4PL, JUST A NEW NAME FOR 3PL?

A study of the definitions describing Logistic Service Providers of today

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ABSTRACT

Title
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Background
Today there exists a number of different definitions of companies that provide outsourced services of conceptual or integrated logistics. The definitions are quite ambiguous and there are no real guidelines on how to use the definitions. The main definitions of focus in this thesis are Third Party Logistics (3PL or TPL) and Fourth Party Logistics (4PL).

Purpose
The purpose of this thesis is to give an overview of how the concepts 3PL and 4PL are defined and interpreted, in theory and practice, by actors on the market for logistic services.

Method
Scientific perspectives are based on primarily technical literature and articles. Out of these the approach has been a deductive one, and a mainly qualitative analysis have been performed.

Conclusions
1: Fourth party logistics compared to Third party logistics is a quite confusing definition since the logistic service provider always is a third party in a buyer-seller relationship. Fourth party logistics from a theoretical point of view is not a valid definition.
2: 4PL is a legit name for a logistics concept that describes an outsourced logistical concept that takes a fully holistic approach to its customers logistical process.

Key words
3PL, 4PL, Third party logistics, Fourth party logistics, Logistics service provider, TPL, Logistics Integrator, Supply Chain Management, Outsourcing.
PREFACE

A great deal of time has past since I first set out to write this thesis. The project that was supposed to be subject for my master thesis at Frigoscandia Distribution was put on hold, and instead I started to work full time with other company projects. About a year and a half ago I decided to shift focus and instead complete a theoretical study with the subject it now has.

Completing this thesis and at the same time working with a full time job has been a challenge, and not very easy. But it has also given me much input to my work in a business where there is not much attention on logistical theories in the everyday operations.

I would like to thank all the people who have supported me in the process and pushed me to finish this thesis. My greatest thanks goes to my father Georg, who with his constant reminders has helped me to keep a certain paste through the whole process of producing this paper.

Furthermore I would like to thank my instructor Ulf Paulsson for taking time to review my material at the sporadic and irregular times of appearance. He has been of much help in finding a good way of tackling the subject. Also thanks to the interviewees Mats Johnson, Matthias Kettelhoit, Anders Mårtensson, Thomas Lundquist, and Tommy Paulsson who all have given me some of their time to bring clarity to the definitions studied. And thanks to my boss, Patrik Johnfors, for giving me time off to write.

During my work I have had much input and feedback from a great friend and classmate, Markus Munck af Rosenschöld. Especially when it comes to the methodology of the thesis, where his input and help was crucial in the process.

Finally I would like to thank Ann and my son Oscar for putting up with me being absent minded so many nights and weekends. You are my greatest source of inspiration in finishing this thesis.

Göteborg, May 12th 2003

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1 INTRODUCTION

This chapter begins with a presentation of the background of the problem area followed by a problem description. The purpose of the thesis is described and the focus and demarcations are set.

1.1 Background

1.1.1 The Development of the Logistics Concept

CLM (Council of Logistics Management) describe logistics as:
“Logistics is that part of the supply chain process that plans, implements, and controls the efficient, effective forward and reverse flow of goods and storage of goods, services and, related information between the point of origin and the point of consumption in order to meet customers’ requirements”.¹

As competitive context of business continues to change and bring new complexity to management, it also has to be recognized that the impact logistics is considerable. Also does factors like globalization, a demand on increased efficiency and increased customer service mean that companies need to recognize different ways of working to be able to cope. More companies are also becoming more aware of the effect that logistical related issues can have on the bottom line result, and therefore making it a higher priority.

In the process of becoming more effective and efficient there has also been a development towards involving customers and suppliers in the logistical planning process, a form of integration between channel companies that has received the name Supply Chain Management (SCM). SCM is often seen as managing the integrated process, where it’s ultimate scope covers the integration from the manufacturer of the most basic component to the end consumer. The Supply Chain Manager has grown in importance in the operation.

Basic logistic services and functions like Transport, Storage and Distribution have developed through a market need that is based on that production and consumption often happen at different places and at different times. A factor like globalization (mentioned above) has increased the distance between production and consumption which shows that there is an increased demand for logistical co-ordination.

1.1.2 Outsourcing of Logistical Functions

As the importance of controlling the logistic processes has grown among companies, so has the awareness that all logistical processes may not be considered as core business or competence. In an increasingly competitive market a single company often has to focus very hard on its main business to be able to keep a market position. A manufacturing company

may have gained its leading position developing a lean production process, superior marketing or great product development skills.

A great deal of companies does outsource one or more functions within its operation to be able to concentrate on its core competencies and go gain other advantages. Outsourcing does exist in many different forms and in all types of activities. Common activities that are outsourced are e.g. renting office space instead of owning the building, have an agent represent a company/brand on different markets instead of opening a branch office, and so on.

When it comes to logistics most activities have traditionally been kept in-house. But a change in that behavior is happening as some companies see the benefits in outsourcing them. Common reasons to outsourcing logistical functions are: to focus on core business (as mentioned above), cutting costs, avoiding capital expenditures, dealing with lack of scale and acquiring talent and expertise, to mention a few.\(^2\)

1.1.3 The Development into Third Party Logistics

As more non-core activities come under the loop at companies, a common type of outsourcing has become the use of Third-Party Logistics Providers.

The development of the Third-Party Logistics segment has mainly happened during the last 15 to 20 years.\(^3\) The Third-Party Logistics Providers does often come from businesses related to services with transport, warehousing and forwarding.

Two parts, Third Party and Logistics make up the definition Third-Party Logistics. Third party often doesn’t inflict any problems, since the word itself states that the company acts as a third party in a buyer-seller relationship. The third party helps out in the transaction, but doesn’t take any title to the goods related in the transaction. The word logistics often creates more problems since the definitions can vary from being the single services e.g. transport to a complex and integrated process depending on whom you speak with. But most research do point towards logistics being the integrated process (like the definition in 1.1.1), and therefore Third-Party Logistics is seen as being various logistic services connected together and managed by one provider.

The companies entering into the Third-Party Logistics segment have a majority done it by extending their portfolio of services to meet the requirements of the customer. As customers want to outsource more of their activities, they more and more tend to look for one company to outsource to, so called ‘one stop shop’. This has driven the development of Third-Party Logistics providers.

1.1.4 4PL, a “New” Concept among Logistics Service-Providers

In 1996, Bob Evans first coined the expression 4PL (Fourth-Party Logistics)\(^4\)\(^5\). Bob Evans being an Accenture consultant whose colleagues often refer to his expression as “the evolution of supply chain outsourcing”\(^6\).

\(^2\) tips@logfac.com – 14 Feb 2002
\(^3\) Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers
\(^4\) Bedeman (2001)
\(^5\) 4PL and Fourth-Party Logistics are both trademarks registered by Accenture. This is noted only here, and will be valid for the rest of this thesis.
A 4PL is often referred to as a Logistics Service Provider but with a broader scope of services than other definitions within the logistics segment. The people promoting 4PL speak of a new and “higher” dimension of logistics outsourcing. The business trends point (among others) towards companies trying to achieve a more holistic view on supply chain operations, focusing on core business, increasing service, efficiency and financial flexibility, all through strategic outsourcing of certain activities and re-engineering of business processes. The 4PL concept is said to be a type of operation that can better support these new demands.

In the eyes of its founders, 4PL reaches beyond the limits of existing concepts on the market, these existing concepts being the more “traditional” Third-Party Logistics providers. The definitions are many, but in more simple terms the 4PL is often described as being a company that on behalf of a client efficiently can develop and operate a network of Third-Party Logistics providers and other companies, to operate and manage a total supply chain.

1.2 Discussion about and presentation of the problem

1.2.1 Ambiguous Definitions

Within the segment of logistics service providers the definitions are many. The segment itself is fast growing and new constellations and business formations are occurring frequently. Since a fast growing segment is profitable to most companies active in it, they tend to serve a variety of customers with different needs and different set-ups. This does secondarily create a wide variety of solutions and each with their own terminology.

The two previously mentioned definitions are good examples. Third-Party Logistics have many different names and meanings as well as Fourth-Party Logistics. Third-Party Logistics are many times written as 3PL and also as TPL. Equally is the abbreviation 4PL mostly used for Fourth-Party Logistics. The Third-Party Logistics provider can be abbreviated with TPLP and 3PL providers or even with ‘service providers’ at the end any many times only with 3PL. The short names are fairly easy to deal with, but the implications of these definitions vary even more.

As described in sections 1.1.3 and 1.1.4, Third-Party Logistics has been an expression dealt with since the early 1980’s and 4PL since 1996. To some 4PL has come as a natural step in the evolution of the logistic service provider, taking over were the Third-Party Logistics Provider couldn’t develop any more. Others say that the services described to be a part of the 4PL’s portfolio are well covered by the definition of Third-Party Logistics.

Even if 4PL and 3PL are today’s most frequently used expressions, there are many others as well: Logistics Service Provider (LSP), Lead Logistic Provider (LLP), Logistic Alliance,
Logistic Partnership, Logistics Integrator and many more are part of the logistics name-portfolio.

The industry providing outsourced and integrated logistic services is clearly entering a segmentation state\textsuperscript{11}. Moving along the generic industry lifecycle, the next stages for the industry will be shakeout and maturity, and the competition will become considerably harsher. In a tougher climate strategic focus becomes even more important, and the companies that in an early stage have recognized its uniqueness will be most suited to survive\textsuperscript{12}.

Definitions describing different segmentations within the industry have started to be formed and have gained more or less acceptance within the logistics and research communities. The definitions Third-Party Logistics and Fourth-Party Logistics are the most frequently used and will be the main subjects of this thesis.

\subsection*{1.2.2 Research Questions}

The problem of ambiguous definitions leads to that the base of this study has to try answering the following questions:

\begin{itemize}
\item What is the difference between third party logistics and fourth party logistics?
\item Is 4PL a legitimate and valid definition?
\end{itemize}

\subsection*{1.3 Purpose}

The purpose of this thesis is:

\begin{itemize}
\item To give an overview of how the concepts 3PL and 4PL are defined and interpreted, in theory and practice, by actors on the market for logistic services.
\end{itemize}

\subsection*{1.4 Target Group}

The thesis is targeted towards people studying logistics and/or any subject related to the segment of logistics service providers, logistics outsourcing or strategic alliances, and who need guidance in the terminology within the business.

It is also target towards people within the logistics business community for the same reasons and also to add to the ongoing discussions.

\subsection*{1.5 Focus and Demarcations}

This Thesis mainly focuses on looking at the above topics and problems out of the logistics provider’s perspective. The angles of the buyer of logistics services does play a big part in the research, but is not of main focus.

\textsuperscript{11} Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers
\textsuperscript{12} Porter (1996)
The study will also not go deep into areas as financing and IT/IS related structures. Instead the focus will be on those topics that are directly related to logistics operation.

1.5.1 Description of the definition Logistic Services Provider
Trough out the thesis I will use the definition Logistic Service Provider to cover all types of providers acting within the segment. Everything from a simple transport company to a fully integrated Supply Chain Management company. Logistic Service Provider may be defined differently by others, but since I from time to time have a need of describing a company anywhere within the segment, it will here have a general meaning.

1.6 Disposition of the Thesis

1. Introduction
This chapter presents the background and analysis of the problem. It also defines a purpose for the thesis and states target group, and focus and demarcations.

2. Method
Method on how the thesis has been prepared and performed.

3. A Model for Description and Analysis
A model for analysis is build by comparing theories of logistics development, supply chain management and outsourcing.

4. Characterizing different types of Logistic Service Providers
This chapter is used to fill the gaps of the model presented in chapter 3. This analysis will be used to categorize the definitions studied.

5. Provider and Definition Analysis
The findings of the previous chapter will be used of define the difference between the two definitions.

6. The use of 4PL on the market
An empiric study on how a few different companies on the market view and uses the 4PL concept.

7. 4PL, just a new name for 3PL?
This chapter will be used to compare the definitions and expressions used in the study to the actual usage by companies of today, that provide conceptual logistical solutions.

8. Conclusions and Final Remarks
The final conclusions of the thesis and its findings

9. Index

10. References
2 Method

This chapter describes how the study was performed and how it actually turned out to be. First of all the chapter briefly goes through the scientific norms that have to be met in the thesis and what therefore should be taken extra amount of care when performing. After this the approach to the problem is described in general terms in with respect to the perspective chosen and the methods used. Criticism to the methods used and the collection of information is presented as well as alternative methodical approaches.

2.1 Different methodical theories

Research and development both aim at producing new knowledge. The difference between them is that research has to be scientifically based and development doesn’t. Research has a theory or a model as a starting point and the research also commits to theories. This implies that the researcher has to live up to the norms of the scientific society, which the developer doesn’t have to meet. Therefore it is possible to see the method as a helping tool when developing science.13

The two fundamentally different scientific branches are positivism and hermeneutic view:

2.1.1 Positivism

Knowledge that is positive and developing for humanity is called to be positive. This view was laid forward in mid 19th century by the French sociologist Comte14.

Taking its starting point in physics, positivism holds to create a scientific method that is the same for all sciences. The knowledge and what we seek to explore has to be accessible to our senses. That is it has to be able to be measured and verified. Furthermore observations of the knowledge have to be logically sound.

Positivistic devotees want a super theory that encompasses the entire field of knowledge in one super-theory, much like the natural science approach that exists today and has developed over the last three centuries.

2.1.2 Hermeneutic view

The other branch, which is the opposite of positivism, is hermeneutic. The meaning of hermeneutic is the “knowledge of interpreting”. It should be clear that positivism is about measuring what is verifiable and hermeneutic is more about coming to conclusions from observations.

The starting point of hermeneutic is to study, interpret and understand the grounds of human existence. Hermeneutic was during the 15th and 16th centuries a way of interpreting holy text or texts from the Bible. This method developed into understanding texts in general. Here it

13 Wallén (1996)
14 Patel & Davidson (1994)
should also be pointed out that positivism was a reaction against hermeneutic as natural sciences grew strong during the 19th century\textsuperscript{15}.

