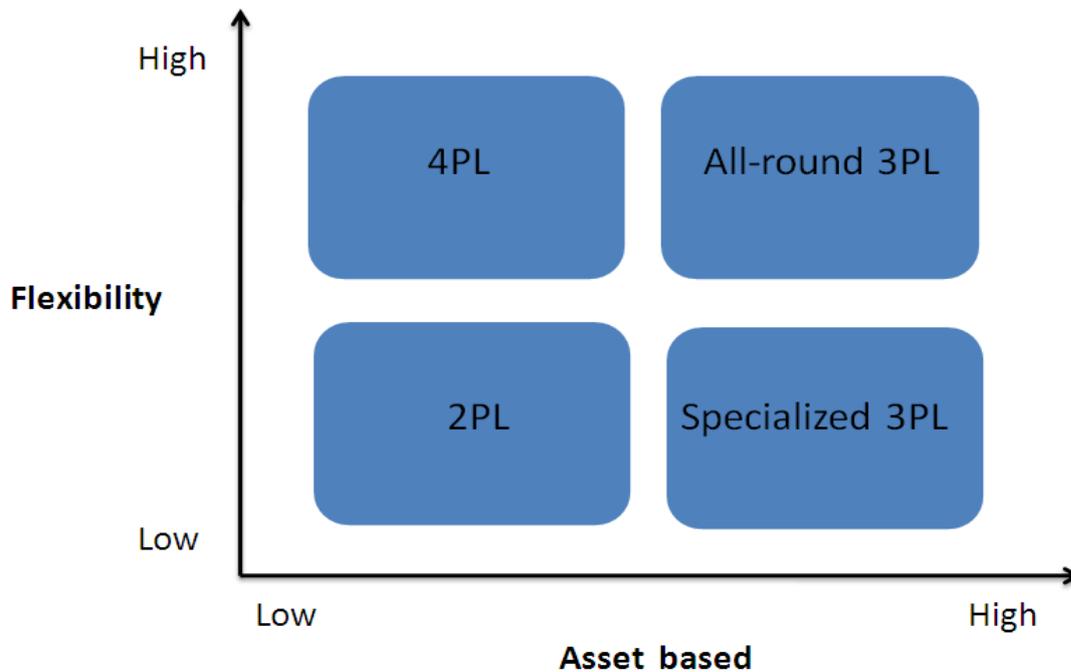


Figure 19 The Matrix of Logistics Service Providers

7.3 Asset-based and Non Asset-based LSPs

In general, the higher on the LSP's hierarchy, the higher potential profit margin, therefore there is a trend that 2PLs strives to expand their services to 3PLs, whereas 3PLs develop similar functions as 4PLs. Regarding the main research question, the authors discovered that many companies are in a transition period developing services to gain higher margin, for example a 2PL can create competitive advantage largely based on the assets, then they add on some of the 3PL functions to provide more value to customers, the same applies for 3PLs which provide 4PL's solutions. It might not be as well developed if compared to a dedicated 3PL or 4PL company because of different restrictions and limitations, however, these new functions and solutions are treated more like a 'side-dish' for customers who have specific requests. Their core business is still the services that are based on their own assets which create the most competitive advantage to them. The boundaries between them are not well-defined, especially between 3PL and 4PL, because 3PL is developing 4PL solution and 4PL is developing their ability to access to assets. Therefore there are many LSPs developing somewhere in between. It is difficult to expand further up the hierarchy, especially for those 3PLs with assets. It is costly and time-consuming to acquire 4PL's competencies and networks therefore a lot of 3PLs that only focus on their core business which involves most

of their own assets, but develop some of the 4PL's functions that only serve in a limited scope. Besides, the 4PL's competencies develop by time and rely on networks and trustworthy relationship. It is a challenge for 3PLs to diversify the business and acquire 4PL's expertise, especially in this recession period when the changes of the market and customers' demands are difficult to predict; and it would be costly and time consuming to develop the needed competencies internally. Therefore some of the 3PLs only attempt to offer limited 4PL solutions to keep themselves updated to the market environment. That might also explain the reason why some of the 3PLs are still hesitant to set up 4PL company to fully develop the potential of this service.

Regarding the advantages and disadvantages of LSPs, the 3PLs' strengths are more operational-oriented, whereas 4PLs' strengths indicate more of the 'soft side'. The differences in the focused performance attributes between them are that 3PLs focus more on the assets, whereas 4PLs focus on agility rather than assets which have little importance to them. When selecting suppliers, both 3PLs and 4PLs value the reliability of the supplier rather than cost. The volume to 3PLs is important; 3PLs are not as flexible as 4PLs in the market downturn. However, the critical mass of each customer to 4PLs is important because they have to justify the cost of the tailor-made optimization solution of the supply chain. Both types of LSPs are putting efforts on several common points to enhance their strengths, such as reputation, value proposition, cost, quality, lead time, flexibility, optimization, visibility, geographic coverage, knowledge competence, and ability to gain access to best practice.

There is a tendency that the 3PL's weaknesses are the points that 4PLs try to turn to strengths. This can be seen especially when it comes to pricing and cost reduction, flexibility to the market fluctuation, and risk sharing. The weaknesses of 3PLs are more concerned with pricing strategy and flexibility to the market fluctuation, whereas 4PLs act more as an intermediary between customers and suppliers so that the issues concern more about 'buyer - 4PL – suppliers'.

Table 9 Asset-based LSPs vs. Non Asset-based LSPs

Asset-based vs. Non Asset-based	Advantages	Disadvantages
Asset-based (3PL)	<ul style="list-style-type: none"> ➤ Assets (both transport assets and supporting assets) ➤ Economies of scale ➤ Providing multi-clients synergies ➤ Responsiveness to the change of customers' needs at the operational level ➤ Integrity, trustworthiness, and reputation ➤ Improve space, capacity, and time utilization for customers ➤ Joint planning with customers 	<ul style="list-style-type: none"> ➤ Sharing and reducing risks by demarcation of responsibilities ➤ Flexibility and adaptability to market fluctuation

Non Asset-based (4PL)	<ul style="list-style-type: none"> ➤ Providing competitive prices to customers ➤ Integrity, trustworthiness, and reputation ➤ Ability to access to assets and the best practices ➤ Cost-reduction capability for clients ➤ Cost-efficiency of the services ➤ Overall supply chain visibility across a variety of platforms ➤ Relatively neutral position 	<ul style="list-style-type: none"> ➤ Dependency on other actors in the transport and logistics network ➤ Difficult to make customers to pay the value 4PL create for them
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The focus of the asset-based LSPs originating from logistics department of large shippers is still similar as Yosef Sheffi identified in the early 1990s, whereas the LSPs developed from independent common carriers are more diversified and flexible since their systems and operations are not integrated to few big shipper. The non asset-based LSPs still focus on the people and the systems as the major assets, therefore they can be very flexible to use the transportation assets of all common carriers to manage and optimize the whole chain for customers. Both types of the LSPs can help customers to focus on their core business, reduce fix cost to variable cost, and increase cost-efficiency in the services.

Asset-based LSPs can be very reliable when they use their assets to provide services to customers because they have more control over the transportation and they are able to provide better visibility when cargos are on the way. The value that they create to customers is through the system that they have already set up, and then the solution will be adjusted to meet various customers' requests. The most value they can create for customers are the system they already set up but adjusted to various customers' requests. In general, they are flexible at the operational level and cost efficient if they have economies of scale when they use their own assets. On the other hand, the non asset-based LSPs are more competitive when they can integrate into their customers' operations and optimize the whole supply chain from a holistic point of view. However, it also restricts the customer's scope if they are specifically integrated to few big shippers. The most value that 4PL can create to customers are the tailor-made comprehensive supply chain solutions that help customers to achieve greater cost reductions and provide single interface between client and service providers. Some of the 4PLs are also willing to invest for their customers' benefits so that the long term relationship can be maintained by mutual interest and investment.

There is discussion about if asset-based LSPs only focus on maximize utilizing their own assets. It could be good for customers if the services provided by their own assets are competitive and the price has relatively low cost-margin because they have control over the assets which enable them to provide reliable and flexible services upon customer's requirements. For non asset-based LSPs, the neutral position is one of their advantages, and the expertise as well as the ability to get access to assets and the best practice in the market are the key strengths for the business. From customers' point of view, the neutral position of

an LSP is not a decisive factor at all when they choose their LSP. They prioritize the best solution and value that can meet their expectations.

Both the non asset-based and asset-based LSPs need to develop reliable and wide suppliers' network. The degree of involvement in their customer's operation is important to develop the long term relationship. However, customer's fear of dependency makes this difficult. It is hard to get paid for the value that LSPs provide, for 4PLs it is even harder because knowledge-based competencies are easily to transfer. Therefore the ability to access to assets and the best practices in the market are essential for 4PLs to deploy their resources at a strategic level.

In general, the challenges for LSPs are the constant pressure from customers to lower costs while requiring ever increasing value and service performance, striving to be competitive on the whole chain, dropping volumes due to the financial crisis, forecasting of volumes, as well as managing growth in recession. Besides these, it is not easy to establish a reliable and win-win partnership between the company and the LSP. One of the suggestions recommended is to construct a risk-sharing scheme between the company and the LSPs to establish reliable partnerships. However, how to design appropriate gain-sharing models deserves further research and study.

To sum up, asset-based LSP and non asset-based LSP have different strengths and weaknesses. The type of LSP which is more competitive depends on various market situations, customers' preferences, and individual company's competencies. For customers, the asset-based or non asset-based LSPs are regarded as two different approaches to create value to them, therefore the value proposition and solutions are the core to attract and keep customers.

