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3PL definition and taxonomy

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THIRD PARTY LOGISTICS (3PL): DEFINITION AND TAXONOMY

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Introduction

This technical focus proposes a definition and taxonomy of third party logistics (3PL). It has been primarily designed for use in research projects examining innovation and technology usage in small and medium-size 3PL service provision companies, particularly in a European context. However, the authors hope that it is also useful in other contexts.

The derivation of the definition and taxonomy is based on the following three inputs:

1. Existing definitions from the literature;
2. Structure and evolution of the European 3PL industry; and
3. Specific issues associated with innovation and ICT.

Each of these inputs is discussed further in the following sections.

Theoretical Definitions

Many definitions of 3PL can be found in recent literature. For example, the PROTRANS project collated some of the important definitions[1]. There are a number of features which are worth noting.

- The definitions range from the quite limited (e.g. Eyefortransport, 2005), which focus on a narrow range of activities, to the wide ranging (e.g. Langley, 1999). The latter emphasise the role of value-adding services. This implies a spectrum of organisations, from those who focus mainly (or exclusively) on transport activities to those who provide a wide range of value-added services.
- This spectrum is to some extent based on the evolution of the sector. For example, Bowersox (1996) specifically refers to 'a new type of service, which emerged from service providers that formerly offered warehousing and transport services and have extended…by adding new and unique value-added services'.
- A number of the definitions refer to the requirement to provide "multiple" or "bundled" services (e.g. Sink, *et. al.*,1996; Langley, 1999; Virum, 1993; Jockel, 1998).
- A number of definitions incorporate references to the relationship between the 3PL and its customer base (e.g. Van Laarhoven *et. al.*, 1999; Virum, 1993; Bagchi and Virum, 1996).
- The concept of service provision in an integrated manner is implicit in a number of the definitions (see comments on "multiple" or "bundled" services above). However, Langley (1999) explicitly notes the desirability of an integrated approach to solution provision.

Structure and Evolution of the European 3PL Industry

A key characteristic of the European 3PL market relates to fragmentation. In recent years, mergers, acquisitions and strategic alliances have resulted in the creation of a small number of large companies, which control a large proportion of the market. In Italy, for example[2], several large foreign logistics groups, including TNT, Deutche Post, Eurogate, ABX and British Post Office have entered the market in recent years. In parallel, the industry comprises a very large number of small companies (see Eurostat, 2003). For example, in the Italian transport sector there are about 150,000 haulage companies and 67% of them own no more than 3 vehicles. Furthermore, a recent analysis carried out by an Italian logistics magazine, *Il Giornale della Logistica,* on a sample of 1,000 Italian 3PLs ranked by turnover shows that: a) the first 100 companies produce 64% of the total sample turnover, and b) for the first 200 companies the percentage is 75%. The fragmentation of the market is also evident considering employee data. It has been estimated that about 50% of the Italian 3PLs employ less than 50 people, and that 35% of them employ less than 9 people.

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[1] These and other definitions are available from the authors.

[2] The authors are currently engaged in a project which is examining the usage of ICT by small Italian 3PLs.

Specific Issues Associated with Innovation and ICT

Levels of innovation, and ICT dissemination, in the 3PL sector are unevenly distributed between large and small-medium sized logistics service providers. For example, large firms have invested relatively heavily in ICT and have actively developed information systems. Furthermore they have been using in-house information systems to support their operations for a long time. Small and medium-size enterprises in transport and logistics, on the other hand, have more difficulties in setting up ICT applications due to reluctance to change and insufficient human and financial resources. Moreover, competition among small providers is generally cost-based and this explains why service quality is still considered less important compared to other factors. Smaller 3PLs often perceive ICT as an added cost involving company re-organisation and skills development associated with technology investments. This has further complicated their competitive positions - it seems that they have underestimated the potential of ICT as a driver for increasing cost-efficiency and improving customer service.

3PL Definition

Based on the above three inputs, the following definition is proposed (modified from Van Laarhoven *et. al.*, 1999):

"Third-party logistics are activities carried out by a logistics service provider on behalf of a shipper and consisting of at least transportation. In addition, other activities can be integrated into the service offering, for example:

- ***Warehousing and inventory management;***
- ***Information related activities, such as tracking and tracing; and***
- ***Value added supply chain activities, such as secondary assembly and installation of products.".***

An overview of the logic used in developing this definition is shown in Figure 1 (below).

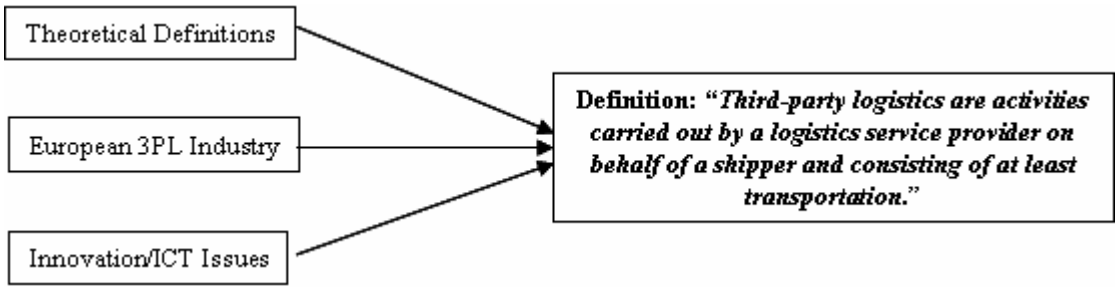

Figure 1: Defining Third Party Logistics (3PL)

There are a number of features of the definition that are worthy of comment:

- Companies which provide purely transport services are included.
- The role of warehousing and the associated management of inventory, an integral part of many theoretical definitions, is cited as the first of the non-compulsory activity elements – this reflects the fact that for many 3PLs their first foray into non-transport activities is in this area.
- The non-compulsory activity elements include both information related activities as well as elements of supply chain functionality which may be outsourced by customers.
- The word "integrated" is used to indicate the importance, where more than one service is offered, of providing a customer with a coordinated logistics support.

3PL Taxonomy

Based on this definition, the vast majority of European 3PLs are small companies which provide a (very often limited) range of purely transport services. For the purposes of the research into innovation and ICT, the above 3PL definition has been narrowed to exclude very small providers

that are marginal in the context of the wider supply chain. Companies with less than five vehicles and companies whose transport assets are limited to fleets of vans are excluded. Within this population, a taxonomy is proposed based on:

1. "Full Haulage" 3PLs: those companies within the population for whom transport activities represent 100% of turnover;
2. "Basic Logistics" 3PLs: those companies for whom transport and warehousing together comprise over 50% of turnover; and
3. "Advanced Logistics" 3PLs: those companies for whom transport and warehousing together comprise less than 50% of turnover.

Full haulage companies are a legitimate part of the population to be studied as they represent a significant percentage of the European 3PL sector. There is evidence that many of the companies that are now part of the other categories have their origins in this area. Similarly, many of the companies currently in this category may aspire to expanding their range of activities to become basic or advanced logistics providers in the future. This is in line with the "spectrum" view of 3PLs in the literature, as discussed earlier. The authors accept that the 50% cut-off between basic and advanced providers is somewhat arbitrary. However, there is a need to make some kind of distinction given the way in which the sector has evolved in recent years. This classification is based on the range of services provided – a factor which adequately describes the fundamental nature of any logistics business. An alternative classification mechanism could be based on, for example, the extent to which different elements of the service offering are integrated. This would, however, be more difficult to measure objectively.

Comments and Acknowledgements
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