No special theory or method is used if hermeneutic view is applied. Modern scientific field mostly in the humanities, cultural and social sciences gain greatly from the hermeneutic view. It is not easy to describe hermeneutic as it is very broad and comes in many shapes. This is a consequence of its non-scientific and laissez faire approach to the environment.

\subsection*{2.1.3 Comparison between positivism and hermeneutic view}

Positivism stands for quantitative, statistical data for analysis, scientific models for explanations and a role for the researcher as being very objective and almost invisible. Hermeneutic stands for qualitative understanding and interpretation of systems and for a role of the researcher as being open, subjective and engaged\textsuperscript{16}.

\section*{2.2 General approach to the problem}

\subsection*{2.2.1 The method in general terms}

This study will be mainly preformed as a theoretical study based on existing literature and other written material. A very general approach is taken to give as much background as possible to later make a comparison with business perception of the discussed topics.

The study is mainly based on existing theories that are put together to conclusions. Therefore this study is seen to be deductive. The opposite of a deductive approach is an inductive one. Inductive means that the research is to describe the reality through empirical testing and from the conclusions form a theory.

The collection and gathering of data can be performed in two different ways: qualitative and quantitative. It is important to know what kind of data the study is to gather in order to pick the most appropriate method. The qualitative approach implies that conclusions are drawn from data, gathered during the study. Usually this data is of the softer type i.e. hard to quantify such as attitudes, values and ideas. The quantitative method is used when the data can be more easily measured and quantified. The quantitative study transforms information into numerical data and it the most common approach in descriptive studies. A study often includes both quantitative and qualitative parts, but one of the approaches is usually used more or the study aims at being either quantitative or qualitative.

The reason for choosing a qualitative research method in this study is the need of a wide variety of data that will give an understanding of the whole logistical process of outsourced logistics and the companies involved in that process. The goal was to gain an understanding of the whole process and not just small parts of it.

\textsuperscript{15} Patel & Davidson (1994)

\textsuperscript{16} Patel & Davidson (1994)
The qualitative method has given the flexibility to cover a wide range of material and adapting the research as the study has been progressing and I have learned more about the subject.

Flexibility, however, is also one of the weaknesses of the qualitative study\textsuperscript{17}. The flexibility and adapted ways of gathering information can also make it somewhat difficult to compare the information obtained. The possibility of changing and adapting the viewpoint and research questions during the research can also lead to problems with different types of information. The last sources reviewed tend to give more relevant information than the first ones, since the researcher has had time to gain more knowledge during the time of the study.

2.2.2 Perspective
As the study is deductive it is very important to have an objective and open approach to the problem. This will improve the chances come up with better models and theories.

The objectiveness of this thesis may of course be questioned since there are few primary sources and that many of the secondary sources are related to the trademark holder to 4PL concept (Accenture)\textsuperscript{18}.

The perspective is from a management point of view as much of the material is of a strategic kind.

2.3 Way of working

2.3.1 Collection of secondary information
The most comprehensive work on this thesis is the collection of secondary information. As a start secondary information was searched for using the databases available at Universites Bibliotekat at Lund University and at Göteborg University. Databases used were \textit{Artiklesök}, \textit{Econlitt}, \textit{Helicon}, \textit{Lolita}, \textit{Guna} and more. When searching the database keywords such as 4PL, 3PL, Third Party Logistics, Fourth Party Logistics, Outsourcing, Logistics, and Supply Chain Management as it was or combined with, for example, logistics, warehousing, retail or transport and forwarding. Many articles were found, but some were of more use than others.

The Internet was also searched for articles and information. The same keywords as in the search described just above were used on the Internet. The information gathered was much harder to grasp as it was extremely comprehensive. Some very interesting home pages about the topics above were found, these websites had links to many other websites and articles on the topic. All websites are included in the list of references.

A lot of the secondary information was received and gathered by my University instructor Ulf Paulsson. Most of the “on target” articles and studies, which I needed, was kindly collected and given to me by him through his connections and archives.

\textsuperscript{17} Holme & Solvang (1997)
\textsuperscript{18} Bedeman (2001)
Most of the secondary information on 4PL is, as mentioned before, mainly from articles written by consultants or journalists specialized in the subject of logistics. The most in depth academically written study the area of the positioning of the third party logistics segment is the Ph.D. thesis by Berglund\(^{19}\), which has led to that much of this thesis is based on his theories. Therefore Berglund has also been the source for the model used to describe and analyze logistic service providers throughout this thesis.

2.3.2 Collection of primary information
As the majority of this thesis is based on theoretical research, there are not many primary sources of information. I have conducted a few interviews with people mostly related to my work at Frigoscandia Distribution AB, but also with senior executives at the case companies in this study. The interviews were all of a general discussion type of interviews, without any interview guide. The second major primary source of information is that I attended a couple of industry seminars very much touching on the subject of third party logistics providers and the development within the business.

2.4 Criticism of the method
In this part I will discuss if the theoretical frame of reference I have chosen to follow is adequate. When secondary and primary information is criticized the following three criteria are used\(^{20}\):

- need for contemporary (timeliness)
- criterion of tendency
- criterion of dependency

After this a discussion of my own study, when it comes to objectivity, reliability and validity, follows.

2.4.1 Criticism of secondary information
The sources and theories on logistics service providers are all fairly new. The third party logistics concept is something that has evolved in the 1990’s and the new concepts like 4PL are only a few years old. Most sources on logistic service provider are so written within the last three or four years.

The same goes for the sources covering outsourcing, logistics, and supply chain management. Almost all sources originate from the later part of the 1990’s. Somewhat older sources may be the ones covering strategic implications or cost analysis (Transaction Cost Analysis and Competitive Advantage). These were subjects that were “hot” topics of the 1980’s and the sources do therefore originate from the same era.

The criterion of tendency means that the opinions and purposes an author has can stamp what is written or said. This is much so in corporate information as the companies try to put forward their situation as positive as possible. Therefore I’ve been extra cautious when

\(^{19}\) Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers

\(^{20}\) Wiedersheim-Paul & Eriksson (1991)
reading secondary information describing the 4PL concept since it is a trademark of the consultant firm Accenture. This hopefully implies that the tendency problem is small.

The third criterion, the criterion of dependency, implies that there might be some interdependencies between two or more sources. That is some of the information comes from the same source although it doesn’t look like it in the first place. The biggest contributor to 4PL concept is, as mentioned before, Accenture and many authors used as sources in this thesis describing the 4PL subject have connections to that consultant. It has been hard not to use these sources since the thesis is about 4PLs compared to 3PLs and other logistic service provider definitions. Short descriptions of other models are to be given, but this will be very briefly. I’m aware that most of the theoretical background comes more or less from one source, directly or indirectly. Having written this shows at least that I am aware of the problem and I am able to take on a critical view.

Also, the academic sources used in this study are very much based on researcher’s material from or with connection to Northern European Universities and are mainly represented by the Ph.D. thesis by Berglund\textsuperscript{21} \textsuperscript{22}, which has led to that much of this thesis is based on his theories. There may so very well be a geographic influence on the terminology evaluated.

\subsection*{2.4.2 Criticism of primary information}

All primary sources are from May of 2002 to April 2003 and where most of them are quite resent. By this I believe that this fulfills the criterion of timeliness to most extent.

When asking the questions during an interview or listening to a lecture there is always a risk that the person presents the subject to benefit the person’s own purposes. All persons considered under primary sources are all well known people within the Swedish logistics community and I doubt that any of them should distort the information they presented. The criterion of tendency is therefore hopefully fulfilled.

The criterion of dependency is most likely fulfilled, since the most presenters at the seminars were connected to one subject for the day and possibility of them discussing the subject or the moderators influence on what was presented is high.

\subsection*{2.4.3 Validity and reliability}

When collecting information, in order to perform a study, two parts must be fulfilled. Firstly the study must have high validity, that is we must make certain that we examine what we set out to examine. Secondly, what we examine must be done with high reliability. Reliability means that the study shall give a reliable and lasting value. Validity and reliability are in some ways connected so no one can be ignored or discarded\textsuperscript{23}.

Three rules of thumb are\textsuperscript{24}:

- High reliability is no guarantee for high validity.
- Low reliability gives low validity.
- Total reliability is a necessity for total validity.

\textsuperscript{21} Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers
\textsuperscript{22} Berglund (2000) - Vem gör vad?
\textsuperscript{23} Bell (1995)
\textsuperscript{24} Bell (1995)
It can usually be assumed that some kind of instrument or apparatus is being used in order to collect the information needed. As far as the natural sciences goes, and for the measurements in this field, data can be collected in an obvious or straightforward manner. Validity comes quite easily. Validity concerns what is measured and if you measure what you intend to measure. To assure validity when studying more hard to catch phenomena there are two ways to do this.

Content validity: Through a logical analysis of the instrument used content validity can be determined. If doing this, the logical analysis, it is necessary to use another person than the inventor of the instrument.

The contemporary validity: This implies that the instrument to be used is set up with some other criterion of what we want to measure. The results can then be compared with what we are set out to measure.

Reliability of our instrument is how well it withstands variations by chance of any kinds. Reliability deals with how something is measured. When measuring we’ll get both the true values and the false ones. To assure that we get high reliability we examine every individual point. More methods are structured or standardized interviews. Two observers can be used at the same time of interviewing. This is called Inter advisor reliability. Or better up, the interview can be stored on tape for audio or visual playback to assure higher reliability.

A Bull’s –Eye = A perfect match

Low reliability and low validity
High reliability and low validity
High reliability and high validity

Figure 2:1 Illustration of relationship between reliability and validity

Validity
The validity of this study should be considered as mediocre. The study is performed in a way that it is very reliant on the sources used for the study. The sources are the once found in the period of time that this master thesis has been performed and may not cover all angles of the problem. Also, the terminology has changed over time and may be the reason for differences between different sources. This study also only involves a minor empirical study and therefore may the actual usage of the expressions and definitions be somewhat different than this study shows.

25 Patel & Davidson (1994)
26 Patel & Davidson (1994)
27 Lundberg & Schönström (2001)
Reliability
When it comes to reliability the study should considered being reliable. Although it is a very complex problem that has been studied the sources used have all been treated carefully to reflect the meanings and intentions of each author. The majority of the sources are written, and it has therefore been easier to go back and double check what is actually written.

This doesn’t mean that the study is false and should be discarded. I have still not found any extensive study trying to sort out how the definitions in the business actually are used and may therefore well be used for future empirical studies in the subject.

2.5 Personal frame of references
The personal frames of references in this thesis are those qualifications and limitation I have as an individual. My collective knowledge, norms and values control these qualifications and limitations.

The knowledge that mostly influences this thesis is based on what I have studied at Lund University, Institute of Technology and Mechanical Engineering with a specialization on logistics and industrial engineering. The other major influence is my working experience from the logistics service providers business as an employee at Frigoscandia Distribution AB in Helsingborg, Sweden and the department of business development. My working experience started two years prior to the finishing of the last parts of my Master of Science degree (this Thesis). Frigoscandia Distribution AB deals with both standard service oriented TPL and more solution oriented (4PL) customer set-ups, greatly influencing my interest in this subject.

The frame of reference effects the ways I see the problem laid forward, how I examine it and how I work through and translate the information gathered.
3 A Model for Description and Analysis

To be able to sort out the differences between the definitions and expressions mentioned, there is a need for a model that segments the definitions in different categories. With a categorization it makes it easier to relate differences and in-differences between the definitions evaluated.

What are the characteristics of logistic service providers?

To able to answer that question, I will start with looking at how logistics service providers support the demands of modern logistics and supply chain management. Also the requirements of outsourcing which are important and may become important among their clients. The market has a need for logistic service providers, and the question is why?

3.1 Theories about Logistic Service Providers

To be able to motivate a choice of model, there is a need to present model values by looking at the development of the segment logistic service providers.

So, why do companies use logistic service providers?

In more detail the question is: Why is there a need for the services and values provided by logistic service providers? To answer that we need to look at two things: Outsourcing of business functions and processes that explain why companies buy the service instead of conducting them in-house. Secondly the development within logistics and supply chain management that shows why logistic service providers are expanding their services, and why a new type of service providers are entering the market.

3.1.1 Outsourcing of Business Functions

The reasons for outsourcing can be many, but in reference to the logistics and supply chain management there are certain obvious drivers for it.

Outsourcing of logistics services have mainly developed towards two ways of looking at it.

1. The first, being functional outsourcing that is based on the more traditional make-or-buy decision. Commodity services are outsourced while the process control is kept in-house, and an ongoing competition between providers is seen as healthy.

2. The other, being what I call process outsourcing, requires a different approach and commitment from the outsourcing company. The main driver for this type of outsourcing is the focus on core business and competencies.

The basic reasons in the literature\textsuperscript{28} \textsuperscript{29} \textsuperscript{30} for outsourcing can be grouped together into three categories.

\textsuperscript{28} Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers
Customer Service and Operational Reasons

A buyer of logistic services needing to achieve basic operational benefits would most likely be looking for a provider with good operational efficiency, who can provide specialized services to enhance those needs as well as looking to increase productivity and efficiency by benefiting from the specialization that such a company can provide. E.g. a public warehouse or warehousing hotel may be specialized at utilizing their personal and forklifts in the most efficient way. Specialization may be that they have specific capabilities to warehouse hanging garments or temperature controlled products.

Dealing with lack of scale for specific flows may call for a provider who is good at integration of customer operations and can do so with many customers to be able to offset their costs on as many as possible. The buyer will achieve the same function for a lower price. E.g. a company has a certain number of customers in a certain area not buying enough to motivate a full truckload of goods. To lower the costs the company may buy pallet spaces from a groupage service instead of sending a full truck of their own.