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DHL's definition URL:

http://www.dhl.com/publish/g0/en/services/log_services/solutions/planning/lead.high.html

http://www.2wglobal.com/www/newsFeatures/newsShowPages/show_wwwnews.jsp?newsRepository=wwwnews&oid=21779 (accessed on 2009-04-26)

<http://www.lekven-shipping.com/documents/blog.php?mon=1&year=2009> (accessed on 2009-04-26)

International Maritime Organization. (2009) *International Shipping Carrier of the World Trade*. Albert Embarkment.

http://www.imo.org/includes/blastDataOnly.asp/data_id%3D18900/IntShippingFlyerfinal.pdf (Accessed Jan 21, 2009)

Kuehne & Nagel's definition, leading global LSP URL:

<http://www.kn-portal.com/services/leadlogistics/>

Third-party logistics market still growing; Northeastern University's annual survey of 3PL CEDs predicts continued growth for the industry, with some surprising shifts. (available at: <http://www.mmh.com/article/CA6495506.html/>, accessed on 23th Jan, 2009)

The International Federation of Freight Forwarders Associations Official Definition URL:
http://www.fiata.com/uploads/media/CL0406_04.pdf

(accessed 2008-03-10) URL:

http://ec.europa.eu/competition/antitrust/legislation/maritime/technical_paper.pdf

EU portal (accessed 2008-03-10)- URL-

<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/644&format=HTML&aged=0&language=EN&guiLanguage=en>

(accessed 2008-03-11) Statutory Provisions and Guidelines of the Antitrust Division URL:

http://www.usdoj.gov/atr/public/divisionmanual/chapter2.htm#_1_2

URL: <http://www.logisticslist.com/2009/03/logistics-service-providers-lead.html>

The EU portal (accessed 2009-03-10) -

http://ec.europa.eu/competition/antitrust/overview_en.html

<http://www.coursework4you.co.uk/swot.htm> (2009-04-21)

Wikipedia definition of forwarder: accessed 21 May 2009 URL:

http://en.wikipedia.org/wiki/Freight_forwarder

Interviews

Interview with Andersson, Dan; Professor at Chalmers Technical University

Interview with Cooper, Doug; Business Development, Supply Chain Management, Wallenius Wilhelmsen Logistics

Interview with Fuss, Christian; Head of Supply Chain Management, Logistics Region Europe, Wallenius Wilhelmsen Logistics

Interview with Haavik, Linda; legal counsel at Wallenius Wilhelmsen Logistics

Interview with Larsson, Håkan; guest professor at School of Business, Economics and Law at Gothenburg University with a long experience in shipping and a member of the Wallenius Board

Interview with Lie, Nils; Vice President Business Development Supply Chain Management at Wallenius Wilhelmsen Logistics

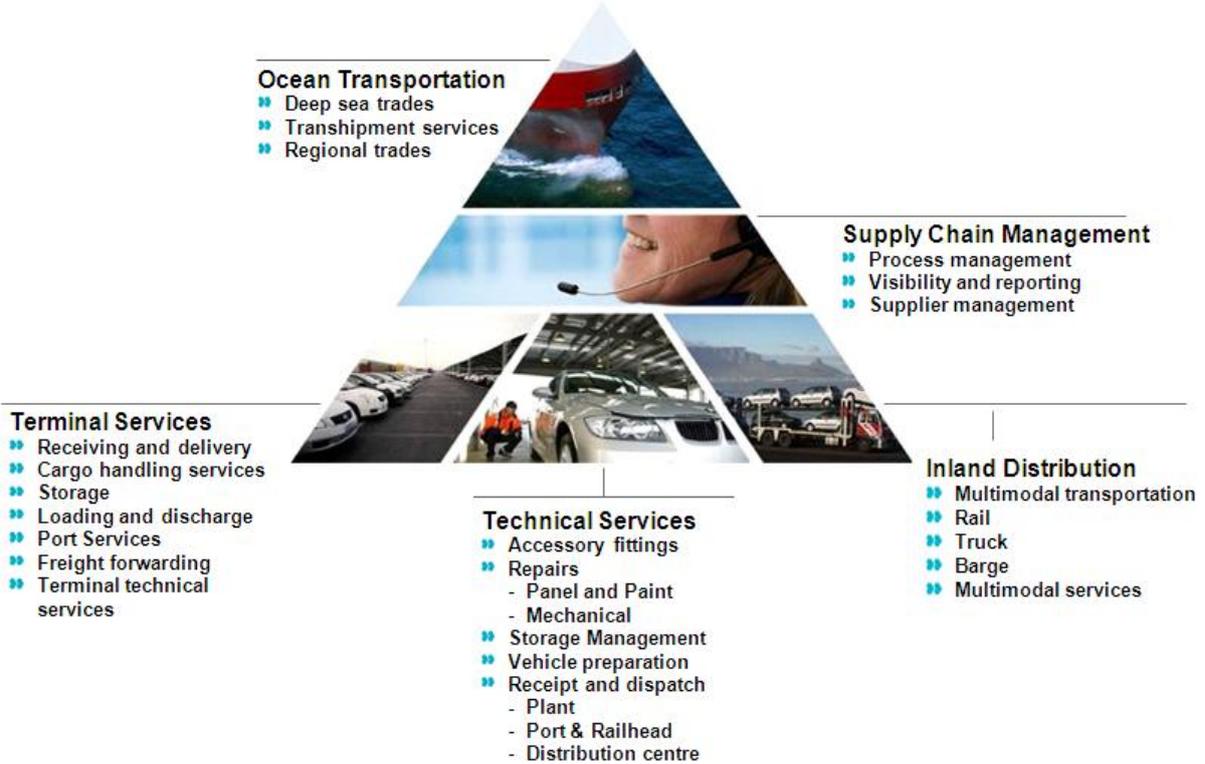
Interview with O'Malley, Steve; Terminal Manager at Wallenius Wilhelmsen Logistics

Other companies¹⁴⁴

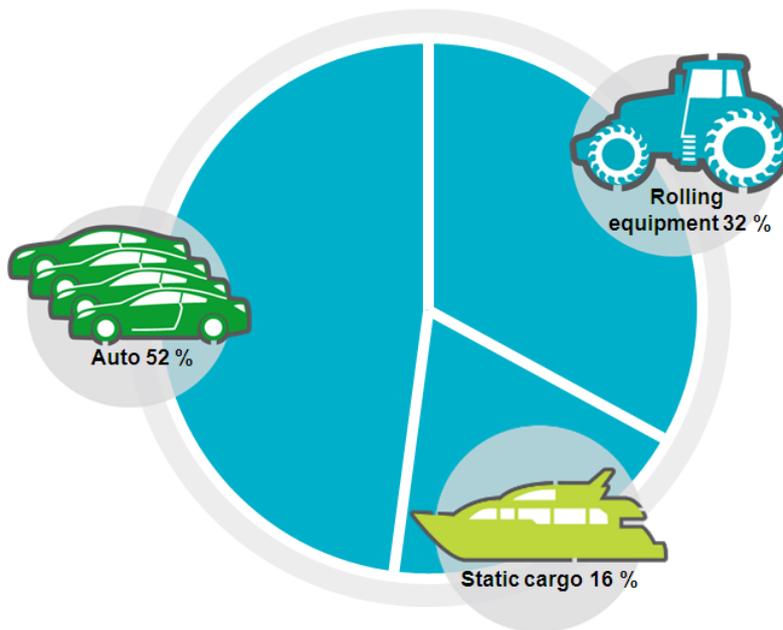
¹⁴⁴ Other five interviews were conducted but they are confidential

9 Appendix

Appendix 1. Outbound Logistics Value Chain of WWL



Appendix 2. Three Main Customer Segments in WWL (arranged according to the ocean revenue per segment)



Appendix 3. Supply Chain Management in WWL



Appendix 4. Two-Tiered Relationship structure

Two-Tiered Relationship Structure			
Relationship Attributes	Relationship Structure	Traditional Outsourcing Terms	Service Attributes
<ul style="list-style-type: none"> Partnership Joint Venture Value Based Risk Sharing Few Partners Long Term (5 + years) Common Core Values Alignment and Trust “Coopetition” 	Strategic	<ul style="list-style-type: none"> Fourth-Party Logistics Provider (4PL) Lead Logistics Provider (LLP) Supply Chain Manager (SCM) 	<ul style="list-style-type: none"> Broad supply chain expertise Deep industry domain and consultative skills Advanced technology capability Business process outsourcing, beyond logistics Project management and provider coordination 3PL technology integration Innovation and continual improvement
<ul style="list-style-type: none"> Contractual Fixed and Variable Transaction Oriented Short Term (1 to 5 years) 	Tactical	<ul style="list-style-type: none"> Third-Party Logistics Provider (3PL) Logistics Service Provider (LSP) 	<ul style="list-style-type: none"> Traditional logistics services Modular product offerings Focused cost reduction and service improvement Operating excellence Niche services

Source: Langley et al. (2005)¹⁴⁵

Appendix 5. 3PL and 4PL services

In this table, the different services can be seen as well as the level of maturity of the 3PL/4PL service providers.

¹⁴⁵ Langley, C.J.Jr, van Dort, E., Ang, A. and Sykes, S.R. (2005) *Third Party Logistics, Results and findings of the 10th annual study*, pp. 1-46.

3PL

	Basic	Intermediate	Advanced
Physical Services	<ul style="list-style-type: none"> • Storage • Good reception • Picking according to order • Packaging • Repackaging & labeling • Return of goods • Delivery from storage 	<ul style="list-style-type: none"> • Consolidation • Deconsolidation • Preparation for freezing • Freezing, thawing, sawing • Preparation for delivery & packaging • Setting building, sequencing, product resorting and labeling • Cross-docking 	<ul style="list-style-type: none"> • Assembly of components • Operate vendor management inventories in stores or stock-keeping facilities • Recycling with waste handling & reconditioning • Unpacking & quality control
Administrative Services	<ul style="list-style-type: none"> • Tendering & contracting other LSP • Tendering & contracting carriers • Insurance services • Stock-taking 	<ul style="list-style-type: none"> • Payment services • Order administration & customer service • Claims handling • Export clearance & import clearance • Track-and-trace information 	<ul style="list-style-type: none"> • Forecasting & inventory management • Administration of minimum & protective inventories • Purchase & call-offs • Delivery planning, management & follow-up • Exception management

Source: Gavrielatos, 2006, p 11

4PL

	Basic	Intermediate	Advanced
Physical Services	None	None	None
Administrative Services	<ul style="list-style-type: none"> • Tendering & contracting LSP companies • Tendering & contracting carriers • Insurance services 	<ul style="list-style-type: none"> • Forwarding services • Payment services • Financial services • Order administration & customer service • Claims handling • Export clearance and import clearance • Providing one-stop logistics service purchase • Track-and- trace information 	<ul style="list-style-type: none"> • Design of individual logistics setups • Implementation of logistics setups • Operation of customers' logistics setup • Responsible for the customers' logistics operations • Exception management

Source: Gavrielatos, 2006, p 12

Appendix 6. The freight forwarding market

Forwarders have developed their operations this is a way to meet the requirements of shippers for more sophisticated logistics and supply chain services on a global scale. Many companies have made it their goal to become a globally integrated logistics provider by introducing value-adding services in the supply chain.

