

Chapter 20

Using Outsourced Logistics Services (4PL): Economical and Technical Analysis of an Operational and Business Model

Vasileios Giotopoulos

Democritus University of Thrace, Greece

Dimitrios Koulouriotis

Democritus University of Thrace, Greece

Vasileios Moustakis

Technical University of Crete, Greece

ABSTRACT

The objective of this chapter is the study of the economical and legal environment in which logistics enterprises operate in Greece. Firstly, there is a presentation of logistics outsourcing and the existing 3PL and 4PL organizational models as well as an analysis of the economical and legal system which influences the operation of logistics ventures in Greece and a presentation of the funding possibilities according to Greek law. An economical sustainability study is being conducted according to the Net Present Value method (NPV), and two types of ventures are studied: an asset based venture, and a non asset based venture. At the end of this chapter, there is a sensitivity analysis with respect to the discount rate that is used in the NPV (Net Present Value) method. The results of this analysis showed that a change of the discount rate has significant consequences on the economics of the project.

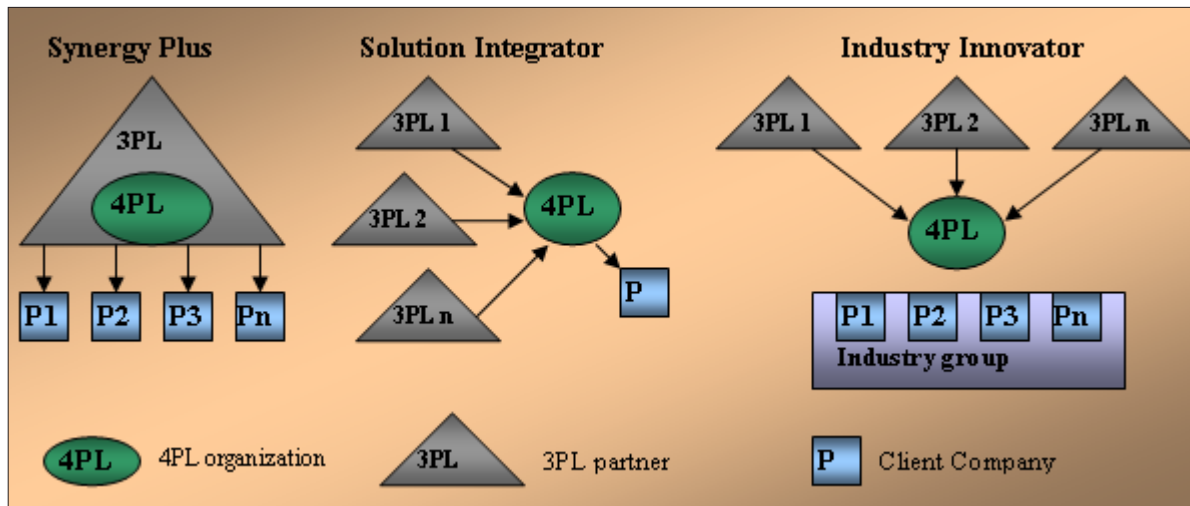
INTRODUCTION

The local and international competition that exists in the market forces many enterprises and industries to sign contracts with 3rd party or 4th party companies in order to take over their supply chain

processes. The main goal of this strategy is to take advantage of the specialization of these companies and the avoidance of major investments (Gattorna, 1998). According to statistical data gathered from multiple researches conducted in Greece over the period 1998 – 2007, there was an intense growth of the logistics sector's turnover for approximately 20% per year. However, during the last period,

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Figure 1. 4PL operational models



dissatisfaction about quality of service offered is growing among client – companies (ICAP, 2008). At the same time, the world economic recession does not encourage great investments in fixed assets like warehouses and means of transportation. Under these circumstances, new operational and organizational models have to arise and be implemented in everyday business. These models can give the companies the opportunity to rise up to the challenges and new conditions of world market. Taking into consideration all these facts, the 4PL (4th Party Logistics) operational model is being studied in the next chapters.

The 4PL company represents the connecting part of the whole supply chain. Its primary mission is the administration and integration of its own business resources, skills and technology with the respective assets of other logistics service providers in order to provide a complete administrative solution for the whole supply chain (Bade and Mueller, 1999; Christopher, 2007). There are three main theoretical models for the operation of a 4PL organization: the Synergy Plus model (one standard 3PL partner and many client companies), the Solution Integrator model (only one client company and multiple 3PL partners) and the Industry Innovator model (many 3PL partners

and many client companies usually of the same industry sector) (Buyukozkan et al. 2009).

The main benefits arising from the implementation of 4PL operational models in business are (Bhatnagar & Viswanathan, 2000; Bumstead & Cannons, 2002; Stefansson, 2006):

- The economies of scale achieved through the specialization of the cooperating parts
- The avoidance of excessive costs deriving from the need of foundation and maintenance of logistics departments
- The take over of responsibility for quality of service and supply chain performance by the 4PL
- The possibility of controlling and affecting the whole supply chain.

In order for these benefits of the 4PL model implementation to be achieved, a detailed economical and technical analysis should be conducted. In the following sections a research of the sector’s economical and law environment is presented, in addition to the determination of the total investment and operating cost of two different types of 4PL ventures (an asset based and a non – asset based company). Finally, an economic viability study of the investment, according to

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