Simplifying of the logistic process is much the “one-stop-shop-trend”31, were a customer is looking for one provider to be able to cover all needs. Through vertical and horizontal networking a provider may come closer to such a solution, by e.g. having one provider cover all markets. The company in the previous two examples may need transport and warehouse services for a new market and is keen to find someone that can provide all of these in the same package.

Improving customer service is an outsourcing reason that has a very wide definition, and the services a logistics buyer would look for do so vary depending of the specific situation they are in. If the improved customer service lies in having more dedicated drivers operational efficiency may be the value they are looking for, while SCM and integration most often is seen as way to improve customer service over all (see section 3.1.2).

Financial Reasons

The Avoiding of capital expenditures is a very common reason for a company to outsource their logistical operation. The reason to outsource is supported by all types of logistics service providers, and the different types of service providers will control how much of capital expenditure that can be outsourced. A provider with focus on operational efficiency may lift trucks and a warehouse of the customer’s balance sheet, while a provider of SCM and integration might be able to lift all costs for logistical assets and administration.

The increasing of financial flexibility is achieved by visualizing the costs for logistics services and not having to pay for over capacity and investments. But wanting cut costs sums it all up. A provider with operational efficiency helps to cut factor costs during transition and running costs through efficiency. The provider with high integration of customer operations and vertical or horizontal network development can achieve scale benefits and can keep relatively lower prices. A fully integrated service provider will long term achieve scope benefits and continuously reduce costs.

29 Gattorna (1998)
30 Lieb et al. (2001)
31 Study Reveals 3PL Market in Transition (Jan 2000)
Strategic and Managerial Reasons

Just like the financial reasons, outsourcing due to strategic and managerial reasons can be connect to more or less all types of logistic service providers. **Focusing on core business** can range from realizing that owning of trucks is non-core business to that all of the logistic process should be outsourced. In the first case it might be enough to outsource to a provider with *operational efficiency* as main value, as in the second case a customer may consider SCM provider.

**Avoiding labor problems** and **avoiding costs of regulation**, are both looking to cut administrative costs and responsibility of the shoulders of the buyer. Instead of dealing with personal questions and problems with unions, e.g. when downsizing an operation, those questions are being passed on to the provider. A buyer looking for these type of values when outsourcing may mainly turn to a provider of *operational efficiency* or integration of customer operation.

**Acquiring talent and expertise** is an outsourcing reason that depends much on what type of expertise the customer wants to acquire specialization and *operational efficiency* or higher level of logistical knowledge of like change management in SCM and integration.

3.1.2 Logistics and Supply Chain Management

While outsourcing describes why logistic service provider exist at all, logistics and supply chain management describes more why the services provided by logistic service providers have developed the way they have.

In our present time the way of conducting business continues to change. Bringing with it new complexities and concerns for management generally. During all this, it has been recognized that the impacts of these changes on logistics are considerable. Indeed, of the many strategic issues that confront the business organization today, perhaps the most challenging are in the area of logistics.\(^{32}\)

Logistics has therefore received a growing importance in companies’ effort to become more competitive. The strive towards having all internal and external functions complement each other can help a company to reduce both cost and improve service at the same time, something that early was described by Porter in his Value Chain.\(^ {33, 34}\)

To retain customers in increasingly competitive markets, companies have focused on improved customer service as an important means of competitive differentiation. For this a theory called Supply Chain Management (SCM) has evolved, and it focuses on creating value

\(^{32}\) Christopher (1998)
\(^{33}\) Porter (1985), p. 33
\(^{34}\) Porter writes: “Competitive advantage cannot be understood by looking at a firm as a whole. It stems from the many discrete activities a firm performs in designing, producing, marketing, delivering, and supporting its product. Each of these activities can contribute to a firm’s relative cost positioning and create a basis for differentiation. […] The value chain disaggregates a firm into its strategically relevant activities in order to understand the behavior of costs and the existing and potential sources of differentiation. A firm gains competitive advantage by performing these strategically important activities more cheaply or better than its competitors.”
for the end customer. It is the customer who creates the demand, which in turn supports the existence of the supply chain to provide the customer with the product.\(^{35}\)

In the definition of SCM it is a theory that describes the managing of integrated processes. The scope of these processes are often in its ultimate definition seen as the integration from the manufacture of the most basic component all the way through to the end consumer.

### 3.1.3 The New Rules of Competition

Christopher\(^{36}\) describes in his book the drivers behind SCM being the new rules of competition. These are made up of four major trends of development in the market of becoming more competitive.

#### The customer service explosion

The customer service explosion is described as being extra services added to products as more and more markets become in effect ‘commodity’ markets, where the customer perceives little technical difference between competing offers. There has developed a need for the creation of differential advantage through added value. Increasingly a prime source of this added value is through customer service.

Extra services can be after sales service or just that the product has a high availability or can be delivered just-in-time. Logistic providers can support these features by guaranteeing high order fulfillment or just-in-time services, but also sell pre- and post- sales services activities that are supporting the clients products.

#### Time compression

Time compression is needed to be able to minimize the cash-to-cash and order-to-cash cycles as lead-time management has become of increasingly importance. Providers can assist these demands by assuring a high rate of on-time deliveries or good traceability of the client’s goods. They can also provide the actual management service itself.

The ability to cover the clients’ markets, in an increasing globalization of industry, is something mentioned by many and is very much a trend that providers are trying to meet. The mode of delivering global reach is by horizontal and vertical networking, and is usually done through mergers, acquisitions, subcontracting, partnerships etc.

#### Organizational integration

Organizational integration is basically a shift from a functional view of business to a process view. The way for providers to support this can be by being everything from a very effective function in a client’s in-house controlled process to being a process manager that manages the logistics on behalf of the client.

### 3.1.4 The Three Parts of SCM

Other ways of connecting SCM with logistic providers are through the three parts of SCM, that are described as the physical flow, the flow of information, and the financial flow.\(^{37}\)

Physical flow being the traditional way of looking at logistics for both clients and providers has also been the base for today’s logistic market. A problem in the era of SCM is that these activities often have been optimized only for certain parts of the supply chain, sometimes

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\(^{35}\) Ellram (1991)

\(^{36}\) Christopher (1998)

\(^{37}\) Paulsson et al. (2000)
leading to sub-optimization. Providers can support (and coordinate) the physical supply chain flow by being able to deliver services covering larger parts of the supply chain needs or by making it easier to integrate functional operations, e.g. through process development.

In the flow of information it is important that the information is flowing easily both within a company and between company entities. Providers can enhance their own efficiency by utilizing internal systems like warehouse management systems (WMS) or by making sure that the transfer of information with its’ clients and subcontractors is done efficiently (e.g. EDI).

The Financial flow is important since it very much controls the pace of the physical flow, and also that it effects the costs of transactions in the supply chain. Providers can help to improve the client’s financial flows by providing services like effective order processing or even by cooperating with financial institutes that are specialized in financial questions and thereby support a more effective financial flow in the supply chain, e.g. by lifting the ownership of the inventory from the client’s balance sheet.

To support demands of logistics and supply chain management the main points of view are a holistic approach and/or a high degree of adaptation to integration with their clients to be able to survive as more customers focus on SCM.

### 3.2 Building a model

The model to categorize different types of logistic service providers has been taken from Magnus Berglund called the Value Creation Modes38, and was originally used to present the strategic positioning of different logistic service providers. Dr Magnus Berglund acquired his Ph.D. with the dissertation ‘The strategic positioning of the emerging third party providers’ at the division of Logistics and Transport Systems at Linköpings Universitet in 2000. The Dissertation is a large base in this thesis since many models, some adjusted, and lots of theories on TPL providers are used. The Dissertation covers the value creation modes by which TPL providers create value for their customers, and the upcoming positioning within the segment which is happening.

#### 3.2.1 Berglund’s Value Creation Model

Logistic service providers use different ways of providing services to their clients depending on their own capabilities and their strategic positioning efforts. Therefore are the modes of creating value to their clients are a good way of segmenting between different types of service providers.

According to Berglund39, the purpose of the TPL providers’ services is to create value to the customers by providing e.g. lower costs, better service or greater geographic scope. To achieve these benefits Berglund has developed a model showing that companies can work with four different modes of value creation:

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38 Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers
39 Berglund (2000) - Vem gör vad?
**Operational efficiency**

Operational efficiency is the most fundamental principle of the TPL providers’ existence, i.e. delivering a better performance compared to what the customer would achieve themselves, mainly through specialization. The value drivers are primarily factor costs and experience (learning curve). Factor costs is a way to achieve reduction in costs for the customer by lifting capabilities and costs outside their own balance sheet, e.g. the costs of downsizing or upsizing an operation is taken by the TPL-provider and not the customer.

**Integration of customer operations**

Integration of customer operations is made up by the value creation of economy of scale, i.e. the investments made by the TPL-provider will be split among many customers. The customer pays a relatively lower price by not having to do the investment by themselves. It also enables the customer to visualize “invisible costs”, such as e.g. overhead connected to labor costs, that otherwise would not show as a specific logistical costs. The integration of customer operations does today require the TPL-provider to have a certain level IT competence to be able to coordinate activities of many customers along with good operational skills. Integration of customer operations deals with multi customer operations and also economy of scope.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Integration of customer operations</th>
<th>Vertical or horizontal network development</th>
<th>Supply chain management and integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor costs</td>
<td>Economies of scale by: Indivisible costs, Increased dimension, and Massed resources</td>
<td>Factor costs Asset reduction Economies of scale by: Vertical and horizontal integration</td>
<td>Development of customer business processes Economies of Scope</td>
</tr>
<tr>
<td>Economies of scale by: Specialization, Techniques or Organization and Learning</td>
<td>Economies of Scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skills</td>
<td>Operations IT</td>
<td>Operations IT (Conceptual)</td>
<td>Operations IT (Conceptual)</td>
</tr>
<tr>
<td>Operations (IT)</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

**Vertical or horizontal network development**

Operational efficiency and Integration of customer operations both describe internal processes of the logistic service provider to enhance customer value. In vertical and horizontal network development, the operational efficiencies are achieved by using sub-contractors and partners. They create value for their clients by outsourcing some of the logistics activities to second and third tier supplier or joining forces with similar, but complimentary, providers. All of this to be able to reach as much as possible of the required services that the customer is asking for. The customer can reduce factor costs by shifting from many TPL-providers to one. The TPL-provider themselves can become more efficient by not having too much cash tied down in physical assets. Required are skills at networking and relationship building through

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40 Bruzelius & Skärvad (1995)
41 Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers, p. 118
coordination and development of operational skills that means that the TPL-provider needs operational IT skills and management skills. Vertical or horizontal network development creates value by working with different partners in a vertical and horizontal way, and is Therefore divided into global reach, subcontracting and horizontal partnerships, and owning of physical assets.

Supply chain management and integration
By SCM the TPL provider can improve its client’s business processes through the ability to analyze and develop logistic processes in respect to the client’s individual and special conditions. Value for the client is created through use of conceptual logistics skills to improve his supply chain. Conceptual skills, such as supply chain analysis and operations research techniques, as well as knowledge of innovative logistics concepts such as cross-docking or merge-in-transit, are the predominant skills required for this type of value creation. This mode of value creation is different as it aims at improving the client’s business process in itself rather than creating a system to deliver services according to the providers current way of organizing the outsourced activity. The value drive of this mode is thus development of the client's business processes, but economies of scope act as well.
Supply chain management and integration is divided into logistics process management and SCM, and change management.

3.2.2 Adding the Client Interface
On top of the Value Creation Modes model I have added one more dimension, the client interface. I have added it to be able to analyze if logistic service providers’ value creation modes are effected by the relationship with the client/customer, and how it differs between different types of providers.

The client interface is measured on four different criteria:

Client commitment (length of contract), to mainly see if their clients are asking for a make-or-buy service or something more complicated, and also if more integrated services result in longer term contracts.

The Financial share of gain and loss are also more or less based on the same reasons but also the awareness of the financial flow’s implications on the supply chain costs. It will also look at what the financial drivers for cooperation are.

Degree of integration is a parameter that evaluates how important the operational integration and flow of information aspects are for the provider and the client that chooses that type of provider.

Finally number of clients that a provider handles can show the level of customization that the provider is willing to make. Can a logistic service provider of conceptual logistics have many customers without losing focus?
### 3.2.3 The Final Model

<table>
<thead>
<tr>
<th>Type of value creation mode</th>
<th>LSP Type 1</th>
<th>LSP Type 2</th>
<th>LSP Type 3</th>
<th>Etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATIONAL EFFICIENCY</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Efficiency and economy of scale</td>
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</tr>
<tr>
<td>Factor costs</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTEGRATION OF CUSTOMER OPERATIONS</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Multi customer operations</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economy of scope</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HORIZONTAL AND VERTICAL NETWORKING</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global reach (Reach of the client’s total market)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subcontracting &amp; horizontal partnerships</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owning of Physical Assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCM AND INTEGRATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Logistics Process Management and SCM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THE CLIENT INTERFACE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree client of commitment (Length of contract)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial share of gain and loss</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of integration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of clients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3:1 The empty model to be used for description and analysis
4 Characterizing different types of Logistic Service Providers

The reason behind this chapter will be to fill the gaps of the model described in chapter 3. Mainly the definitions 3PL and 4PL will be evaluated according to the model, but also other different definitions used in the literature will be used to see what similarities and dissimilarities exist between different definitions.

4.1 Operational efficiency

4.1.1 Efficiency and economy of scale

According to Berglund\(^42\) the TPL providers are starting to take positions along two different dimensions. Providers that offer specific standardized services (standard service) versus the companies that cover a complete range of services and offer their customers logistic solutions (solution). Berglund suggests the different dimensions to be called operational versus conceptual focus.