The global logistics and freight forwarding market is in a state of rationalization and consolidation. The biggest are DHL Global, Kuehne & Nagel and Schenker. Outside the top three there is a large difference in size of the others. This means that they can become a possible target for a hostile takeover by other companies searching to grow. As seen from the picture the top ten companies have around 40% of the total market. This is because of the low barriers for entry and exit in the market. The low capital needed to enter is the reason for this.

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¹⁴⁶ Based on UNCTAD, *Maritime Review 2007*

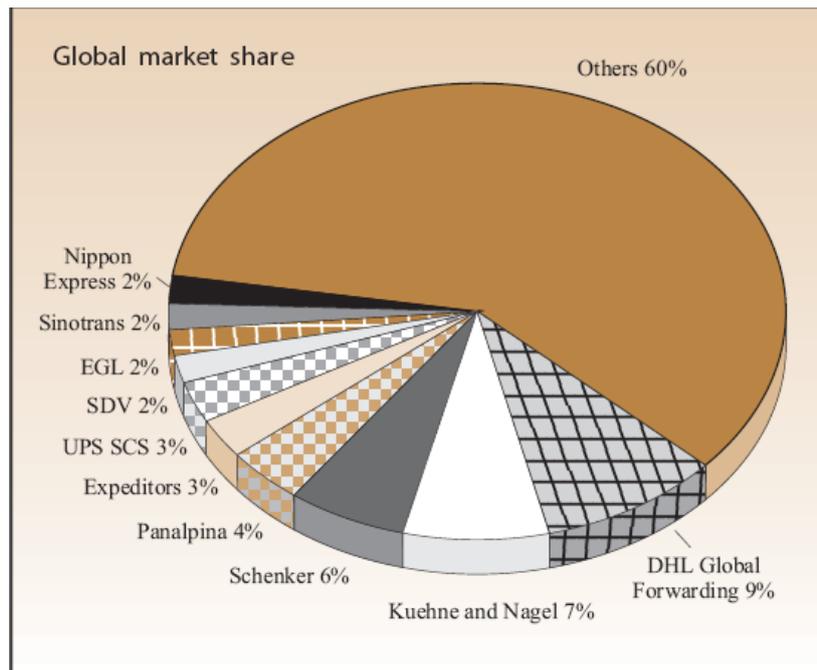


Figure 20 Global market share of freight forwarders

Appendix 7. Shipping market-with the focus of RO-RO shipping

About 90% of the world trade is carried by sea today which makes shipping an essential component for the world economy¹⁴⁷. Shipping market is divided on the different commodities that are transported and the type of ships needed¹⁴⁸: *oil tankers, bulk carriers, general cargo, container and others*. Included in the general cargo are different types of vessels¹⁴⁹ that are specially designed for transportation of certain cargo, for example reefers and Ro-Ro (Roll on-Roll off) cargo. Ro-Ro vessels are used for transportation of mainly vehicles but can also be used to transport any other general cargo.

Ro-Ro shipping sector overview.

The Ro-Ro fleet offers flexibility that is unusual for shipping. They can carry what ever type of cargo is offered and specializes in carrying different types of vehicles and other difficult cargo. There are three different sectors in the Ro-Ro market. Smaller vessels, these vessels usually operate on a ferry/liner type of service for short hauls. Demand chartering, in these cases the vessels are chartered according to the demand that exists for the moment. Deep sea sector is serviced by specialist players on long haul routs liner like services. It is in that category that WWL is acting.

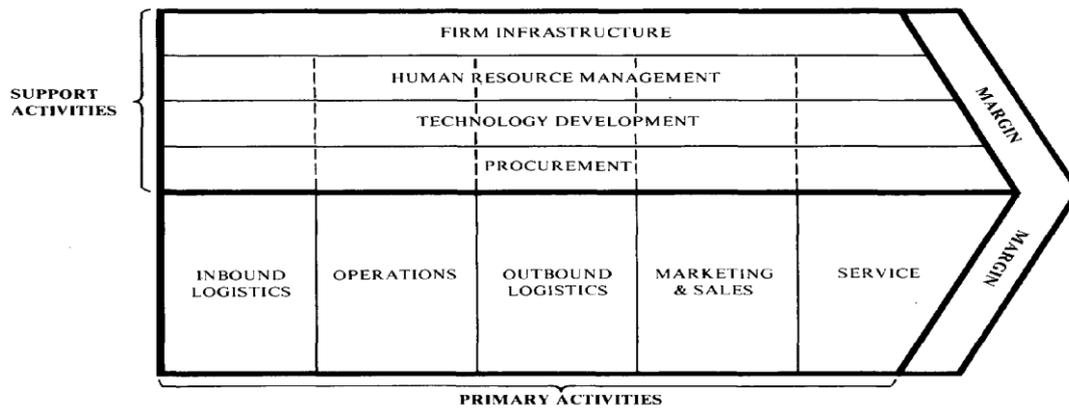
¹⁴⁷International Maritime Organization. (2009) *International Shipping Carrier of the World Trade*. Albert Embarkment.

http://www.imo.org/includes/blastDataOnly.asp/data_id%3D18900/IntShippingFlyerfinal.pdf (Accessed Jan 21, 2009)

¹⁴⁸ Stopford M. (1997) *Maritime Economics*. Second Edition. New York: Routledge

¹⁴⁹ UNCTAD, (2007) *Review of Maritime Transport*.

Appendix 8. The Value Chain



(Source: Michael E. Porter (1985)¹⁵⁰ p.37)

Appendix 9. The Value System

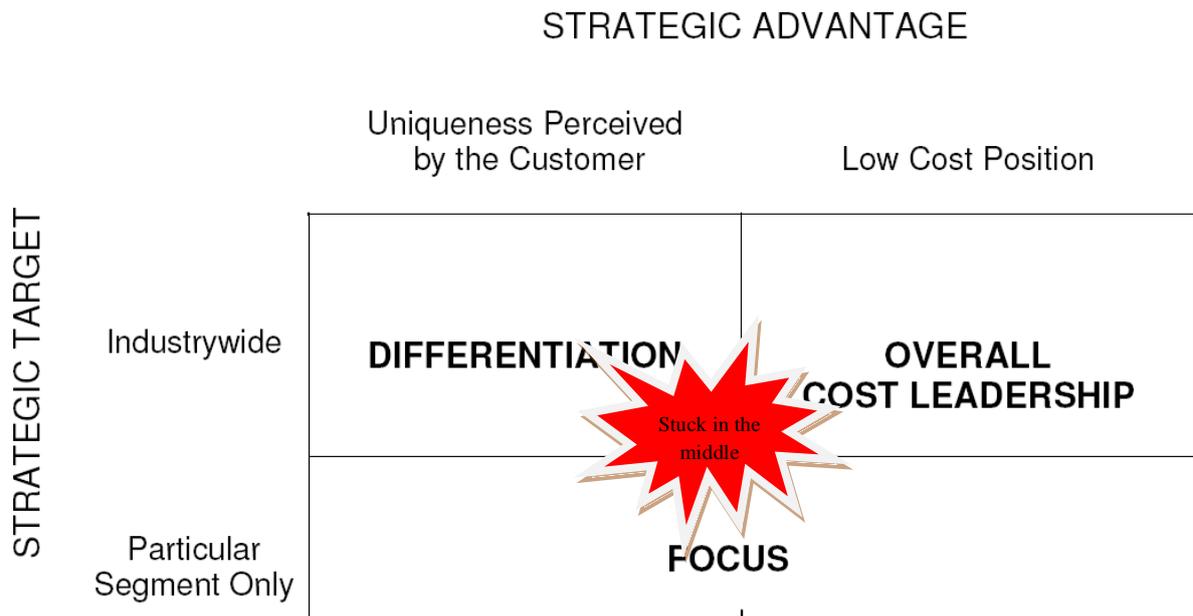


(Source: Michael E. Porter (1985)¹⁵¹ p. 35)

¹⁵⁰ Porter M.E., 1985. *Competitive Advantage Creating and Sustaining Superior Performance*. The Free Press, New York.

¹⁵¹ Ibid.

Appendix 10. Porter's Generic Strategies



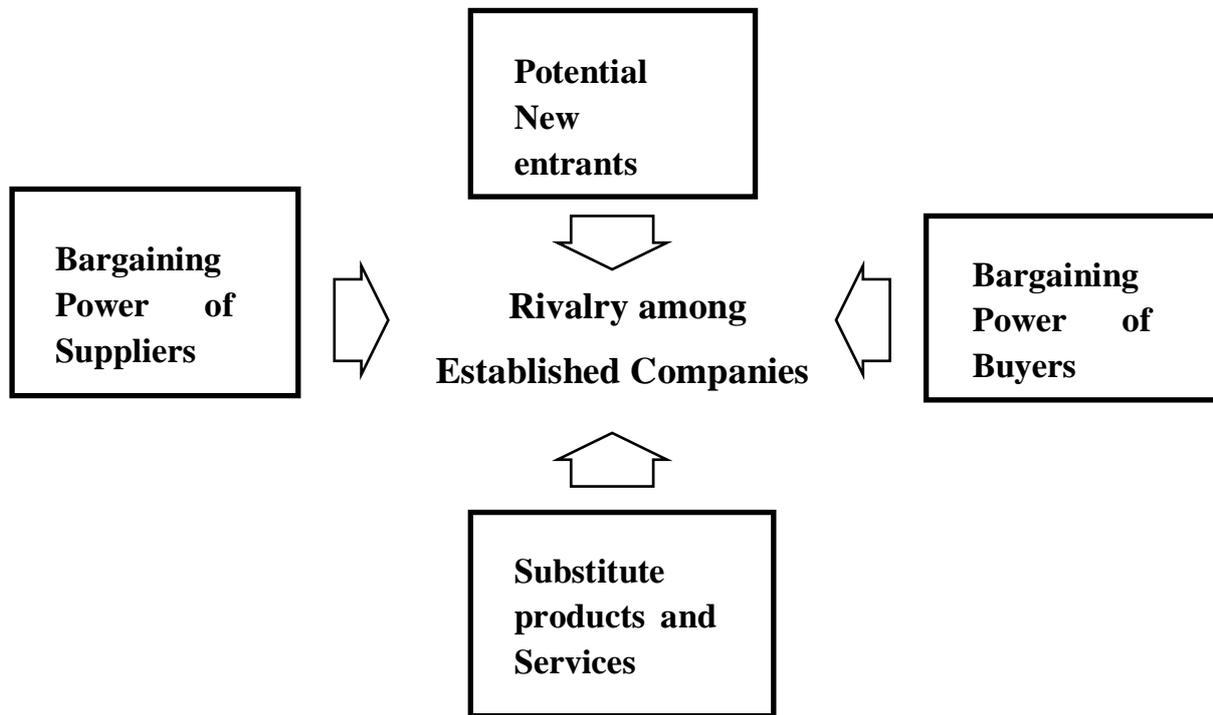
Source: Modified from Porter (1980)¹⁵²

Appendix 11. Porter's Five Forces

According to Porter, by analyzing five forces confronting the industry, a firm should be able to position itself so as to *defend* itself against them, influence them so as to *improve* its position, and to *anticipate change* in them so as to obtain a better position before rivals do. (*Oxford Handbook of Strategy*, 2003).

¹⁵² Porter, M.E. (1980) *Competitive Strategy*, Free Press, New York.

Porter's five forces are the following:



1. Existing competitive rivalry between service providers

The first force of competition looks at the rivalry between the service providers on the market, meaning the supply side. Important characteristics are the market structure: is the industry concentrated or there are many providers, are there economies of scale that would lead to consolidation (cost structure). Moreover, for existing competitors important issues are market growth prospects, the existing capacity, product/ service differences, and switching costs. (Oxford Handbook of Strategy, 2003)

2. Threat of new market entrants

In the theory, following characteristics have been brought up to describe the threat of new market entrants: absolute cost advantages, access to inputs, government policy, economies of scale, capital requirements, brand identity, switching costs, access to distribution. This force tries to evaluate the risks concerned with new competitors entering the market, by looking into how market is regulated and what other market entry barriers exist to protect from new competition. (Oxford Handbook of Strategy, 2003)

3. Bargaining power of buyers

In the theory, buyer power can be described by following characteristics: bargaining leverage, buyer volume, price sensitivity, buyer concentration vs. industry, substitute available, pricing policy, and business customers vs. private customers. Therefore this force looks at the customer relationships, trying to characterize the customers, how continuous are customer relations and how service prices are being formulated. (Oxford Handbook of Strategy, 2003)

4. Bargaining power of suppliers

The theory denotes that power of suppliers depends on: concentration of suppliers, branding, and profitability of suppliers, role of quality and service and switching costs. Similarly to the previous force, force number 4 looks at the supply side relationships. (*Oxford Handbook of Strategy, 2003*)

5. Threat of substitute products/ services

The threat of substitute products and service depends on: quality, buyer’s willingness to substitute, the relative price and performance of substitutes, the costs of switching to substitutes. Substitute products and services are similar to the ones offered by competitors, meaning they fulfill the same needs of customers, however the product/ service itself is different. The competition from substitutes can in some cases have important influence on the competition in-between the competitors. (*Oxford Handbook of Strategy, 2003*)

There has also been discussed to make an amendment to the five forces. The sixth force would be a complementary force that includes other factors that are not covered in the previous forces. However this six forces model has not gained the same popularity as the regular Porter’s five forces. (coursework web page, 2008-05-14)

6. Complements

There is also considered to be a sixth force a complementary force. Within this one other factors that have an influence will be grouped together, such as complementary products, the government’s role and the public. All of these have an effect on the outcome and can be seen as a new force equal to the others, although never recognize as an official force by Porter. (Wikipedia, 2008-05-07)

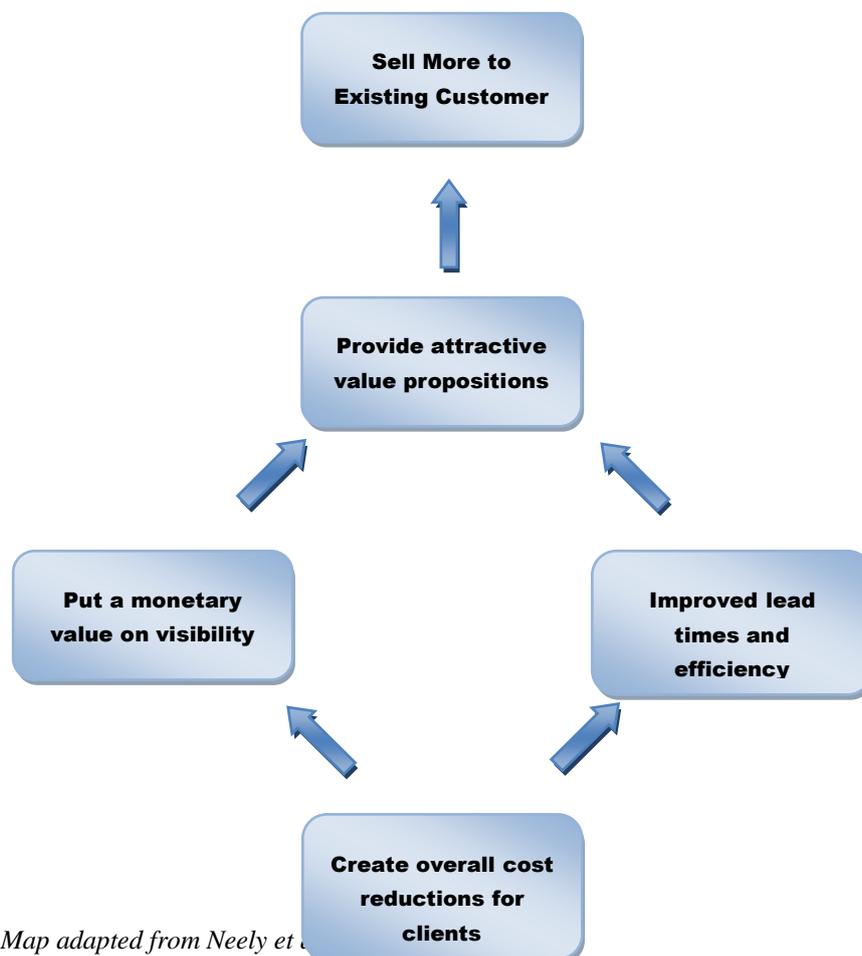
Appendix 12. SWOT Analysis

<p style="text-align: center;"><u>Strengths</u></p> <ul style="list-style-type: none"> • Great developing potentials • Strong brand names • Good reputation among customers • Cost advantages from proprietary know-how • Exclusive access to high grade natural resources • Favorable access to distribution networks 	<p style="text-align: center;"><u>Weaknesses</u></p> <ul style="list-style-type: none"> • Lack of patent protection • A weak brand name • Poor future developing potentials • High cost structure • Lack of access to the best natural resources • Lack of access to key distribution channels • Lack of technical know-how
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • An unfulfilled customer need • Arrival of new technologies 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • Shifts in consumer tastes away from the firm's products

<ul style="list-style-type: none"> • Loosening of regulations • Removal of international trade barriers • Favorable political conditions 	<ul style="list-style-type: none"> • Emergence of substitute products • New regulations • Increased trade barriers • Uncertain political events
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Source: www.quickmba.com/strategy/swot

Appendix 13. Success Map Sample



Source: Success Map adapted from Neely et al.

Appendix 14. Strategic Analysis

According to Björn Alarik (*Björn Alarik, lecture of strategic analysis and case work*), strategic analysis consists of three parts as follows:

1. Strategy versus environment

In order to judge whether a strategy is good or bad, in the first step, it is necessary to relate the strategy to external environment. By identifying the most important future threats and opportunities, the company can identify whether the current strategy can cope with these threats effectively and take advantage of the opportunities. At a result of the first stage, three different strategic situations may be distinguished:

- The current strategy still works, the focus is on preserving and further improving.
- The current strategy will work in a few years more, but then must be changed.
- The strategy is out of date and must be changed right now.

2. Environment versus internal resources

Companies cannot live without environment, and external and internal factors analysis therefore should anyway relate to each other. What the strength and weakness of the company has depends a lot on the strength and weakness the company has. And what could be regarded as strength and weaknesses depends on which competitors the company compare itself with.

Meanwhile, the same future change could be interpreted as threat or opportunity instead, depending on the company's position relative to the most important competitors.

SWOT analysis is to match strengths and weaknesses with opportunities and threats, it will be used to identify if the company strength protects it against threats and facilitate to take advantage of opportunities or if the weakness makes it vulnerable to threats or make it hard to take advantage of opportunities.

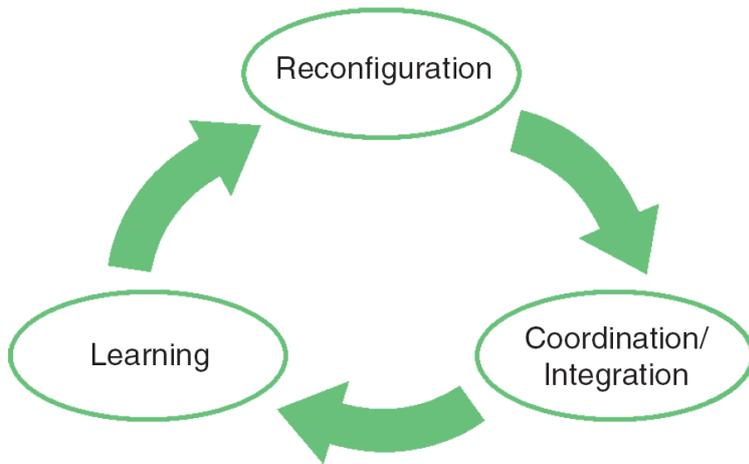
3. Strategy versus internal resources.

In the last step, relations between the strategy and the internal resources are examined. This part is especially relevant on the condition that the company strategy needs to be changed. The main work is to identify if the company strengths are good enough to realize the strategy and if the weaknesses make it hard to realize the strategy and further, what kind of resources and capabilities must be required, improved or added to overcome these weaknesses etc.

If a company lacks the necessary resources to realize a certain strategy, it must choose between:

- Developing the required resources and competencies
- Changing the strategy.

Appendix 15. Interrelationship among the Core Processes in Dynamic Capabilities



Source: Govind Menon, Adwaita (2008) Revisiting Dynamic Capability, *IMB Management Review* Mar2008, Vol. 20 Issue 1, pp22-33.