The standard service position is characterized by the TPL providers’ ability to create standard logistics processes, and make these efficient. At standardization of the range the variation of services automatically gets limited. This naturally benefits the aspects like focus, learning, sharing and scale, which are made competitive in terms of cost or performance. Berglund\(^43\) says that standardized services must be built around some specific service requirements, such as specific assets or client characteristics.

Standard services do also demand certain characteristics of the clients, other than just looking for specific logistic processes available as a standard service. The clients must accept being one among many, all using the same service, sharing systems and resources. They must also appreciate standard services and keep logistics management in-house, and retain the skills in order to be able to evaluate different services and decide which fits their requirements best.

Operational efficiency is mainly achieved by a standard service provider and is characterized by its competitiveness in terms of focus, learning (experience), sharing and scale benefits, i.e. provide a better operational efficiency than the client can achieve by them selves.

Bask\(^44\)\(^45\) uses three levels of services to describe the positioning of TPL providers as being routine services, standard services and customized services.

\(^{42}\) Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers
\(^{43}\) Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers
\(^{44}\) Bask (2001)
\(^{45}\) Anu H. Bask is a research associate at the Department of Marketing and Logistics at Helsinki School of Economics and Business Administration in Helsinki, Finland. Her work used in this thesis comes from an article called ‘Relationships among TPL providers and members of the supply chain –
Routine TPL services implies simple services that do not contain any specific arrangements. The reasoning behind routine services is economies of scale i.e. services are volume-based. These operations include all types of basic transportation and warehousing services. Often the most important reasons in decision making are competitive price, ease of service procurement, reliability and requested transport time. Routine TPL services does very much enhance the value of operational efficiency.

<table>
<thead>
<tr>
<th>Efficiency and economy of scale</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistic Service Providers</td>
<td>Fit</td>
</tr>
<tr>
<td>Standard Service provider</td>
<td>X</td>
</tr>
<tr>
<td>Routine TPL Service</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 4:1 Efficiency and economy of scale with a logistic service providers

4.1.2 Factor costs

Outsourcing decisions as competitive price, ease of service procurement, reliability and requested transport time equates with Routine TPL service (see section 4.1.1). According to Berglund\(^46\), the primary reason for outsourcing logistic services is still factor costs. He points towards that e.g. labor costs are generally lower in the transport industry than the manufacturing industry. The most competitive company providing those services, will be the one with greatest operational efficiency, which calls for standard solution provider.

The main value adding skills are operational focus on specific activities. IT can be a helping tool in gaining efficiency, but is not a necessity in daily operations.

<table>
<thead>
<tr>
<th>Factor costs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistic Service Providers</td>
<td>Fit</td>
</tr>
<tr>
<td>Standard Service provider</td>
<td>X</td>
</tr>
<tr>
<td>Routine TPL service</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 4:1 Factor cost reductions by using logistic service providers

4.2 Integration of customer operations

4.2.1 Multi customer operations

According to Berglund the TPL providers can add value by sharing resources between customers, for example by running a warehouse for several customers or by operating joint transportation networks for a set of customers. They are also standard services and the providers’ standard service providers. The clients to standard service providers must accept being one among many and sharing systems and resources. The value driver is predominantly economy of scale.

\(^{46}\) Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers
Multi customer operations

<table>
<thead>
<tr>
<th>Logistic Service Providers</th>
<th>Fit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Service provider</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 4:1 Multi customer operations at logistic service providers

4.2.2 Economy of scope

Economy of scope is achieved as different client operations are pooled and thus input is shared as well as production resources, which also fits with Berglund description of standard service providers (see 4.1.1).

Bask\(^{47}\) does instead speak of standard TPL services combining scale and scope effects. **Standard TPL services** contain some easy customized types of operations. The rationale behind routine services is said to be economies of scale and scope. An example of a standard service is transportation with a cross-docking service such as sorting products out by customer needs. It requires a closer cooperation between the client and the provider than routine TPL services. Standard services do also include for example, special transportation with temperature requirements or tanker trucks etc.

Operational skills are required but also since the coordination of activities is important, IT skills are a necessity as well.

Gattorna\(^{48}\) has identified a couple of attributes that characterize industries and companies that are suited to a **4PL** venture: low industry concentration, small margins, companies that consider logistics as non-core competency, and companies with multiple business units.

Wherever there is low industry concentration there are a large number of small, independent players. These are all likely to have minimum scale benefits on supply chain operations. To consolidate the operations of a number of those players would most likely generate in economy of scale for all involved.

<table>
<thead>
<tr>
<th>Economy of scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistic Service Providers</td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td>Standard Service provider</td>
</tr>
<tr>
<td>Standard TPL services</td>
</tr>
<tr>
<td>4PL</td>
</tr>
</tbody>
</table>

Table 4:1 Logistics service providers achieving economy of scope

\(^{47}\) Bask (2001)  
\(^{48}\) Gattorna (1998)
4.3 Horizontal and Vertical Networking

4.3.1 Global reach (Reach of the client’s total market)

Together with the requirements on one-stop-shopping (see 3.1.1) more and more clients are asking for their providers to reach all of their needs and markets, many times pan-European or Global.

Skjoett-Larsen\textsuperscript{49} \textsuperscript{50} feels that very few logistic service providers can provide such coverage by themselves. Many have instead done it through establishing strategic alliances or subcontracts with other companies to cover all regions. In Europe there is also a hi-rate of acquisitions and mergers at the moment. He also says that:

“Pan European logistic providers and fourth-party logistics organizations often act as mediators between the clients and various regional or specialized third-party logistics operators.”

A survey by Lieb et al.\textsuperscript{51} \textsuperscript{52} states that mergers and acquisitions (M/A) are changing the international 3PL marketplace, as many 3PLs rapidly are becoming global. The same survey states that CEOs at American 3PLs feels increased pressure to internationalize their service offerings. Continued globalization along with information systems integration potentials are seen as the most important 3PL industry opportunities. The two surveys used in this thesis are the latest published, and are from 2001. The surveys are called ‘The use of Third Party Logistic Services by large American Manufacturers, the 2001 Survey’ being the 9th annual survey of its’ kind, and ’The Year 2001 Survey: CEO Perspectives on the Current Status and Future Prospects of the Third Party Logistics Industry in the United States’ and is the 8th annual.

Reto Jost, Managing Director at Logicom, describes total customer coverage with:

“In essence, a third party logistics provider is a company that provides an outsourced logistics service to a range of customers. The concept of 4PL goes one step further and has been developed out of the belief that no one 3PL can have all the necessary skills and competencies required to efficiently manage all aspects of the supply chain.”\textsuperscript{53}

The expression 4PL was first coined in 1996 by Accenture (former Andersen Consulting) employee Bob Evans. It is an Accenture trademark but that is something the company has chosen not to enforce, at least for the time being. The future of the term is off course

\textsuperscript{49} Tage Skjoett-Larsen is part of the Logistics Management Group at Copenhagen Business School in Denmark. He is mostly represented in this thesis through an article called ‘Third Party Logistics – from an interrelationship point of view’. Skjoett-Larsen has also co-authored the book ‘Supply Chain Management, Et strategiskt ledelsekoncept’ which has been used for mainly pre-studies to this thesis.

\textsuperscript{50} Skjoett-Larsen (1999)

\textsuperscript{51} Lieb et al. (2001)

\textsuperscript{52} Dr Robert Lieb has as Professor of Supply Chain Management at the College of Business and Administration, Northeastern University in Boston, USA conducted logistics industry surveys for the last nine years. Together with Accenture have they surveyed American Fortune 500 companies and major American logistic providers in two major surveys.

\textsuperscript{53} Hastings (July 2001)
dependent of what Accenture chooses to do with their trademark rights. The most common wording of describing the 4PL are therefore Accenture’s own, describing it as:

“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”.

<table>
<thead>
<tr>
<th></th>
<th>Fit</th>
</tr>
</thead>
<tbody>
<tr>
<td>4PL</td>
<td>Yes</td>
</tr>
<tr>
<td>3PL</td>
<td>Yes and No</td>
</tr>
</tbody>
</table>

Table 4:1 Logistic Service Provider’s capabilities of global or total market reach

4.3.2 Subcontracting & horizontal partnerships

One way of reaching global markets is to subcontract services to others, as mentioned above. Berglund means that TPL providers can themselves create value for clients by outsourcing some of their logistics activities to second- or third- tier suppliers or joining forces with similar, but complimentary, providers. Required are networking and relationship building through coordination and development of operational skills, which means operational IT skills and management skills.

Horizontal and vertical networking is something that Berglund categorizes with a solution provider. In the solution position, the providers focus on developing solutions for specific clients’ requirements. In this case value primarily comes from complexity and the ability to customize solutions. Logistic service providers that are good at designing logistics processes as solution for their clients, do this in competition with a range of standardized services, management consultants, and clients’ own ability to coordinate services from functional providers or internally support activities from basic logistic service providers. Contrary to standard service, clients of solution providers have to be prepared to let the providers take responsibility for logistics management. This means taking responsibility for logistics management from the clients’ perspective and not just the management required for producing logistic services, which also standard service providers do. Solution clients do instead consider logistics management as non-core and evaluate different providers’ capabilities instead of who fits their requirements best. Also are the outsourced processes so complex and/or specific that they are hard to standardize and offer to many clients, a necessity for the solution provider to be able to compete with the standardized service provider. The degree of outsourcing to lower tier suppliers within the TPL business will increase according to Berglund.

According to Hastings’ article, Mike Webb of Gefco UK says, that as customers become more global, their suppliers have to do the same. If a 3PL provider cannot provide that global service from its own assets, then it needs to become a 4PL organization and provide that service through managing other suppliers.

54 Bedeman (2001)
55 Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers
56 Hastings (July 2001)
Bauknight & Miller, both Accenture connected, mean that as a 4PL takes responsibility for multiple supply chain functions and processes, the scope goes well beyond traditional transport management and warehouse logistics outsourcing. To be successful the 4PL leverages a full range of service providers (3PLs, IT providers, transport companies, warehousing, call centers, etc.) along with the capabilities of the client and its supply chain partners. A central viewpoint to the 4PL’s success is the “best of breed” approach to providing services to a client. In developing the best solutions the 4PL needs to leverage the capabilities of 3PLs, technology service providers, and business process managers to provide the client organization with greater cross-functional integration and broader operational autonomy.

According to Hibbs his company, Christian Salvesen, have contracts with different transport contractors to run services for a client. The system selects the appropriate carriers for particular loads and they manage all the billing in a bespoke solution. That is to Hibbs a 4PL solution at its most basic.

<table>
<thead>
<tr>
<th>Subcontracting &amp; horizontal partnerships</th>
<th>Logistics Service Providers</th>
<th>Low degree</th>
<th>High degree</th>
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</thead>
<tbody>
<tr>
<td>Solution provider</td>
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<td>X</td>
<td></td>
</tr>
<tr>
<td>3PL</td>
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<td>(X)</td>
<td></td>
</tr>
<tr>
<td>4PL</td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Table 4:1 Subcontracting & horizontal partnerships for different logistic service providers

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57 Gattorna (1998)
58 Bauknight & Miller (1999)
59 Hastings (July 2001)
P&O Trans European use, according to Taylor, hundreds of subcontractors around the world to complete the supply chain in their 4PL contract for New Holland.  

### 4.3.3 Ownership of Physical Assets

When it comes to providers owning or subcontracting physical assets, it is mostly mentioned together with the discussion around 4PL, and Bauknight & Miller says that the traditional approaches to logistic outsourcing have tended to focus only on operating cost and reduction in asset transfer. Bedeman says that a 4PL is not an organization with ownership of asset as much as an entity with ownership of information, and Webb feels logistics outsourcing is about the Management of the supply chain being the key issue, not the ownership of the assets involved.

According to Berglund activities like transport, warehousing and value-added activities will increasingly be outsourced by TPL providers (most likely solution providers), while information systems and competencies like design, modeling and consulting will be kept in-house to a higher degree. This means less physical asset owning providers. Traditionally transport has been outsourced to a large extent and warehouse not as much. The reason for that is that the transport is very much determined by scale, and warehouse often acts as central hubs in providers networks are therefore seen as central. But the outsourcing trend will continue and Berglund believes that transport and warehousing together with value added activities increasingly would be outsourced.

![Figure 4:1 Trends in Third Party Logistics Providers’ use of subcontractors](image)

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60 Hastings (July 2001)
61 Bauknight & Miller (1999)
62 Bedeman (2001)
63 Hastings (July 2001)
64 Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers
65 Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers, p. 82
## Ownership of Physical Assets

<table>
<thead>
<tr>
<th>Logistic Service Providers</th>
<th>Low degree</th>
<th>High degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solution provider</td>
<td>X (increasingly)</td>
<td>X</td>
</tr>
<tr>
<td>4PL</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Table 4:1 Ownership of physical assets for different logistic service providers

### 4.4 Supply Chain Management and integration

#### 4.4.1 Total Logistics Process Management and SCM

In supply chain management Berglund means that value for the clients is created through use of conceptual logistics skills to improve the clients’ supply chain. Conceptual skills, such as supply chain analysis and operations research techniques, as well as knowledge of innovative logistics concepts such as cross-docking or merge-in-transit, are the predominant skills required for this type of value creation. This mode of value creation is different as it aims at improving the client's business process in itself rather than creating a system to deliver services according to the shipper's current way of organizing the outsourced activity. The value drivers of this mode are thus development of the client's business processes, but economies of scope act as well. Berglund categorizes these skills under solution providers.66

Bask calls this customized TPL services.67 Set-ups were relationships are in their closest form. Close partnerships with open information are often needed. An increasing level of customization increases the possibilities of client influence on the service output and services’ flexibility. The rationale behind the offer of customized services is economies of scope. There are often only a few, or there may be just one service provider, cooperating with sellers and buyers.

A trend of widening service portfolios among 3PLs is seen in the survey by Lieb et al.68. While transportation and warehousing services dominate 3PL usage, clients report increasing interest in such non-traditional 3PL services as contract manufacturing, support for purchasing activities, and financial services. According to provider CEOs these activities are more frequently already included.

Logistics Management seems to be one of the core pieces of 4PL as Webb implied above and Jost69 describes it with that 4PL has developed from the belief the no one 3PL have all the necessary skills and competencies required to efficiently manage all aspects of the supply chain. To Bedeman 4PL is 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. They add services like forecast and demand planning, inventory management, packaging services, procurement and order management, and customer service management.70

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66 Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers  
67 Bask (2001)  
68 Lieb et al. (2001)  
69 Hastings (July 2001)  
70 Bedeman (2001)
Finally Skjoett-Larsen says that Pan-European providers and 4PLs often act as interface between the client and specialized TPL provider. 4PL can be considered as a comprehensive supply chain solution that combines the capabilities of management consulting, IT technology and TPL-providers. 71

<table>
<thead>
<tr>
<th>Logistic Service Providers</th>
<th>Fit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solution provider</td>
<td>X</td>
</tr>
<tr>
<td>Customized TPL services</td>
<td>X</td>
</tr>
<tr>
<td>3PL</td>
<td>(X)</td>
</tr>
<tr>
<td>4PL</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 4:1 Total Logistics Process Management and SCM for different logistic service providers

4.4.2 Change Management

Solution providers do also take part much more in the transition of a current set-up to new re-engineered ways of working. The 4PL is also seen as a provider that actively will take part in change management.

Bauknight & Miller call the highest level of 4PL solution for Reinvention. Reinvention leverages traditional supply chain management consulting skills, aligning business strategy with supply chain strategy, to creatively redesign and integrate the supply chains of the participants. But reinvention requires what they call transformation. Transformation efforts focus on specific supply chain functions, including sales and operations planning, distribution management, procurement strategy, customer support, and supply chain technology. Transformation leverages strategic thought, deep analysis, process redesign, organizational change management, and technology to integrate the client’s supply chain activities and processes. 72

To Pomlett, of Excel Logistics, a 4PL organization focuses primarily on change and operates at an arm’s length from the logistics operation. The 4PL organization can also be involved in the implementation of the change and be responsible for it. 73

<table>
<thead>
<tr>
<th>Logistic Service Providers</th>
<th>Fit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solution provider</td>
<td>X</td>
</tr>
<tr>
<td>4PL</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 4:1 Change management services at different logistic service providers

Finally, Chong says that it is not a matter of taking over a group of subcontractors and squeezing more out of them because often you cannot do much more in that respect anyway. It is about changing the way supply chains functions. Sometimes, it involves changing the players or removing some of those who are not so effective. In some cases it may involve

71 Skjoett-Larsen (1999)  
72 Bauknight & Miller (1999)  
73 Hastings (July 2001)
increasing the number of players. In others, it can mean changing the way they are working altogether.  

4.5 The Client Interface

4.5.1 Degree of client commitment (Length of contract)

The normal scenario for many providers of logistic services is to work in a climate were the clients have a quite low degree of loyalty towards their providers. But with the trends clearly pointing towards an increasing degree of outsourcing of logistics services together with that the client tend to outsource more to one provider (one-stop-shopping) the degree of commitment from the clients is increasing. 

Skjoett-Larsen describes the services provided by logistic service providers as a five-step model were the degree of commitment (length of contract) in the relationship increases with the degree of integration. According to him third party logistics include the last three categories. The graph (Figure 4:1) showing commitment in relation to integration shows that the partnership-, third party, and integrated logistic service- agreements all most likely have long contracts. The partnership agreement may be a bit more like standard service providers and also have shorter-term contracts.

The single- and repeated- transactions correspond to the traditional relationship between buyer and seller on the transport market. The agreements are normally short term and informal and carry no commitment except the specific transaction. The price is the main leverage.

The three forms of cooperation on the right side of the scale may be viewed as forms of strategic alliances.

In partnerships the partners try to maintain their independence, while simultaneously collaborating to develop more efficient systems and procedures. Normally, the client will maintain the planning and management functions internally and externalize the logistics functions, while the provider tries to make standard solutions to the client requirements.

Third party agreements are more formalized and binding than partnerships. Services are much more tailored to the requirements of a specific client. An agreement often requires specific investments in equipment, plant or employee training to meet the service requirements of the client. Cooperation is based on mutual trust and free information interchange. Sometimes, the agreement stipulates that the service provider fully or partly assume responsibility for the personnel, equipment and plant of the client.

Integrated service agreements are the most extensive means of cooperating, both in terms of formality and mutual obligations. In integrated service agreements, the provider offers to take over the whole or large parts of the logistics process, including management and control of

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74 Hastings (July 2001)
75 Milligan (Mar 2000)
76 Skjoett-Larsen (1999)
logistics activities, facility management and personnel administration. The logistics solution will be tailored to the requirements of the client and typically include a number of value-adding services. Partial integration of the parties’ information systems will often occur, and inter-organizational teams of employees from the affected functions will be established.

Figure 4:1 Relationships between shipper and TPL provider

Berglund backs this theory by saying that clients to solution providers have to be more committed in their relationships since they have to be prepared to outsource responsibility for the management of the logistics processes to achieve value. Time is a factor in building and achieving efficiency in a customized set-up. The length of contract for a standard service provider can be seen as being shorter since they provide more of commodity services, but may as well be long since the client values the efficiency and may loose momentum when changing to a new provider. Also when the agreement involves large investments from one or the other side.

The survey by Lieb, of major 3PLs and Fortune 500 3PL users, states that the average length of contract is six years, and therefore seen as long relationships. Although half of the clients said it would be easy or very easy to change provider, the survey concludes that with a high rate of satisfaction among clients, the contracts will remain long.

Gattorna, who’s work many refer to when it comes to 4PL, words it with:

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77 Skjoett-Larsen (1999)
78 Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers
79 Lieb et al. (2001)
80 Dr John Gattorna is the editor of the book ‘Strategic Supply Chain Alignment’, which is a book of many articles on Supply Chain issues and where John himself has written an article (among others) on 4PL. He leads Accenture’s supply chain management practice in Australia and New Zealand/Asia and is based in Sydney. Gattorna has an international reputation in the fields of logistics strategy, distribution channels strategy, supply chain strategy and business planning. He is widely renowned as a lecturer, author and task force leader. He has written a number of articles and books and has pioneered the application of 'strategic alignment' thinking to logistics and the supply chain. Prior to joining Accenture (Andersen Consulting) in 1995, he ran a successful Sydney-based specialist
“While outsourcing Third-Party Logistics is now an accepted business practice, 4PL is emerging as a breakthrough solution to modern supply chain challenges [...] to provide maximum overall benefit.”

He also sees the 4PL organization as representing a solution that incorporates the advantages of both outsourcing and insourcing.

The benefits of outsourcing have been mentioned already in this thesis, but is summed up to: reduced time required by senior management on non-core activities, improved customer service, financial benefits and simplifying of the industrial relations environment. On the other hand logistics insourcing provides benefits in that the client is able to maintain and grow its logistic skills within the organization, retain control over customer service levels and logistics costs and to maintain a vital interface with its customers. So to achieve all those benefits, Skjoett-Larsen & Gattorna describes the 4PL with that:

- The 4PL organization is often a separate entity established as a joint venture or long-term contract between two primary parties.
- 4PL acts as a single interface between the client and multiple logistics service providers
- All aspects (ideally) of the clients supply chain are managed by the 4PL organization, and
- It is also possible for a major third-party logistics provider to form a 4PL organization within its existing structure.

The client-4PL relationship is clearly meant to be a longer term commitment as Bauknight/Miller states that a 4PL and its clients together create an evolving, mutually beneficial, long-term relationship.

<table>
<thead>
<tr>
<th>Logistic Service Providers</th>
<th>Short</th>
<th>Long</th>
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<tbody>
<tr>
<td>Traditional</td>
<td>❌</td>
<td></td>
</tr>
<tr>
<td>Partnership agreement</td>
<td>❌</td>
<td>X</td>
</tr>
<tr>
<td>Third party agreement</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Integrated logistic service agreement</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Standard service providers</td>
<td>❌</td>
<td>X</td>
</tr>
<tr>
<td>Solution providers</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>3PL</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>4PL</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Table 4:1 Degree of client commitment in a logistic outsourcing relationship

### 4.5.2 Financial share of gain and loss

The main financial drivers for outsourcing logistic functions are according to Berglund improved control (stability and visibility), reduced capital requirements and lower cost. But consulting firm serving a select group of domestic and global clients in both product and service industries. He has a Ph.D. in marketing and logistics from Cranfield University.

81 Gattorna (1998)
82 Skjoett-Larsen (1999)
83 Skjoett-Larsen does not write 4PL but instead Fourth-party logistics
84 Gattorna (1998)
85 Bauknight & Miller (1999)
the by far most triggering effect to outsource is what Berglund calls the transition, the client requires a change, and the reasons mainly are financial. Transition is reached by changing a current set-up to a new solution, and can be supported by any type of logistic provider that can meet the requirements of the customer, standard service provider as well as solution providers.\(^{86}\)

According to the Lieb et al. the service offerings of 3PL continue to broaden, and do frequently include non-traditional 3PL services including contract manufacturing, support for purchasing activities, and financial services. The survey does also state that clients give about 25% of their logistics budgets to 3PLs and this is projected to be 35% in three years. 3PLs do also have a positive impact logistics costs and service levels.\(^{87}\)

But according to Gattorna the lack of shared financial goals with most 3PLs meant that outsourcing only has given clients initial benefits on their outsourcing attempts. The gain of transition is only a one-time cost reduction. Instead a 4PL is said to generate more sustainable financial gains in a relationship.

The 4PL relationship is, by Bade & Mueller, said to result in Revenue growth by enhanced product quality, product availability and improved customer service, and operating cost-reductions by improved planning and execution of supply chain activities due to integration of processes. Complete outsourcing instead of just components, achieving economy of scale. On top of that working capital reductions by reduced “order to cash” cycle times. Pro-active use of technology to give full pipeline visibility and reduce inventories and cycle times, and increase availability, and fixed-capital reductions are achieved through asset transfer and enhanced asset utilization.\(^{88}\)

According to Ian Chong\(^{89}\) studies have shown that next to achieving a mutual learning experience the risk-sharing is an important feature in a partnership. Typically about 60 percent of an organizations working capital is tied up in inventory, about 30 percent in sales, marketing and management and only about 10 percent in traditional logistics. In order for a logistics provider to be able to squeeze efficiencies out of the 10 percent that a typical logistics provider would do, a broader approach needs to be taken. Chong means that it is likely that 4PLs will increase their involvement in the financial aspects of supply chain operations in future contracts, such as letters of credit, revolving credit and inventory financing.

<table>
<thead>
<tr>
<th>Logistic Service Providers</th>
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<th>High degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard service provider</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Solution provider</td>
<td>(X)</td>
<td>(X)</td>
</tr>
<tr>
<td>3PL</td>
<td>X</td>
<td>(X)</td>
</tr>
<tr>
<td>4PL</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Table 4:1 Financial share of gain and loss between the provider and the customer

But, Bedeman\(^{90}\) argues that within 4PL the sharing of created value is still much under debate. There is an absence of a model for sharing value from managing the totality of the

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\(^{86}\) Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers  
\(^{87}\) Lieb et al. (2001)  
\(^{88}\) Bade & Mueller (1999)  
\(^{89}\) Hastings (July 2001)  
\(^{90}\) Bedeman (2001)
supply chain. Should e.g. be based on increase in shareholder value over time or a percentage of clients’ savings?

4.5.3 Degree of integration

Both Berglund91 and Skjoett-Larsen92 mean that the degree of integration with the client increases with the complexity of the services provided, as already mentioned above. In Berglund’s terminology a solution provider in such a case has a higher degree of integration than a standard service provider does.

In Skjoett-Larsen’s model (Figure 4:1), single and repeated transactions have very low interaction. In partnership clients and providers collaborate to become more efficient, but the client has all management control. Third party agreements have services more tailored to suite the clients needs, and the provider may take partial or full control of certain assets and personal from the client. But this mode of integration might not be continues. In integrated service agreements, the provider offers to take over the whole or large parts of the logistics process, including management and control of logistics activities, facility management and personnel administration. Partial integration of the parties' information systems will often occur, and inter-organizational teams of employees from the affected functions will be established.

Bask93 sees the degree of integration as a three step model were Routine TPL services has a low degree of integration, Standard TPL services somewhat higher and Customized TPL services a high degree of cooperation with the client.

The survey by Lieb94 show that the outsourcing of eCommerce functions to 3PLs is not high, and also that there is little emphasis on cross-training client and provider personal, which means that integration is still quite low. But providers see the integration of information systems as major potentials, so 3PLs are most likely to become more integrated with their clients in the future.

A University of Tennessee95 96study, on the other hand, showed that clients increasingly rely on 3PLs for their information systems. So the development towards higher degree of integration has started in some cases.

As described above (section 4.5.1), Gattorna means that few 3PLs has the scope to be able to take care of the clients’ total logistic requirements, which lead to that much senior management’s time still will be required to manage the 3PLs. The 4PL instead differ from 3PL on several aspects. As the 4PL organization is often a joint venture between a primary client and one or more partners it usually has a higer interest in the integrating. They act as a single interface towards their clients, and all or a major part of the client’s supply chain is outsourced to the 4PL organization.

91 Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers
92 Skjoett-Larsen (1999)
93 Bask (2001)
94 Lieb et al. (2001)
95 A survey in 2000 (fourth annual study by University of Tennessee, Ernst & Young, and Exel Logistics) of chief logistics executives. Participants in the survey came from the automotive, chemical, computer/peripherals, consumer products, medical supplies/devices, and retail industries.
96 Milligan (Mar 2000)
All these things describe the **4PL** as being very much integrated with its clients, with single interface and total control of its clients’ supply chains to even being partly owned by its clients.