Appendix 16. Standard and Optional Services

Definition		
Standard	Order Planning & Execution	Planning, executing, and managing orders to move units via ocean, short sea, rail, road or through a technical service center or terminal. This service covers managing the full process from order creation to completion.
	Event Management	Initiating preventive and corrective actions to resolve issues affecting the progress of units from factory to dealer. This service is a component of Order Planning & Execution and is sold when a customer wants only management of a piece of a process or the entire process but not planning and execution.
	Tracking	Providing status and location information of units through multiple search criteria in a web-based application.
	Performance Reporting	Producing metric measurements, reports, and scorecards to track process and supplier output to drive continuous operational improvement.
Optional	Claims Management	Recording, processing, and settlement of claims for damaged or delayed units.
	Network	Constructing and/or analyzing manufacturer supply chain models to identify design and reengineering opportunities for

Optimization	improved efficiency.
Procurement & Contracting	Developing and executing purchasing tender and contract processes on behalf of manufacturers
Payment Administration	Initiating and auditing the flow of financial (invoice and payment) information on behalf of manufacturers.

Source: Company information

Process Management

This service includes the planning, executing, and monitoring of operational activities and events, including network optimization, from factory to dealer. It consists of four main components.

➤ ***Order planning & execution***

WWL in charge of planning, executing, and managing orders to move units via ocean, short sea, rail, road, or through a technical service center or terminal. This service covers managing the full process from order creation to completion. The process of this service is the same for WWL and non-WWL shipment and production orders, mainly involving planning, booking, order issuing, and follow-up service. The value of this service is to reduce the long lead times and high delivery costs by decreasing order processing time optimizing the full process from order creation to completion.

➤ ***Event Management***

It is a component of the order planning & execution service, affiliated by the WWL's five main products. In the event management service, WWL initiate preventive and corrective actions to resolve issues affecting the progress of units from factory to dealer. It is to serve the customers who want only management of a piece of a process or the entire process except order planning & execution. The function is to set an 'alarm' in an event to prevent a potential problem, then monitor and execute response to the 'alarm' to avoid or reduce the loss, such as change of destination management, delayed arrival notification, delivery notification, inventory or storage monitoring etc. The purpose of this service is to increase on-time delivery, decrease delivery time/unit, cost/unit, and storage or inventory.

➤ ***Claims Management***

This service includes record damages and record, settle, recover, and follow-up claims for damaged units. However it does not include developing survey standards or managing inspection provider performance. The scope of the service is to handle all claims on the whole chain all the way from factory to dealer.

This service consists of a process from record the damages submitted by LSPs to follow-up not yet paid recoveries and reports the performance. WWL is responsible for recording the claims made by any supply chain stakeholder (e.g. a cargo owner), then settle and recovery the claims with the responsible party.

The purpose of this service is to increase customer satisfaction and supplier accountability, meanwhile decrease claims recovery time as well as claims outstanding recoveries. The risks involved in this service are missing damage notifications, claims settlement non-payment, and the repair cost control.

➤ ***Network Optimization***

This service is to develop and execute purchasing tender and contract processes on behalf of manufacturers. It is an exclusive service if manufacturers have already selected provider or want to contract directly with providers. During the procurement process, WWL selects the right suppliers for customers by the agreed criteria and suitable scoring method. In the contracting process, WWL draft, negotiate, and sign the contract according to delegation of authority and global/regional policies, so that the responsible line managers can take over the contract management from WWL at the end. In general, WWL construct and/or analyzing manufacturer supply chain models to identify design and reengineering opportunities for improved efficiency. The function of this service is to decrease supplier cost and improve their performance.

Visibility & Reporting

It involves management of the order information to report unit status and location, measurement of process and supplier efficiency, and control activity and event exceptions. This service composes of tracking and performance reporting.

➤ ***Tracking***

With this service, the clients can get status and location information of units through multiple search criteria in a web-based application. The clients can track and trace their cargo in the whole supply chain. The search criterion which is based on the desired output is settled according to customer's requirement. After the execution of the search criteria, the results match the desired output will be verified, and customer can drill further into the results to find specific information about individual records.

➤ ***Performance reporting***

The function of this service is to produce metric measurements, reports, and scorecards to track process and supplier output to drive continuous operational improvement. This can be used in performance management; by using scorecards, dashboards and KPI in order to keep the high quality and consistent of the process. Once the report has been created, WWL is responsible for testing and auditing the report utilization periodically to assure the accuracy. The value of this service is to decrease report total, increasing report/data availability and accuracy, as well as supplier performance. The risks exist in the collected data accuracy and timeliness.

Supplier Management

This service is about planning, coordination, and monitoring of suppliers and vendors responsible for processes from factory to dealer, involving two components, namely, procurement & contracting, and payment administration.

➤ ***Procurement and Contracting***

This service involves developing and executing purchasing tender and contract processes on behalf of manufacturers. This is a type of forwarding activity in which a third party is contracted to perform a service. This is not only limited to transport but could also be that a supplier is contracted to perform a technical service at one of WWL's service centers.

The procurement process can be described as establishing quote criteria and scoring method, identify potential suppliers, collecting supplier quotes, evaluation of suppliers and final supplier selection. The contracting process is a little different, mainly involving contract drafting, negotiation of terms with suppliers, contract signing of final agreement, the contract has to be registered and filled according to global and regional policies, handover to responsible line managers. The purpose of these services is to decrease supplier costs and increase supplier performance. This however assumes that WWL is able to find a better supplier to a lower total cost than the manufacturer would do otherwise. This depends partly on WWL's ability to negotiate.

➤ ***Payment Administration***

This service involves initiating and auditing the flow of financial (invoice and payment) information on behalf of manufacturers. To give an example it could be dealing with freight auditing and approval of payments. WWL is in charge of establishing rate and payment parameters according to the supplier agreements. Once the service has been completed, the payment request from the supplier would be sent to WWL who is responsible for verify the charge submitted by the provider against rates & payment parameters. WWL can reject or approve the payment request depending on the outcome of the verification in the previous step. At the end, the payment process is initiated, or if the payment was not approved, then the advice of rejection based upon payment rejection shall be provided. The value of this service is to decrease freight costs, administrative costs, as well as freight payment time per load for the customers.

Appendix 17. Article 81 and 82 of the EC Treaty

Treaty establishing the European Community (Nice consolidated version)

Part Three: Community policies

Title VI: Common rules on competition, taxation and approximation of laws

Chapter 1: Rules on competition

Section 1: Rules applying to undertakings

Article 81

Article 85 - EC Treaty (Maastricht consolidated version)

Article 85 - EEC Treaty

Article 81

1. The following shall be prohibited as incompatible with the common market: all agreements between undertakings, decisions by associations of undertakings and concerted

practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market, and in particular those which:

- (a) directly or indirectly fix purchase or selling prices or any other trading conditions;
- (b) limit or control production, markets, technical development, or investment;
- (c) share markets or sources of supply;
- (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
- (e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.

2. Any agreements or decisions prohibited pursuant to this article shall be automatically void.

3. The provisions of paragraph 1 may, however, be declared inapplicable in the case of:

- any agreement or category of agreements between undertakings,
- any decision or category of decisions by associations of undertakings,
- any concerted practice or category of concerted practices,

which contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit, and which does not:

- (a) impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives;
- (b) afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.

Article 82

Treaty establishing the European Community (Nice consolidated version)

Part Three: Community policies

Title VI: Common rules on competition, taxation and approximation of laws

Chapter 1: Rules on competition

Section 1: Rules applying to undertakings

Article 82

Article 86 - EC Treaty (Maastricht consolidated version)

Article 86 - EEC Treaty

Article 82

Any abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be prohibited as incompatible with the common market in so far as it may affect trade between Member States.

Such abuse may, in particular, consist in:

- (a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;
- (b) limiting production, markets or technical development to the prejudice of consumers;

(c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;

(d) making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.

Appendix 18. US antitrust laws¹⁵³

Sherman Act Section 1

Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal. Every person who shall make any contract or engage in any combination or conspiracy hereby declared to be illegal shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine not exceeding \$100,000,000 if a corporation, or, if any other person, \$1,000,000, or by imprisonment not exceeding 10 years, or by both said punishments, in the discretion of the court.

Sherman Act Section 2

Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine not exceeding \$100,000,000 if a corporation, or, if any other person, \$1,000,000, or by imprisonment not exceeding 10 years, or by both said punishments, in the discretion of the court.

The Shipping Act of 1984

This document is considered to be too long to fit within this thesis. The document can however be found at this URL (accessed 2008-03-11):

<http://www.fmc.gov/about/ShippingAct.asp?PRINT=Y>

Appendix 19. Hardcore restrictions

There are five hardcore restrictions that lead to the abolishment of the exemption even if the markets share is under 30%. These restrictions are considered too serious that they are always prohibited. The restrictions are the following:

- Resale Price Maintenance – supplier is not allowed a supplier is not allowed to fix the price at which distributors can resell his products
- Market Partitioning by Territory or by Customer - restrictions concerning the territory into which or the customers to whom the buyer may sell.

¹⁵³ (accessed 2008-03-11) *Statutory Provisions and Guidelines of the Antitrust Division* URL: http://www.usdoj.gov/atr/public/divisionmanual/chapter2.htm#_1_2

- Selective Distribution – Both restriction three and four are concerned with this matter. Firstly selected distributors cannot be restricted to whom they may sell. Secondly the distributors must remain free to sell or purchase the goods to or from other appointed distributors within the network. This means that distributors cannot be forced to purchase the contract goods exclusively from the supplier
- Restricted Access to Spare parts - prevent or restrict end users, independent repairers and service providers from obtaining spare parts directly from the manufacturer of the spare parts.

Appendix 20. SCM Product guidelines - Ocean Transportation Compliance Considerations

1. Does the SCM-opportunity cover ocean trades where WWL/EUKOR is currently active or planning to be active in short/medium term (i.e. does the opportunity include port pairs between which WWL/EUKOR have/will have a service)?
 - No - no further compliance assessment necessary.
 - Yes - further compliance assessment required
2. Does the SCM-opportunity cover WWL/EUKOR cargo segments?
 - No - no further compliance assessment necessary
 - Yes - further compliance assessment required
3. Does the SCM-opportunity entail that WWL will have access to/negotiate non-WWL freight rates?
 - No - no further compliance assessment necessary
 - Yes - further compliance assessment required

If further assessment is required then the legal department should be consulted to see if there is possibilities further develop the opportunity.

Appendix 21. Examples of Record Sheet for Developing KPIs

<u>Steps</u>	<u>Explanation</u>
Title	Supporting assets
Purpose	Measure the use of supporting assets

Strategic Goal	Put focus on the right strategic assets
Target	Defined level of performance to be achieved and a stated time for when it is supposed to be achieved
Formula	Utilization of assets, ROI, throughput, percentage of own asset usage The ratio of actual output to the output that could be achieved if a the asset was used to its maximum capacity for 365 days per year. Asset Utilization = (actual output / maximum capacity) *100
Frequency of measurements	Depending on the importance of the measurement and available data
Responsible for measuring	Responsibility for acquiring data and reporting
Source of Data	Routines for data collection from a reliable and consistent source
Responsible to React on the Data	A person that is responsible for taking actions based on the data
How to React on the Data	If the asset utilization is below a certain predefined limit then an investigation of the reason should conducted, a similar investigation should also be done of the assets are close to 100%. Questions that are relevant to ask is, "do we need this assets" and "should we invest in more assets"

Appendix 22. Questionnaire for LSPs with Cover Letter

Questionnaire

Logistic Service Providers Survey: Concerning the Advantages and Disadvantages of Third Party Logistics Providers with Assets and without Assets

Purpose: To obtain information for investigating the advantages and disadvantages of asset-based and non asset-based 3PL service providers.

Main Content: This questionnaire is organized to investigate the advantages and disadvantages of LSPs in order to find out the potential development and challenges that LSPs are facing. In summary, the requested information is focused on the following points:

- Identify customer reasons for choosing LSP services
- Evaluate LSPs' services and strategies to meet customers' needs
- Investigate the scope of services provided by LSPs

These points are highlighted in the survey, along with the appropriate scale (0-10). In order to meet our Master thesis timing, we kindly request your responses by 20th of April, 2009. The more responses we get, the more valid and reliable result can be drawn from our research, which can also benefit the development of LSPs.

Thank you for your cooperation and assistance. Your answers will be kept confidential and none of the information will be connected to individuals.

I. General Company Information

1. Number of employees _____, of which involved in supply chain management _____
2. How long has your company been providing the logistics services?
 - <1 year
 - 1-3 years
 - 3-5 years
 - 5-10 years
 - 10-20 years
 - >20 years
3. What is your geographic coverage for the services you provide?
 - Europe
 - North America
 - Latin/South America
 - Asia
 - Middle East
 - Oceania
 - Africa
4. Which of the following best describes the focus of your business in the international supply chain?
 - Inbound logistics
 - Outbound logistics
 - Others, please explain _____
5. What type of goods do you generally handle?
 - Agricultural products
 - Chemicals
 - Construction equipment
 - Energy and utilities
 - Forest, paper and pulp
 - Livestock
 - Textiles
 - Automotive
 - Computer hardware and software
 - Electronic related products
 - Foodstuffs
 - Industrial machinery and equipment
 - Metals and mining
 - Other _____
6. (1) How do you perceive your company?
 - 3PL with assets
 - 3PL without assets (except perhaps information technology system)
 - None of them, please specify: _____

(Note: If you are a 3PL with assets, please continue with question 5. If not, please go directly to question 6.)

- (2) What are the services you provide based on your own assets?

- Land Ocean Air Warehouse services Terminal services
Extra Value-added Services (e.g. accessory fittings, pre delivery inspection etc.), please specify: _____
Others, please specify: _____

(3) Please indicate the following that impact you when providing logistics and transport services by your own company or contracting other logistics service providers.

- Maximization of usage of your own assets
 Knowing competitors freight rates
 Difficulty in obtaining competitive quotation from other logistics service providers
 Other issues you want to mention:

7. How long is the average duration of the contracts with your customers?

- < 1 year 1-3 years 4-5 years > 5 years

Have you experienced any issue in keeping customers as long as possible/long-term contract? Yes No

If yes, explain:

8. What do you think are the most important reasons for your customers when they choose to outsource logistics services to your company? _____

9. Which performance attributes are the ones you focus on in order to market your strengths? Grade the following parameters on the scale 1-5 (1= not focus at all, 5 = focus the most, not applicable because of no experience)

Circle the appropriate number

Reliability	1	2	3	4	5	<input type="checkbox"/> N/A
Responsiveness	1	2	3	4	5	<input type="checkbox"/> N/A
Agility	1	2	3	4	5	<input type="checkbox"/> N/A
Cost	1	2	3	4	5	<input type="checkbox"/> N/A
Assets	1	2	3	4	5	<input type="checkbox"/> N/A

Others, specify _____

10. What is your company's pricing strategy for supply chain management service for your customers? (We are not interested in specific amounts, just structure of pricing.)

- Cost Plus = [Logistics Cost x % Margin]

Management Fee = [Fixed Amount / Unit]

Bundled Price [= SCM Fee + Other Logistics Fees (One Price)]

Performance Based Pricing [= % x \$Savings]

Others, please specify: _____

11. What do you think are the greatest challenges that logistics service providers are facing now? _____

II. Close-end Questions

Here we want you to rank resources and capabilities regarding the importance and relative strength for your company (indicate on the scale from 0 to 10, you can use decimals).

Explanation of the Scale:

-  **Importance** means the resources and capabilities that are the most important for your logistics company to gain competitive advantage, which is based on the objective of making superior profit that beyond customer preferences. ‘**IMP**’ is used as the abbreviation, standing for ‘Importance’ in the survey.
-  **Relative strength** can be drawn by conducting a self-assessment of your company’s resources and capabilities relative to your competitors. ‘**R.S.**’ is used as the abbreviation, standing for ‘Relative Strength’ in the survey.
-  If you have any comment on the grade, please don’t hesitate to write it down in the ‘Comments’ box.

	Company's Assets, Capabilities and Internal Performance	IMP	R.S.	Comments
A	Transportation assets (land transport)			
B	Transportation assets (ocean transport)			
C	Transportation assets (air transport)			
D	Supporting assets (terminals/warehousing etc.)			
E	Distribution and transport networks			
F	IT assets (IT infrastructure and integration)			
G	Intellectual capital/ Knowledge-based skills/ Knowledge expertise			
H	Continuous investment in R&D, information technology, and project management			
I	Pricing strategy that bring high profitability to company			
J	Contracted Suppliers Management (performance reporting, cooperation and measurement)			
K	Cross-company integration and the capability to design, build and run comprehensive supply chain solutions			
L	Strategic acquisitions/alliances/ mergers that enhance the overall value propositions			
M	Overall supply chain visibility across a variety of platforms			
N	Flexibility and adaptability to market fluctuation			
O	Innovation in the supply chain			
P	Performance measurements that support corporate objectives			
Q	Economies of scale			
R	Economies of scope			
S	Inventory and cycle time reduction			
T	Accuracy/ on time performance			
U	Speed			
V	Reliability			
W	Security/Cargo damage issues			
X	Cost-reduction capability for clients			
Y	Cost –Efficiency of the service			

	Company's Services and the Relation to Customers	IMP	R.S.	Comments
a	Shared common vision aligned with customer expectation/shared incentives			
b	Shared investment with customers/equity holding			
c	Joint planning with customers			
d	Sharing and reducing risks by demarcation of responsibilities			
e	Help customers to focus on their core business and access new markets / Improve customers' competencies in market			
f	One stop shopping service for customers to reduce their number of vendors			
g	Information sharing			
h	Decision support (e.g. by optimization modeling etc.)			
i	Value added services (package, label, assembly etc.)			
j	Deal with special products (e.g. need special handling) and emergency shipments			
k	Responsiveness to the change of customers' needs			
m	Having the same priorities in performance metrics as your customers			
n	Improve space, capacity, and time utilization for customers			
o	Providing competitive prices to customers			
p	Improve productivity for their customers			
q	Providing multi-clients synergies			
r	Meet service-levels commitments			

s	Customer retention and developing long term relationships			
t	Dealing with conflicts of interests between the customer benefits and your company's return on investment (ROI)			
y	Integrity, trustworthiness, and reputation			
z	Pricing strategy that drives company performance towards customers' expectations (high risk sharing, high return)			

Appendix 23. Survey Questionnaire for LSPs' Customers

I. General Company Information

12. Number of employees _____, of which involved in supply chain management _____

13. How long is the average duration of the contracts used with your LSP?

< 1 year 1-3 years 4-5 years > 5 years

14. What are the most important reason for outsourcing your logistics activity?

15. Which performance attributes are the ones you put the most emphasis on when evaluating your LSP? Grade the following parameters on the scale 1-5

(1= not focus at all, 5 = focus the most, not applicable because of no experience)

Circle the appropriate number

Reliability	1	2	3	4	5	<input type="checkbox"/> N/A
Responsiveness	1	2	3	4	5	<input type="checkbox"/> N/A
Agility	1	2	3	4	5	<input type="checkbox"/> N/A
Cost	1	2	3	4	5	<input type="checkbox"/> N/A
Assets	1	2	3	4	5	<input type="checkbox"/> N/A

Others, specify _____

16. What is pricing arrangement do you have with your LSP?

Cost Plus = [Logistics Cost x % Margin]

Management Fee = [Fixed Amount / Unit]

Bundled Price [= SCM Fee + Other Logistics Fees (One Price)]

Performance Based Pricing [= % x \$Savings]

Others, please specify: _____

17. What do you think are the greatest challenges that your company is facing right now? _____

II. Close-end Questions

Here we want you to rank resources and capabilities regarding the importance and relative strength for your company (indicate on the scale from 0 to 10, you can use decimals).