<table>
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<th>Higher</th>
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<tr>
<td>Standard TPL services</td>
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<td>Customized TPL services</td>
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<td>3PL</td>
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<td>(X)</td>
</tr>
<tr>
<td>4PL</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Table 4:1 Degree of integration between the logistic service provider and the customer

### 4.5.4 Number of clients

The number clients that a logistics service provider operates can of course vary with the source of information, but in my findings there are a few statements of the amount of clients a provider most likely will have.

Berglund⁹⁷ does a distinct difference between a **standard service provider** and a **solution provider**, where the **standard service provider** has many customers and the **solution provider** has few. Jost⁹⁸ means that a **3PL** is a company that provides outsourced logistics to a range of customers, which more or less can be interpreted as many. Finally Gattorna⁹⁹ means that the **4PL** may initially only have one customer (most likely an equity partner), but needs other customers to gain economy of scale effects, a statement that I interpret as one to a few clients.

The study by Lieb⁹⁰ shows that larger **3PLs** will become increasingly customer selective, with their primary focus continuing to be large accounts, while smaller providers might be expected to develop very targeted market strategies. This may result in fewer clients but on the other hand more revenue per client.

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⁹⁷ Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers
⁹⁸ Hastings (July 2001)
⁹⁹ Gattorna (1998)
⁹⁰ Lieb et al. (2001)
<table>
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</tr>
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<tbody>
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<td>Solution provider</td>
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</tr>
<tr>
<td>3PL</td>
<td>X</td>
<td>(X)</td>
</tr>
<tr>
<td>4PL</td>
<td></td>
<td>X</td>
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</tbody>
</table>

Table 4:1 Number of clients in different logistic outsourcing set-ups
5 Provider and Definition Analysis

As described in the problem, the ways definitions are used do vary from source to source. The most common word for logistics outsourcing in literature is third party logistics. The purpose of this sub-chapter is to give the broadest picture possible on different sources define the TPL definition.

5.1 Summery of Provider Analysis

<table>
<thead>
<tr>
<th>Type of value creation mode</th>
<th>3PL</th>
<th>4PL</th>
<th>Standard Service Provider</th>
<th>Solution Provider</th>
<th>Partnership agreement</th>
<th>Third party agreement</th>
<th>Integrated service agreement</th>
<th>Routine TPL Service</th>
<th>Standard TPL</th>
<th>Customized TPL</th>
<th>Basic Logistic Service provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATIONAL EFFICIENCY</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Efficiency and economy of scale</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Factor costs</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>INTEGRATION OF CUSTOMER OPERATIONS</td>
<td></td>
<td></td>
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<tr>
<td>Multi customer operations</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Economy of scope</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
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<tr>
<td>HORIZONTAL AND VERTICAL NETWORKING</td>
<td></td>
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<tr>
<td>Global reach (Reach of the client’s total market)</td>
<td>(Yes)</td>
<td>Yes</td>
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<td></td>
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<tr>
<td>Subcontracting &amp; horizontal partnerships</td>
<td>Low/ (High) degree</td>
<td>High degree</td>
<td>Low/ High degree</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Owning of Physical Assets</td>
<td>Low degree</td>
<td>Low/ High degree</td>
<td></td>
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<tr>
<td>SCM AND INTEGRATION</td>
<td></td>
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<tr>
<td>Total Logistics Process Management and SCM</td>
<td>(Yes)</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
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<tr>
<td>Change Management</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>THE CLIENT INTERFACE</td>
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<td></td>
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<tr>
<td>Degree client of commitment (Length of contract)</td>
<td>Long</td>
<td>Long</td>
<td>Long/ Short</td>
<td>Long</td>
<td>Long/ Short</td>
<td>Long</td>
<td>Long</td>
<td>Long</td>
<td>Short</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial share of gain and loss</td>
<td>(High)/ Low degree</td>
<td>High degree</td>
<td>Low degree</td>
<td>(High)/ (Low)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of integration</td>
<td>(Hi)/Lo</td>
<td>Higher</td>
<td>Lower</td>
<td>Higher</td>
<td>Lower</td>
<td>Lower</td>
<td>Higher</td>
<td>Lower</td>
<td>Lower</td>
<td>(Hi)/Lo</td>
<td>Higher</td>
</tr>
<tr>
<td>Number of clients</td>
<td>Many/ (Few)</td>
<td>Few</td>
<td>Many</td>
<td>Few</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Table 5:1 The model with the final provider analysis summery

5.1.1 4PL and solution provider are quite similar.

There are similarities in structure of value creation modes between the 4PL and the TPL solution provider. The degree of commitment and degree of integration with their clients is
high and they both provide total logistic process management/SCM and change management solutions.

The things dividing the two might be that the 4PLs have a close to total outsourcing of operational activities when solution providers may keep more of them in-house. This may just be a result of that the 4PL statements are based much on a theoretical models, as the statements surrounding solution providers are based on more empirical facts. The same goes for physical assets were solution provider might own a good deal assets themselves, although more outsourcing is predicted to happen in the future. The 4PL on the other hand is seen as a “virtual” logistics provider with next to no physical assets in their balance sheet.

5.1.2 The standard service provider
The standard service provider is seen, as is well defined by the name, as a provider with a more standardized service portfolio within the TPL segment. Many clients with a low degree of integration and short contracts usually define the client interface. In selling commodity services there is not much focus on sharing financial gain and losses.

5.1.3 Hard to define the 3PL
Even 3PL and standard service providers have similarities in structure on some value creating activities, mainly in the client interface where they have many customers and lower degree of integration.

There are some difficulties with the definition 3PL since its is generally less precisely defined, and also commonly used as a synonym for TPL. The differences in definition can be cultural meaning that Scandinavian definition of 3PL is much wider than the American, since Scandinavians have a longer tradition of network relationships that call for a higher degree of integration (see 5.1). But, at the same time, even American 3PLs move towards getting more integrated services in their portfolio, and they are also rapidly becoming more global through acquisitions and mergers. One survey states that customers increasingly rely on 3PLs for information systems, while the other says that the development has not gotten very far. Gattorna says that few 3PLs have the scope to take care of all clients’ logistic requirements.

The observations differ!

A very interesting aspect is also that the average length of contract for 3PLs is 6 years, which I interpret with that staying with an existing partner and have him develop his services is less costly than the transition of moving to a total new logistics partner.

Differences that definitely can be detected between 3PL and other logistic service providers like 4PL is that 3PLs still keep many services in-house and they still own more of required physical assets. They do also not seem to drive change management.

5.1.4 A comparing graph
To better describe the position of each definition to each other, Table 5:1 shows the fit of each definition to the client interface and value creation modes.
Table 5:1 Comparing the different definitions based on the value modes they provide.

5.2 The Definitions of Third Party Logistics

5.2.1 Third Party
The word third party, being the first critical component of the term, is consistently used in the research community. Third Party as term comes from the observations that a company, i.e. party number three, acts between two primary participants in a supply chain without taking title, or at least no commercial risk, for the goods in the physical flow of the supply chain. These companies will here be called providers; i.e. they provide services, whereas their clients are normally called shippers, due to a traditional distribution focus.\footnote{Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers} But I will instead use client (to the provider) instead of shippers.
The third party definition also has its foundation in a triadic form of relationship covering seller, buyer and third-party logistics provider. This triad consists of three dyadic relationships.

1. The relationship between seller and TPL provider
2. The relationship between buyer and TPL provider
3. The relationship between seller and buyer in the supply chain

The name “third-party logistics” refers to a situation where the logistics service provider serves two parties in the supply chain. However, many TPL relationships have been limited to the dyadic relationship between seller and logistics service provider or buyer and logistics service provider. The limitation of the dyadic transactional contract is that it might lead to sub-optimization.

According to Bask, descriptions of successful partnerships are situations where a triadic relationship is in place and all three members should be covered. A triadic approach is the most satisfactory starting point for matching logistics service/services to seller-buyer relationships in the supply chain.

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102 Berglund (2000) - Strategic Positioning of the Emerging Third-Party Logistics Providers, p. 14
103 Bask (2001)
5.2.2 The expression: Logistics

The interpretation of the word ‘logistics’ diverges within the international logistics community. Berglund\textsuperscript{105} suggests that Logistics in the combination with Third Party be divided into two interpretations: the all-inclusive and the particular.

The \textbf{all-inclusive} interpretation refers to all types of contracts where some logistics related activities are executed by an external organization.

The \textbf{particular} interpretation emphasizes a more comprehensive form of outsourcing, which fulfill the requirements of the term logistics. The term TPL should according to this view only be used for situations where the outsourced/subcontracted process as a whole contains all the activities required for logistics i.e. transportation, warehousing, information handling, and management activities.

The most common interpretation of the logistics part of TPL is most likely the all-inclusive. The Council of Logistics Management (CLM) definition of logistics is:

“Logistics is that part of the supply chain process that plans, implements, and controls the effective forward and reverse flow of goods and storage of goods, services and, related information between the point of origin and the point of consumption in order to meet customers’ requirements.”\textsuperscript{106}

It states that all the activities should be included in order to constitute logistics.

Berglund\textsuperscript{107} means that the difference between providing a single service and integrated services containing a large range of different activities is significant. Depending on which view of the term TPL is used, different results will be obtained. The skill-sets required handling a TPL service of the particular interpretation are much larger, then the simpler forms of outsourcing.
Skjoett-Larsen\(^{108}\) means that the interpretation of TPL differs on where in the world it is used. He says that the Scandinavian definition of TPL is more extensive than the American definition, as businesses in Scandinavia have an old tradition for close and long term cooperation with external partners.

### 5.3 Differences from a contract and interrelationship point of view

#### 5.3.1 The third and fourth party

The term ‘third party’, as it has been described in section 5.1, is a third party to the two primary parties in a buyer/seller relationship. The third party does not take any commercial risk in that specific transaction, but is contracted to take care of certain activities, such as physical handling of the goods, or all activities connected to the transaction between the two primary parties.

![Figure 5:1 The relationship between the three parts and the tiered suppliers including a fourth part.\(^{109}\)](image)

That makes it from an interrelationship point of view it is much harder to define the term ‘fourth party’. In the above definition the ‘fourth party’ would be another party added on top of the previous three. Trying to fit this fourth party into Figure 5:1 would result in that either it had to go next to the third party or be one of the suppliers.

In section 4 the ‘fourth party’ is often described as being the single interface for the client (one of the two primary parties) when it comes to logistic services, and that the fourth party subcontracts the necessary activities to second tier suppliers. That means that the fourth party can not be a second tier supplier, and also not a kind of ‘joint third party’. In Figure 5:1 the fourth party should actually have to be in the place of the third party, which of course lead us to a contradiction of the definitions.

\(^{108}\) Skjoett-Larsen (1999)

\(^{109}\) A modification of Figure 5:1
4PL a concept, not a theory

According to Bedeman the name 4PL comes from the 3PL where the four is the next number after three. The concept has evolved from the fact that major companies were seeking a more holistic view on their supply chain operations, compared to the 3PL piecemeal attempts to optimize individual functions as transport, distribution and warehousing. This may be the best way of looking at 4PL.

According to this analysis both definitions can been seen as third party. The fourth party does not exist. But, the activities that fit under the 4PL definition clearly stands out to some degree and 4PL should be able to be considered as a concept with some legitimacy, but not as a stand alone theory.

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110 Bedeman (2001)
6 The use of 4PL on the Market

To be able to connect to the theories on 4PL, this chapter will describe a number of cases more or less connected to 4PL or something that could be named 4PL a bit more in depth. The different cases will be described per Logistics Provider.

6.1 Schenker Logistics

6.1.1 The Company

Schenker Logistics was originally formed in 1995 under name NLV AB, and was owned 51% by Telia and 49% by Schenker (Bilspedition). The joint venture was a result of increasing over-capacity in Telia’s central warehouse, and the driver for it was the development of engineering being able to manufacture ever-smaller parts. Today Schenker Logistics is fully owned by Schenker.

Schenker, the Integrated Logistics Group. Schenker is one of the leading international providers of integrated logistics services. They provide support to trade and industry in land transport, in worldwide air and sea freight, and in all the associated logistics services. They company has nearly 33,000 employees at 1,000 locations throughout the world achieve a turnover of Euro 6.2 billion per year.

Schenker Logistics provides integrated logistical solutions on the Swedish market, and their base is made up by a number of warehouse facilities around Sweden. They focus on three main areas: IT/Telecom (main customer Telia), Service Sparepart, and Fashion retail (main customer Lindex). Service performed for their customers, range from simple transport and warehouse services to managing the total logistics process for their customers.

Schenker Logistics sees them selves as a Logistics Integrator and wants to be the outsourced logistics function of their customers. Their yearly turnover is 500 MSEK (55 MEUR).

6.1.2 Schenker Logistics and Telia

By the time the joint venture with Telia was formed the logistics structures had developed organically for many years and had resulted in large fixed costs. Telia were struggling with a low willingness to change and with very little control over storage and tied capital. They had a large fleet of trucks and own warehouses and with a logistical set-up where little concerns had been taken to environmental issues. The company as a whole was facing major changes. The new solution was a totally new way of looking at the supply chain with a focus on lead-times and a holistic view on the operations.

Schenker Logistics now runs a central logistics center that is build up with the flows from Telia, but were also other customers are based. In the development within Telecom

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111 www.schenker.se (2002-08-14)
112 Kettelhoit, M (2002-09-20)
technology has made components smaller and smaller, extra space has become available that Schenker Logistics needs to fill. At the same time Schenker Logistics can provide a better economy of scale for all customers by having more of them.

6.1.3 Schenker Logistics’ views on 4PL

According to Kettelhoit, Schenker doesn’t fully believe in the 4PL concept but do instead speak of 3.5PL. 3.5PL being a mixture between a 4PL without assets and a 3PL with a knowledge base of physical activities and problems. Many logistic services do still need to be based around a production center (distribution center or warehouse), and in a 4PL set-up it is hard to keep their competence with daily operations (like physical picking).