Explanation of the Scale:

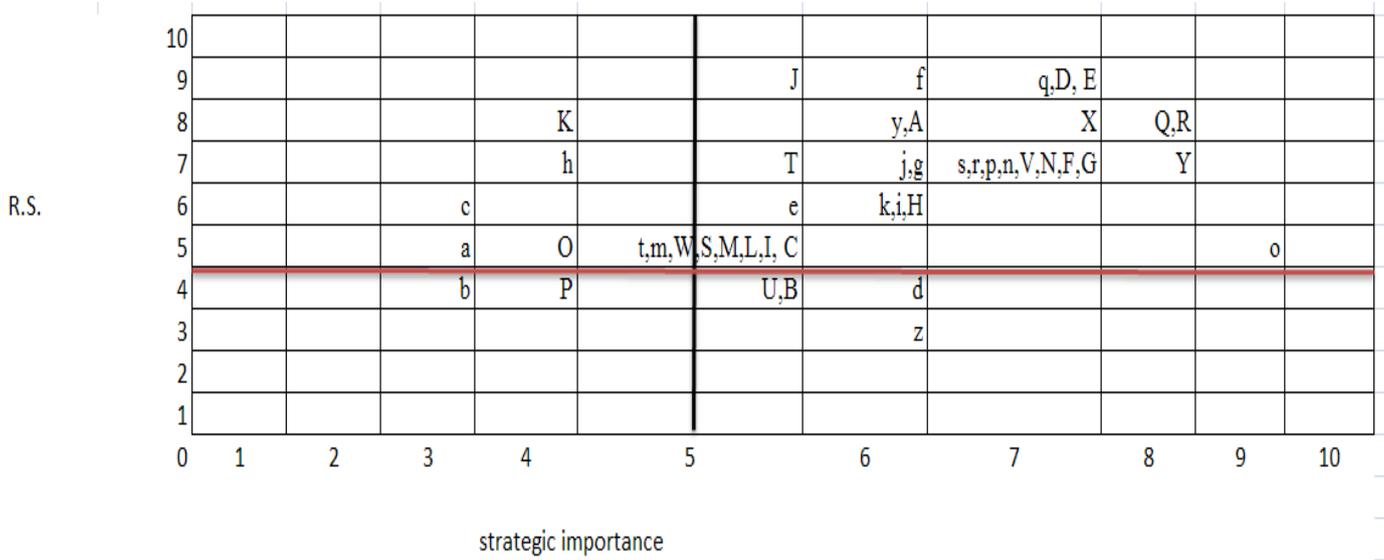
- ✚ **Importance** means the resources and capabilities that are the most important for you to gain competitive advantage. ‘**IMP**’ is used as the abbreviation, standing for ‘Importance’ in the survey.
- ✚ **Relative strength** can be drawn by conducting an evaluation of your LSP’s capabilities relative to your expectation. ‘**R.S**’ is used as the abbreviation, standing for ‘Relative Strength’ in the survey.
- ✚ If you have any comment on the grade, please don’t hesitate to write it down in the ‘Comments’ box.

	LSP’s Performance	IMP	R.S	Comments
A	Inventory and cycle time reduction			
B	Accuracy/ on time performance			
C	Speed			
D	Reliability			
E	Security/Cargo damage issues			
F	Cost-reduction capability for clients			
G	Cost –Efficiency of the service			

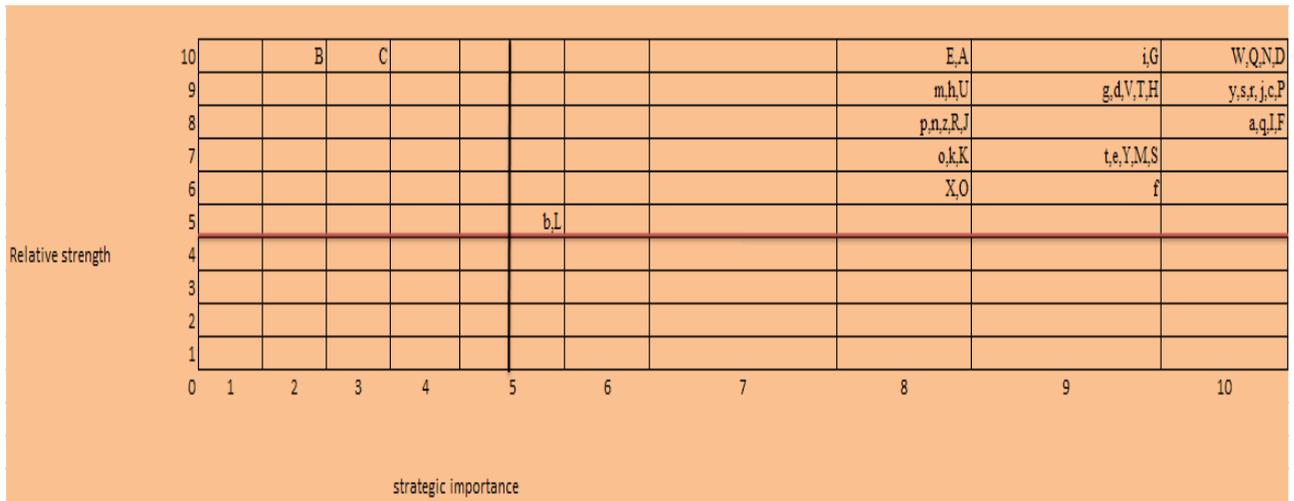
	Your relation to the LSP	IMP	R.S	Comments
a	Joint planning with LSP			
b	Sharing and reducing risks by demarcation of responsibilities			
c	Help you to focus on your core business			
d	One stop shopping service			
e	Information sharing			
f	Decision support (e.g. by optimization modeling etc.)			
g	Value added services (package, label, assembly etc.)			
h	Deal with special products (e.g. need special handling) and emergency shipments			
i	Responsiveness to the change of your needs			
j	Having the same priorities in performance measurements as your company			
k	Improve space, capacity, and time utilization for you			
m	Providing competitive prices to your company			
n	Improve productivity for your company			
o	Meet service-levels commitments			