Instruments for financial gain-share are not common, but they do exist. According Johnson, they are customer specifically designed and are dependent of what type of services Schenker Logistics perform for the customer. Examples of measurements are on time delivery, inventory discrepancy, and stock turnover.

The concepts are developed in cooperation with their customers, but there is no financial instrument to support that.

6.2 Logistikintergratören (LIAB)

6.2.1 The Company

Lantmännen (at the time Skånska Lantmännen) started in 1997 a total evaluation of the company’s processes and structure, and for that they used Schenker Consulting. The result of the evaluation was that Lantmännen was to create a company for their logistics management together with a logistics provider. Such a company was later in 1998 formed together with Schenker and was called Logistik Integratören AB (LIAB). The purpose of LIAB was to act as an integrator between different hauliers and Lantmännen.

Lantmännen provided the partnership with industry competence and a high volume of goods while Schenker together with Schenker Consulting added logistics competence, system support and scale possibilities through consolidation. With all this LIAB got a unique integrators role within the segment of high volume transports.

As an integrator the company’s work is to find the most cost-effective solutions for their customers by working with those hauliers that can provide the right quality to the right price. LIAB’s yearly turnover is about 14 MEUR (125 MSEK)

Services provided by LIAB are Transport coordination, Traffic planning, Rate negotiation, Finance, and Administration. LIAB will work the whole process from supplier to customer, with main focus on the agricultural industry. They are optimizing flows to and from Farms and other related production units like mills and depots. The goal is to minimize their

113 Kettelhoit, M (2002-09-20)
114 Johnson, M (2003-05-12)
115 www.liablogistik.se (2003-04-20)
customers transport costs and optimize their own fleet utilization. They average fleet utilization in Sweden is 65%, while LIAB has an average of 75%. LIAB does not own any physical assets, instead everything is outsourced to lower tier suppliers.  

6.2.2 LIAB and Lantmännnen

Lantmännnen has been the initial customer and is therefore their most dominating customer as well. About 80% of all turnovers come from Lantmännnen. Other customers are companies within the food industry and reverse logistics.

Initially LIAB was a joint venture where Lantmännnen owned 60% and Schenker 40%, but now Schenker owns LIAB 100%. Despite of that, LIAB operates fully independent and less than 5% of all capacity used is supplied by Schenker. The set-up between Schenker and originally Skånska Lantmännnen was that LIAB would be the logistic integrator for all of Skånska Lantmännnen’s logistical operation. But as Skånska Lantmännnen merged with others to form Lantmännnen, and LIAB’s role has changed and they are no longer the sole logistic service provider for Lantmännnen.

The contract with Lantmännnen was signed in 1999 and has still to run out. The goal for new contracts is also to aim for long term, and according to Thomas Lundquist\footnote{Lundquist, T (2003-04-22)}, Managing Director, no contracts are signed for less than 3 years.

The driver in the relationship with Lantmännnen is to continuously improve their services and reduce costs. Financially LIAB is compared to general index on transport costs and how much they can improve fill rates to have cost development less then index. They are also striving to help their customers control larger parts of the supply chain by developing supplier relations and customer deliveries. The latest project includes slot-time control at Lantmännnen’s main site in Helsingborg, Sweden. By controlling the delivery schedule at the site the customer’s production can run more smoothly and become more efficient. It is unclear how these benefits are financially split between the parties.

LIAB’s main market focus is customers within Agriculture, Construction, Forrest, Paper, Heavy engineering industry, Recycling etc. Common drivers to change to a logistics integrator within their customer segment are high volumes, transport costs are high compared to the value of the goods transported, there is a need for more than one haulier, and it does not fit into regular traffic routes.

6.2.3 LIAB’s views on 4PL

LIAB sees themselves as company with endless potential. The overall market on high-volume transports in Sweden has a total turnover of about 10 000 MSEK a year. LIAB’s goal is to have a 10% share of that (today they have about 1%).

The potential with integrators is great, but the sell-in time for each new contract is very long (about 6 to 8 months) due to the amount of trust that needs exist between the parties when entering a partnership. Thomas Lundquist means that, with a stronger brandname, it would
probably have been easier to sell in their services than with LIAB alone, which today is fairly unknown.

On market coverage they are flexible and expand their capabilities to where their customers are present. Today that means that they are controlling traffic all over Sweden.

6.3 Frigoscandia Distribution

6.3.1 The Company
Frigoscandia Distribution is a Logistics Company specialized on temperature controlled warehousing and transport. Frigoscandia was formed in 1950 in Helsingborg Sweden under the name Helsingborg’s Fryshus. It has been owned by several companies, among them logistics providers ASG (now Danzas, 1995-1998) and ProLogis (1998-2002). In March 2002 JB Triton acquired Frigoscandia Distribution. Frigoscandia Equipment (manufacturing freezers) was sold of by ASG in 1996 and is now owned by FMC.

The operation at Frigoscandia Distribution is divided into three parts: Warehousing, Transport and Supply Chain Management. Because of the expertise in temperature controlled, the main customer focus is on companies within food manufacturing and retail. The mission statement is: “To be the most profitable and professional logistics partner of the food industry, providing configured logistics services for the food supply chain that improve our customer’s competitiveness.”

Frigoscandia Distribution is, since the takeover by Triton, a company with a Nordic focus and has a yearly turnover of about 170 million EUR (1500 MSEK) the Business Area supply chain management stands for about 130 MSEK of the turnover.

6.3.2 Frigoscandia Distribution and IKEA
IKEA Food Services AB is a company under the furniture giant IKEA’s concept, providing food to the customers visiting the IKEA stores. IKEA Food Services is an important part of IKEA with the vision that “it is hard to do business with hungry customers.”

IKEA Food Services and Frigoscandia originally met in 1996 when IKEA Food Services first started to organize under a central function and they agreed to build a logistics function from scratch. IKEA had been buying locally from wholesalers in the different countries and had a high diversity of products, high purchase prices and a high costs for sourcing. With a new central function they concentrated it to one source and one purchase agreement with different suppliers. From starting out with supplying the German stores Frigoscandia today provides the logistic service for all IKEA stores, apart from a few franchises, around the world.

Frigoscandia’s Services for IKEA
The concept is based on that Frigoscandia Distribution under the operating company Frigoscandia Logistics AB runs IKEA’s operational logistics office. The daily operations include order processing where Frigoscandia takes in orders from each IKEA store, processes

pick lists to the supplying DC. Frigoscandia then also invoices each IKEA store for the products supplied.

At the other end Frigoscandia purchases replenishing stock to the DC’s based on the fixed product range and the consolidated demand from all the IKEA stores. All product manufacturers and suppliers are pre-decided by IKEA Food Services and a fix product range is set a couple of times a year.

Frigoscandia mainly buys transport and warehouse services internally within Frigoscandia Distribution when within the Nordic region. Outside Nordic a variety of sub-contractors are used to cover the geographic scope of the IKEA stores. The majority of the sub-contractors used are former sister companies from previous company structures. But also totally independent providers are used.

Frigoscandia and IKEA Food Services are continuously developing the concept in a close cooperation. Frigoscandia takes care of the project management of e.g. relocations or setting up new DCs.

The finance part is based on an Open-Book principle where Frigoscandia openly shows IKEA all costs related to the operations and then Frigoscandia has a fixed markup fee of a couple of percent on top of the actual costs.

6.3.3 Frigoscandia’s views on 4PL

Frigoscandia do, as Schenker, believe in a mix between a 4PL and a 3PL. Their network of temperature controlled warehouses is large barrier for any competitor to break through. Also Frigoscandia has experienced difficulties in finding customers that want to outsource their logistics operation to Frigoscandia as a whole. Instead the focus now is to develop the existing customers and to get them outsource more of their functions to Frigoscandia.119

6.4 Sonat

6.4.1 The Company

Just until recently Sonat AB was, according to their own statement, Sweden’s first supplier of independent fourth party logistics (4PL). Though, asking the question why this was removed, the answer was that the expression 4PL had been worn out by too many using the expression the wrong way. What many companies have neglected is, that in order to be optimal logistics integrator and owning physical assets within your organization, it will sooner or later result problems of credibility towards your customers when it comes to logistic development. Still Sonat sees them selves as a practical example of the ideas presented by Gattorna (see 4.5).120

The company started in 1995 and has its headquarters in Stockholm, Sweden. The product provided is called dChain, and means that Sonat, as an external party, runs and develops the logistic function of a client. This way the client will not have to invest in a logistics

119 Paulsson, T (2002-05-29)
120 Mårtensson, A (2003-04-25)
department of their own and instead focus investments and resources on their core competencies. Their own developed product, dChain, involves tactical as well as operational actions to manage the clients supply chain, from supplier to end customer.121

Sonat has, unlike the other case companies, it’s origin within the consulting business, and therefore a somewhat different approach towards integrated logistics. Sonat sees themselves as the outsourced logistics department of their clients, only they are not in-house. All Sonat personal work as operational staff, but also continuously with development.

Examples on activities that Sonat provides are order planning, transport documentation, stock optimization, supplier relations, dimensioning, and key measurements and analysis. Through a partnership with Sonat the customer should get access to wide competence and an IT-infrastructure that should enhance the customers competitive position through economy of scale and focus. They are operating on three corner stones:

- **Process Management** – knowledge of processes and how they effect the success of a company.
- **Operation** – knowledge of how daily operations effects long term results.
- **The provider market** – knowledge of the different providers and which of them that might be of interest for the client.
- **IT/IS technology** – knowledge of how to implement modern IT technology. Focus is on integration between different partners in the supply chain.

The goal for turnover 2003 is 1.3 MEUR (12 MSEK), last year they had an increase of 140%. Sonat do not keep the turnover of e.g. transport and warehousing costs in their balance sheet, but estimate it to 40 – 50 MSEK. According to Anders Mårtensson there is no limit to how large the concept can get. But at the same time he says that it will never grow to the proportions of the transport industry since they only sell an “administrative” service and no physical handling.

### 6.4.2 Sonat and Ordning&Reda

Ordning&Reda started as Åhnbergs Bookbindery in Stockholm back in 1965. Corporate customers and publishers were major buyers, but with changed niche for new, original, freshly designed products for both home and work situations. Ordning&Reda have today widened their circles beyond the national level and established representation in England, USA and Japan. The purity of Scandinavian form and design was already then receiving a lot of appraisal. At the end of the 1980’s, a strategic decision was taken to establish a chain of self-operated or franchised stores exclusively dedicated to selling Ordning&Reda products. Every one being a concept store in itself under a common decoration and marketing program ensuring the future life of a strong brand name.122

Ordning&Reda is a large global network of small stores in 16 countries. Many customers have Ordning&Reda as their sole supplier and are therefore relying on them to have deliveries on time. Some products need to be ordered in large quantities, which make storage more difficult. Ordning&Reda used to operate their own systems ordering and warehouse management, but with a changing environment the decision was to outsource logistics since it wasn’t seen as a core competence.

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121 [www.sonat.se](http://www.sonat.se) (2002-10-20)
122 Sonat/Ordning&Reda Press-release (2002-04-02)
Sonat is since the beginning of 2002 providing the total logistics management function for Ordning&Reda. They control everything from customer orders to fulfillment and procurement from Ordning&Reda’s suppliers. To control the logistic flow, Sonat operates in both their own and the clients systems.

They don’t buy services from subcontractors directly in their own name, but do instead search out and select a network of subcontractors for the client that is supposed to be the optimum solution. Sonat calls it the dream-team of logistic service providers.

6.4.3 Sonat’s views on 4PL

Sonat see them selves as the first fully independent logistics integrator on the Swedish market, and they are pointing out the benefits of that independent approach. To be able to be the client’s logistics department, Sonat needs to provide continues improvements. According to Anders Mårtensson\textsuperscript{123}, a percentage on transport costs or open book solution will not give the right incentives to improve services and costs. Instead Sonat’s improvements toward its customers are measured with quite common methods like order fulfillment, stock rotation, and overall transport costs. Sonat and their customer set up a goal for improvements, and if Sonat reaches this goal a “bonus” is achieved. Sonat also have an incentive in conducting the daily operations more efficient. The terms of measurement also effected by other things than logistics management decisions, but this is something that Sonat sees as a calculated risk.

Sonat work with all types of customers, although they started out with a focus on smaller high growth companies. The relationships with their customers are seen as partnerships, but unlike other cases I have encountered, Sonat does not sign long term contracts with their customers. The reason is said to be that long contracts tie down their commercial relations with these customers. Instead a long-term relationship is based on that the customer is satisfied with the service that Sonat delivers.

\textsuperscript{123} Mårtensson, A (2003-04-25)
4PL, just a new name for 3PL?

This chapter holds the evaluation of the 4PL, theory compared to practice. In order to do the evaluation of the competitive advantage of the 4PL the same evaluation model as in the previous chapter is used.

7.1 Characteristics of the 4PLs, theory compared to practice

7.1.1 Operational efficiency

Efficiency and economy of scale
Berglund divides logistics service providers into the ones with operational and conceptual focus (see section 4.1.1). With that in mind, it is easy to see that the case companies studied all have a clear focus on conceptual logistics.

An interesting aspect is of course how efficient the logistics is in the different cases studied? This is hard to tell without a more in depth study of each company, and I can only speculate in the results of such a study.

Companies like Sonat and LIAB may be the most efficient since they have the total independence to chose the most efficient subcontractor for each area. But it may very well be the other way around, that Schenker Logistics and Frigoscandia Distribution are the most efficient, since they have a more direct influence over the physical operations.

Factor costs
Factor costs may very well be a reason for outsourcing to one of the four logistics service providers studied, but it has not been brought up as a main reason. Bottom line prices is always a factor, but in a situation where main focus is on the total solution it is only one of may reasons for the price presented.

Summary
Non of the case companies have been chosen as partners only due to their operational efficiency. More because of logistical know-how and their ability to find and work with subcontractors and partners with operational efficiency. But for Schenker Logistics and Frigoscandia Distribution it may have been a factor, while Sonat and LIAB are totally disconnected from that type of operation.

7.1.2 Integration of customer operations

Multi customer operations
Characterizing the four cases is that they all have a relatively small customer base, and therefore no real scale efficiency in their set-up. This may change with time, but at the moment they main focus seems to be on process control.
Economy of scope
Gattorna speaks of economy of scope achieved by setting up a 4PL as an industry solution. This has not been represented by the cases so far. LIAB may be the closest to reaching such a status, since they operate on a market with almost all, potential customers connected to the same network (Lantmännen).

Summary
The benefits of integration of customer operations has yet to be perfected by the companies in the study. This may be a result of that non of them have a very large customer base, but also that it is of lower priority when focusing at conceptual logistics.

7.1.3 Horizontal and Vertical Networking

Global reach (Reach of the client’s total market)
Global reach is very customer specific. Frigoscandia Logistics reaches IKEA’s global operation with subcontractors around the world, and the same goes for Sonat reaching Ordning & Reda’s units. When it comes to Schenker Logistics and Telia and LIAB and Lantmännen the geographical scope is much smaller, but they still reach the total existing market. The result is that reach of the total market is fulfilled by all, due to that they all work with a network of logistic service providers to reach the market necessary.

Subcontracting & horizontal partnerships
Schenker Logistics works out of a couple of main sites and subcontracts the transport and crossdocking within their own corporation (Schenker). Frigoscandia Distribution uses a main site, owned within the group, for consolidation of shipments to the DCs around the world. The DCs and the local transportation/distribution are subcontracted as well as much of the traffic from the main facility to the DCs.

LIAB and Sonat have the physical operations totally subcontracted. LIAB to preferred subcontractors in their network of carriers. In Sonats case they consult their customer on the best-suited operator for each individual case, and do not subcontract any physical operations. They help their clients in setting up the best possible solution and network of subcontractors.

Owning of Physical Assets
The owning of physical assets connects very much to the heading above as we clearly can see that Schenker Logistics and Frigoscandia Logistics rely on a main facility used in the system, and that this facility is owned within the company or group.

LIAB coordinates transports and are not dependent of a main facility. LIAB like Sonat do not own any physical assets at all when it comes to physical logistics operations.

Summary
The customer’s needs, is what sets the boundaries for how much market is covered by the logistic service providers. But overall all companies manage to provide the service asked for by their customers.

Subcontracting & horizontal partnerships is fully achieved by Sonat and LIAB, but not to full extent by Frigoscandia and Schenker. This is well connected to the fact that Schenker and Frigoscandia own physical assets, which Sonat and LIAB don’t.
7.1.4 Supply Chain Management and integration

Total Logistics Process Management and SCM
Schenker Logistics, Frigoscandia Distribution and Sonat take care of all the logistics including taking in orders from customers and replenishing and optimizing the stock situations. The total supply chain activities seem to be an important part of the concepts.

LIAB is more of a Transport coordinator that has a mission to optimizes the resources used (the trucks), and to simplify the financial and ordering processes of the partners in the network. LIAB started out as the main logistics partner for Skånska Lantmännens, but has still to reach the same status for Lantmännens (a merger of several companies, including Skånska Lantmännens)

Change Management
Schenker Logistics and Telia started their cooperation as Telia changed their whole logistics thinking and organization.

LIAB was formed as Lantmännens and Schenker Consulting together evaluated a new set-up for transport organization for Lantmännens.

Frigoscandia Distribution and IKEA Food Services started their cooperation, as IKEA Food Services became a centralized function and need help in streamlining the organization. Frigoscandia Distribution and IKEA have worked together to bring new IKEA country and regional organizations into the same set-up.

They partnership between Sonat and Ordning&Reda started as Ordning&Reda outgrew their current set-up and were in the process of re-thinking their strategies.

There is also a clear cooperation between the primary partners on continues development of the operations. Frigoscandia Logistics takes on new markets within the IKEA sphere and develops together working methods and IT solutions. LIAB is also looking for an extension of their market to reach even more scale benefits in transport. Both LIAB and Sonat are fully measured on their continues improvements, of both the concept and costs.

Summery
Here theory and empiric fits very well. Almost all companies are the sole suppliers of logistic services for their customer with a clear mission to control the full process of logistic activities. Both Supply Chain Management and continues improvements are covered by the logistic services providers in the study.

All of the above mentioned situations came from situations were a definite change was needed. The customers to all of the above companies were either starting up an operation or doing a evaluation of their current situation that lead to a change in strategy.
7.1.5 The Client Interface

*Degree of client commitment (Length of contract)*

The 4PL’s length of contract makes the partnership a more long-term based relationship, which is good for the development of the concepts together with the clients.Gattorna describes the most likely 4PL relationships as long-term contract and joint ventures.

Schenker Logistics is a joint venture between Telia and Schenker. Originally Telia had 51% share, but now Schenker owns the majority of the stock. This may well be a result of that the relationship started with a lot of uncertainty and were Telia had to take a greater part of the risk for the set-up. As the set-up has settled in the different organizations and new clients have been added it has become easier to commercialize the relationship.

Almost the same goes for LIAB, where the company originally was made up as a joint venture between Lantmännen and Schenker (60% to 40%). Today Schenker owns LIAB 100%.

Frigoscandia and IKEA have a relationship based on a long-term contract. The running term is one year at a time, but the relationship has grown so deep that it would most likely be hard for either partner to exit the relationship without a great effort.

Sonat has a different approach. Contracts are only a formality and no long terms are built into them. Sonat means that long-term contracts are to secure business with investments in physical assets, and since Sonat operates totally without physical assets they do not need that security. Instead they see a satisfied customer as a key to a long relationship.

*Financial share of gain and loss*

Compared to other types of logistics relationships, risk- & gain sharing is a vital part of the concept to achieve sustainable cost reductions. All parties need to be aware of the benefits of a more holistic and transparent logistics set-up. But to date, as Bedeman argues (4.5.2), there is still an absence of a good risk- and gain-sharing model.

Schenker Logistics has a variety of everything. Gain-sharing models are not common, but do exist.

The relationship between IKEA and Frigoscandia is based on an open book system. The open book means that Frigoscandia Distribution only passes on related costs to IKEA, and can therefore not been seen as a gain sharing method.

Sonat is fully measured on improvements. Order fulfillment, stock rotation, and transport costs are common indicators, and Sonat calculates with a certain risk of using these indicators.

LIAB mostly deal with transports and is measured on their ability to decrease transport costs compared to general index.

*Degree of integration*

Schenker Logistics started out as a joint venture, and there are still strong ties to the primary customer Telia.
LIAB was owned partly by Lantmännen and still has them as their dominating customer. But here the company structure of the customer has changed, also changing the relationship with LIAB as logistic service provider. The contract though is long-term.

Frigoscandia Logistics has no ownership connection to the client. But they work in close cooperation with cross training activities, information exchange and others. IKEA stands for the majority of the business, which makes Frigoscandia Distribution’s Supply Chain Management unit totally dependent of them.

Sonat is independent of their clients, owner wise. They do not have any long-term contracts, but see them selves as their clients’ logistic office/function and are therefore quite closely connected to their clients’ operation.

**Type of clients**

4PLs do not have that many clients, which was analyzed in section 4.5.4. Instead the focus on 4PLs is what type of clients they serve. Gattorna clearly identifies industries and types of companies where 4PL is more suitable than for others, these being (see 4.2.2): low industry concentration, small margins, companies that consider logistics as non-core competency, and companies with multiple business units.

Schenker Logistics started their operation as a joint venture with Telia and therefore with Telia as their first customer. The existing logistics operation was lifted from Telia into Schenker Logistics, although major reengineering was conducted during the process. In a restructuring of its business Telia had realized that logistics wasn’t seen as core, which lead to the decision to outsource.

Over the years other customers have been brought into the system, which is coordinated from a main facility outside Linköping Sweden. The main driver has been technology advances which has lead to less volumes products the to store and ship, and therefore provided space for more customers.

LIAB was a result of a logistics analysis by Lantmännen together with Schenker Consulting and was formed as a joint venture between Schenker and Lantmännen. The farmers in Lantmännen’s network are the primary customers and can be seen as a large network of multiple business units. High volume transports are a low margin business that LIAB tries to develop into a more efficient business for their clients. Other customers that have been brought into the network are mainly businesses with low margin products compared to the transport costs.

The Frigoscandia Distribution’s SCM operation has been formed and has grown with the requirements of IKEA Food Services. The logistics network is to cover the IKEAs around the world i.e. many and spread out business units. Frigoscandia Distribution SCM was originally formed to solve the logistics coordination problem that IKEA Food Services had. Some minor customers have been brought into the operations, but with little impact on the overall business

Sonat has a far more independent role than the other operations mentioned, and have a couple of customers on a contractual basis. Ordning&Reda became a customer as they had realized that logistics was non-core and they did not want to be dealing with it themselves. Ordning&Reda have a network of multiple business units in their network.
**Summery**

Contracts and the partnerships with their clients are generally long. Since the number of clients are quite low, there seems to be a tendency to focus hard on these and therefore keep the partnerships developing. All case companies have focused their efforts on customers in different segments, and are focusing quite hard.

According to above examples, the risk- and gain share has still a bit come. The major risks are still taken by the clients, since the services provided are seen as dedicated for these clients. But there are also examples of gain sharing methods as with Sonat and LIAB, although these also should be able to evolve to show a more true picture of the logistic service providers’ impact on overall costs.

**7.1.6 Summery**

**The holistic approach**

The 4PL has a clear advantage in controlling the total logistical process, which enables them to optimize and gain efficiency from a total holistic approach. This has also been met well in practice. In all of the studied examples the 4PLs run and/or coordinate the total logistical operation of their clients.

**Better long term financial and operational benefits**

The long-term gain of the 4PL solutions are through continues improvements to make the operation more efficient, which benefits clients in a high degree since of the customized client set-ups in these solutions. Many of the existing 4PL structures that were studied have come in place because of the client needed a change in their existing way of working.

The benefits are also to be reached through financial share of risk, gain and loss. This is still to be implemented in reality, and therefore a great potential with the 4PL concept still to be unleashed.

**Independent player on the market**

The 4PL can create broad industry solutions to gain economy of scale and efficiency for many players requiring similar types of services. This is also still to be developed in reality. The companies studied are more or less connected to one client or one central logistics center, Sonat being the only company with a fully independence. There are also few that have more then one client in a segment.

**“Best of the breed” competence**

The 4PL has also an advantage in focusing on industry segments and working with the “best of breed” sub contractors to support the special requirements of their clients. The 4PL is seen to be the central point of a logistics network, and it can therefore become very competitive by focusing on their “core” market.

LIAB is totally focused on optimizing transport for high volume products with low margin compared to transport cost. Frigoscandia Logistics has a clear focus on understanding the food producer and retailer’s logistical needs. Schenker Logistics seems to have build up competence on running the supply chain for high-tech products for a client with a wide variety of products and needs.
Sonat may be harder to sort in any category of market focus, but they have instead focused on being able to take on a variety of customer needs by building a network of IT/IS partners that can support such a variety.
8 Conclusions and Final Remarks

This chapter ends and concludes the thesis. Conclusions on the findings throughout the thesis are presented.

8.1 Conclusions

To be able to better follow the conclusions, we will review the research questions, which were:

8.1.1 What is the difference between third party logistics and fourth party logistics?

The conclusion from the comparing the terms ‘third party’ to ‘fourth party’ is that fourth party logistics is quite confusing expression when it comes to explaining its role in a buyer-seller relationship. Specially keeping in mind that 4PL is said to be able to be the single point of contact of logistics providers for the client (the first or second party). As it has been shown that the single point of contact will always be the third party, and therefore the third party logistics provider.

So the answer to the first question is that there is no fourth party and therefore no fourth party logistics. The only valid expression is third party and third party logistics and any logistics service provider that offers multiple services as a solution should be categorized under the term ‘third party logistics’.

8.1.2 Is 4PL a legitimate and valid definition?

I believe that it is legit with the viewpoint that 4PL is just a concept that is named with a four since it is a number that comes after three, and as the concept has evolved and developed the services traditionally connected to the conceptual third party logistics provider.

Different studies clearly show that there is a need for a positioning strategy for the logistic service providers where they will be able to take more holistic responsibility for their clients supply chains. As the study shows, the positioning among TPL providers called solution providers have very much in common with the providers called 4PL.

Answer to question number two has to be that 4PL may be a legitimate and valid definition of a positioning concept within the field of third party logistics (TPL), but may also very well be called something else than 4PL, which seems to be the case with the companies studied.

8.2 Future research

4PL seem to be a name that has been so much used that companies are more and more reluctant in describing them selves as 4PL. But, although it does not seem to have
revolutionized the business, it definitely made an impact and is representing a concept that becomes more interesting to many. How much the name 4PL will be used have to be shown by future empirical studies. But my findings show that it may not be 4PL that is the most used name in the future.

4PL is also the trademark of Accenture, and it is therefore interesting to see the development of the them possibly defending their rights to the name. If they choose to do so, a new expression will definitely be a necessity.

Probably one of the most important areas that still need lots of development is the risk and gain sharing models. The conclusions show that risk- and gain sharing methods are an important part of a successful logistics partnership, but that they don’t exist to any larger extent today.

8.3 Final Remarks

The expression 4PL has definitely made an impact on logistic service providers and their way of looking at logistic services. But my personal thoughts are that the expression 4PL will not live on. Because of the confusion on how to use logistics expressions within the industry, it will take some time before a more general expression will appear. My guesses are that something like logistics integrator will take over more as the description of companies, today describing themselves as 4PLs.
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