Appendix 24. Survey Data Analysis according to the RBV

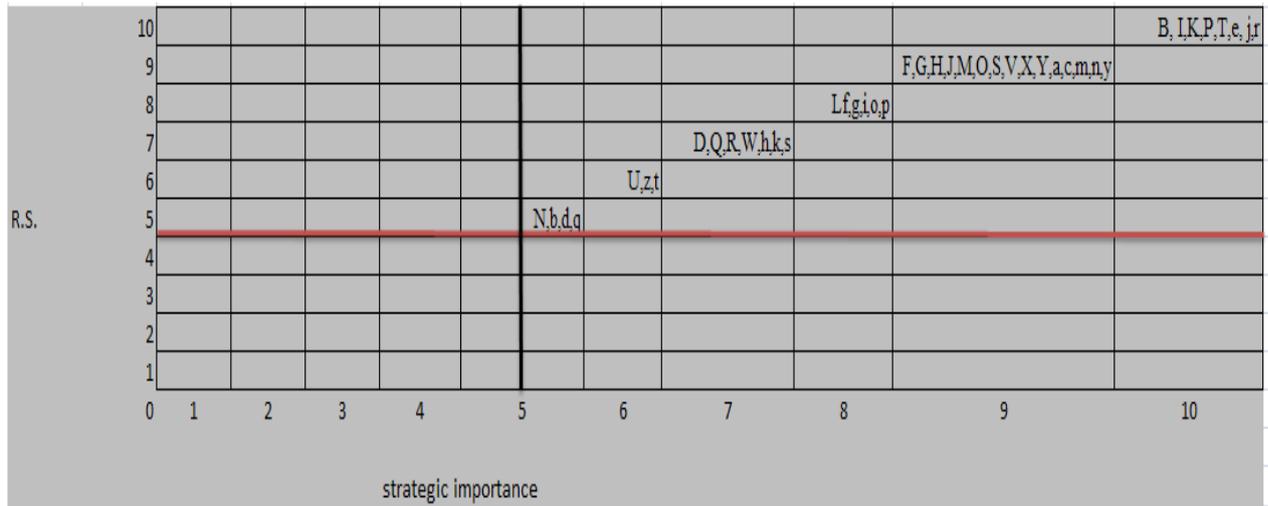
Company A- Asset-based LSP



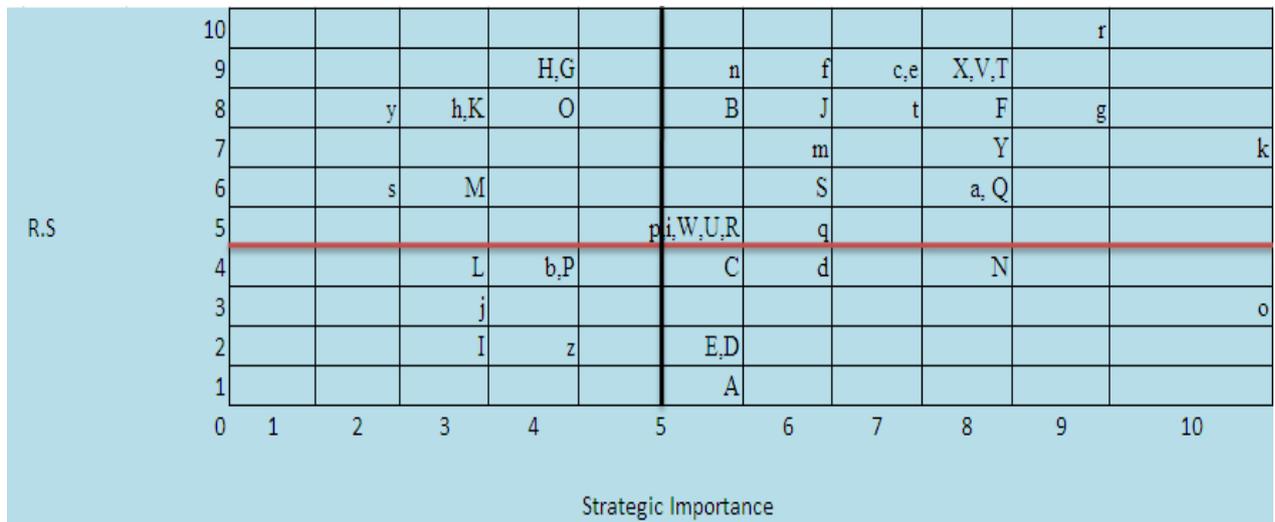
Company B – Asset-based LSP



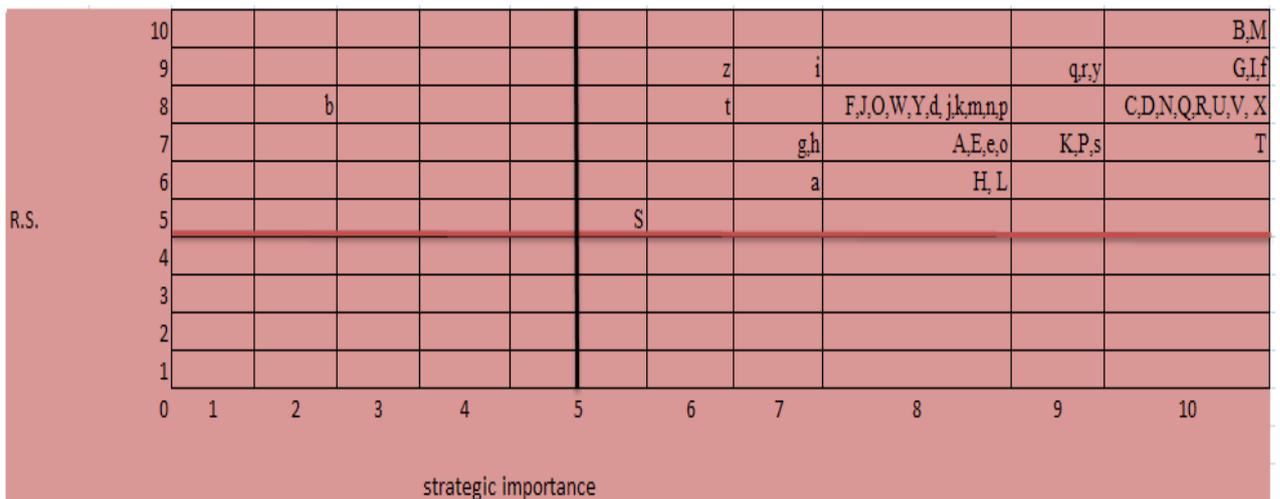
Company C – Asset-Based LSP



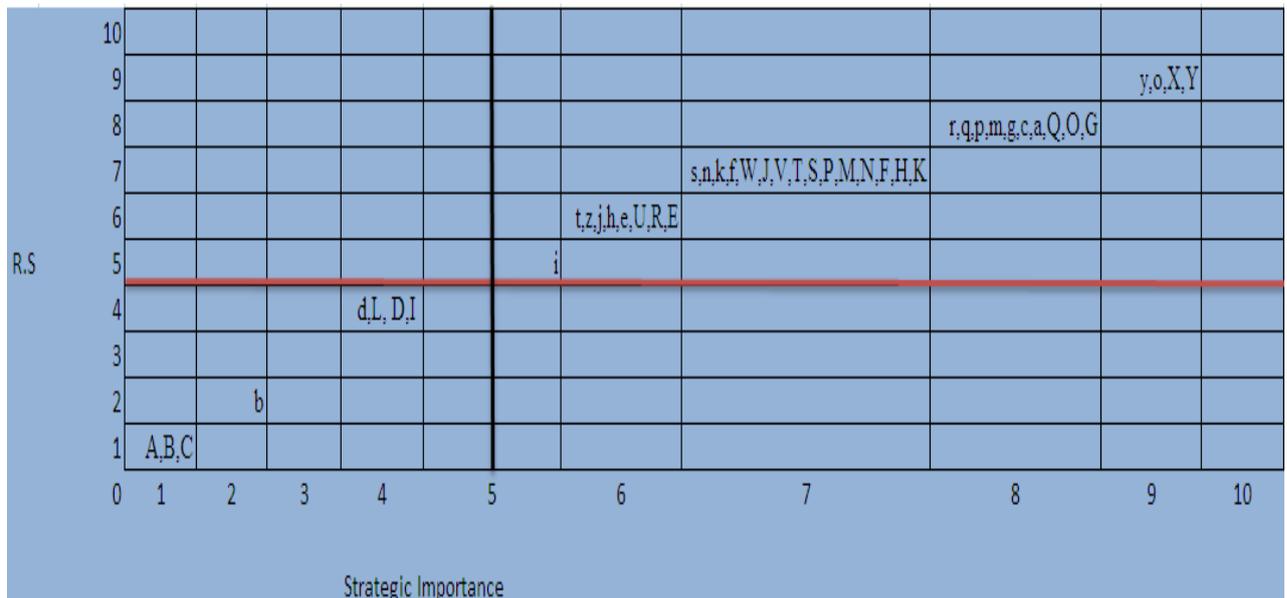
Company D – Asset-based LSP



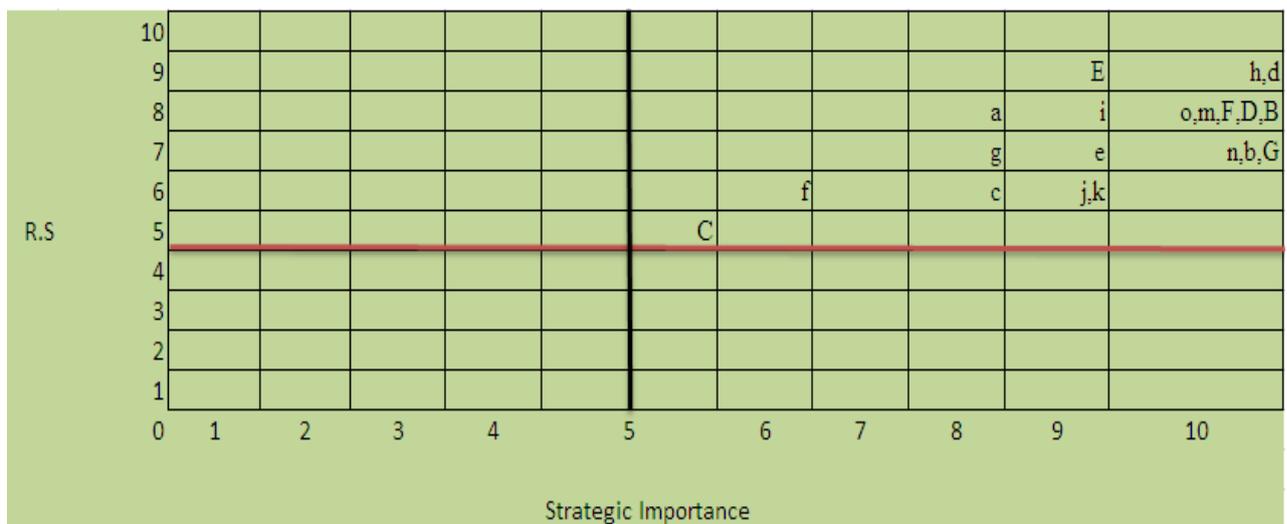
Company E- None Asset-based LSP



Company F- None Asset-based LSP



Company G- Customer for LSPs



Appendix 25. Sample of Interview Questions

SCM

1. WWL has a long history as an ocean carrier. Does WWL intend to develop the SCM as an add-on function to assist ocean division or the objective is to develop the supply chain and freight forwarding services to one of the core competencies of the company in the future? What is your long term corporate objective?
2. What are the most important parameters that customers look into when they choose your services?
3. What are your strengths and your weaknesses in SCM?
4. What is the biggest hindrance to the development of the SCM?

5. There are two main strategies to realize the goal of SCM to grow, one is to retain current customers, the other is to develop the SCM to seek for new customers and market. Which one do you think is the most suitable for WWL in the short and long term respectively? Do you want to diversify your SCM services or stay focused?
6. Does the top and middle management support the strategy of separating SCM as an independent legal entity?
7. What are the greatest advantages and disadvantages in keeping SCM within WWL?
8. How do you perceive the restrictions in developing new business model of SCM and wider accessibility in the logistics and freight forwarding market?
9. Do you think that your pricing strategy is strength to your company? Do you think that your company is competitive in providing cost reductions and cost-efficiency services for clients?
10. Would you consider your company as both 3PL and 4PL player in the market?
11. Which logistics activities do you outsource, to which extent? When you contract your suppliers, do you contract mostly haulers? or 3PLs/4PLs? which LSP do you cooperate the most?
12. What are the KPIs that you measure?

Market and Customers

1. Who are your competitors from WWL's SCM perspective?
2. How competitive is WWL's SCM in the logistics and freight forwarding market comparing with the competitors?
3. Since WWL is a leader in the Ro-Ro shipping industry, can you foresee the customers' demands for the combined Ro-Ro shipping and SCM service?
4. How does this crisis affect the market and customer demand for both Ro-Ro shipping and the SCM from WWL's perspective? What are the current tendencies that you can see are going on in the Ro-Ro shipping and SCM business right now?
5. We are investigating asset-based vs. non asset-based. To your experience, is this something that is important for the customers? When comparing having assets with having neutral image, which one is more important for customers and WWL respectively?
6. Do new customers care about whether a LSP is neutral or not when they select the services?
7. Have you faced difficulties in quoting competitive price from competitors?
8. Could you foresee any change in your customers' needs and demands over the next years?
9. How do you perceive the cooperation and competition between asset-based and non asset-based logistics service providers?
10. Have your supply chain management solutions ever been questioned by your customers for maximizing the use of your own assets?
11. Since WWL only provide SCM services for the outbound part, do you feel pressure from those logistics service providers that can manage the whole chain for customers? How often is WWL contracted by other LSPs?

12. Do you think that the customer demands for one stop shopping will increase or they would only use limited services from WWL?
13. How integrated you are with customers?

Legal

1. How does the information sharing system work in WWL? Have you already set up operational guidelines for preventing information sharing between SCM and the rest of the divisions?
2. According to your current guidelines (see Appendix 1), to which extent do they protect WWL from legal consequences?
3. How would the organization need to be changed in order to avoid the legal restrictions? What are the pros and cons in the long term perspective?
4. Can WWL grow the current freight forwarding SCM operation by following clear-cut operational guidelines? How would it affect the legal situation and what are the foreseeable consequences in the long run?
5. If WWL were to separate SCM into a separated legal entity, how would that impact the legal restrictions?
6. Referring to the space chartering agreements in the EU, there are exemptions that allow for closer cooperation.
7. How does WWL deal with space charter agreement when it is not under the ad hoc condition?
8. What are the differences compared to US legislation?
9. From a legal perspective, it is sensitive to engage customers in exclusive long term contracts. Is there any limit to how long a contract is allowed to be within SCM and Ocean transportation respectively? If SCM was a separated legal entity from WWL, does it affect the exclusive long term contract restriction?
10. What are the impacts for handling the SCM operation regarding the differences between the terminology 'dominant position' (EU) and 'monopoly' (US) respectively? For example in US, controlling 70% of the market share is regarded as monopoly, whereas in EU, holding 40% of the market share is regarded as dominant position. How does this affect WWL operation in the trade between US and EU?

11. WWL handles containerized cargo as a forwarding service (or perhaps also transport containerized cargo on WWL vessels?). Does the consortia regulation (823/2000) Exemption for liner chiefly by container have any effect on WWL's containerized cargo operation?