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The Role of Third Party Logistics Providers (3PLs) in the Adoption of Green Supply Chain Initiatives

By Edward Sweeney, Pietro Evangelista, Maria Huge-Brodin & Karin Isaksson



The increasing importance of environmental sustainability has sharpened the focus on the need for innovative approaches to the purchasing of transport and logistics services. This article considers some of the key changes and initiatives that have taken place in the European and global 3PL arena in recent years.

Environmental sustainability has become increasingly important as a result of global climate change and a scarcity of certain critical resources. Moreover, the recent economic crisis has accelerated the need for sustainable growth – i.e. growth where more efficient and effective use of natural resources is a prerequisite for developing a sustainable economy. In this scenario, companies are striving to reduce the negative environmental impact of the processes they carry out, while maintaining long-term profitability. Of the many and varied activities that companies carry out, it is widely recognised that the purchasing function has an important role to play in promoting greener business processes along the supply chain. The incorporation of environmental concerns into purchasing activities contributes not only to the greening of the supply chain through supplier involvement and cooperation but also to the improvement of overall company performance¹. However, most of the academic research in this area to date has focussed on product suppliers rather than service suppliers. Among the latter, third party logistics service providers

(3PLs) are known to make a substantial contribution to environmental degradation with transport and logistics activities contributing significantly to greenhouse gas emissions at a global level². For this reason, it is important to incorporate green considerations into purchasing decisions when companies source transport and logistics services.

Recent Developments in the Transport and Logistics Sector

In recent years a number of trends have affected the logistics service industry, creating new strategic challenges and opportunities for 3PLs. Supply chains have become more complex, as globalisation of business has resulted in the concomitant development of more international supply chain configurations. These are typically longer (in distance as well as time) and comprise a large number of inter-firm relationships, often between firms with limited shared history. In parallel with this, the process of vertical disintegration as a result of the outsourcing of key elements of supply chain functionality by manufacturers and retailers has radically altered the role of the 3PL sector³. This evolution has resulted in a transition from a narrow focus on mainly transport activities to a model based on the provision of a wider range of integrated services. In this process, core transport service offerings are being commoditised, while the provision of value-added services – often based on significant information and communications technology (ICT) capability – has become an important point of differentiation⁴. This has given the 3PL sector a new and more pivotal role in the design and execution of the wider supply chain.

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In this changing process, environmental sustainability is a challenging area for 3PLs as these companies have to face two different pressures. The first relates to transportation costs due to rising fuel prices. This is leading 3PLs to implement cost-cutting initiatives such as the optimisation of transport networks. The second comes from the buyer side. Manufacturers and retailers are investing an increasing amount of resources in accomplishing their environmental objectives. As a result, 3PLs are required to improve their green credentials and sustainability competencies in order to support the environmental

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strategies of their customers. In this context, it is reasonable to expect that the criteria for selecting 3PLs will be increasingly based on the evaluation of their sustainability practices and performance.

Green Logistics

In this evolving competitive landscape, environmental sustainability is an area of increasing importance for the transport and logistics sector as its core activities have a significant environmental impact. As a result, recent years have seen major developments in the emerging field of green logistics. This work has resulted in 3PLs identifying and adopting a variety of approaches as component elements in the process of greening their core transportation and logistics activities. These include, but are not limited to, the following:

- modal shift and the development of intermodal solutions;
- the adoption of new technology;
- the development and adoption of tools for assessing the carbon footprint of activities;
- the use of more efficient (and, therefore, greener) transport management strategies; and,
- green logistics system and supply chain design.

There is significant variation among 3PLs in relation to the implementation of these and other green initiatives in practice, as well as in relation to their future planned adoption. Service offerings from 3PLs therefore differ considerably when it comes to green aspects. However, the role of the 3PL industry in the development of more environmentally sustainable logistics systems has been largely ignored in green logistics research to date⁵.

Green Purchasing of Transport and Logistics Services

The incorporation of a stronger environmental focus in the purchasing of products and services can yield higher profitability, which is the main reason why the topic has received increased attention in recent years. There is evidence that green purchasing can lead to both increased revenue streams and lower costs, thus improving overall firm performance⁶. Early research on green purchasing focussed mainly on product suppliers, with the focus having shifted somewhat to include services more recently. However, research on the purchasing of transport and logistics services is still scarce, particularly in the context of the evolving environmental sustainability agenda.

Common drivers of greener approaches to purchasing in general include regulatory compliance, customer pressure, risk minimisation and monitoring of green performance⁷. In

green purchasing, the adoption of innovative approaches to supplier evaluation is important⁸. This requires the development of new tools to support this process. However, it appears that while the importance of environmental assessment of suppliers has become more recognised in recent years, there is still a lack of tools that facilitate this type of evaluation. In addition, risk assessment is crucial in assessing suppliers from a sustainability perspective, and hence risk assessment capability becomes a key to success.


The results from our research into green purchasing of transport and logistics services suggest that ambitious green strategies at corporate level translate – at least to some extent – to general purchasing practices. However, when it comes specifically to the purchasing of green transport and logistics services, the high-level aspirations are – to a large extent – absent, and transport and logistics services are mostly purchased based on a traditional set of criteria. Our work indicates that the main obstacles to a more serious green focus include the absence of standardised ways of describing and evaluating green transport and logistics services.

Our research further suggests that the generation of sustainable solutions requires not only that suppliers of transport and logistics services be rigorously and robustly evaluated, but also that supplier development becomes an integral element in the green purchasing processes of firms. Socially responsible purchasing (including green dimensions) is associated with commitment to suppliers, trust-building between the buyer and supplier, and also to supplier performance in general. In addition, cooperation between the purchasing organisation and its suppliers is crucial in order to green the purchasing process, and can also enhance overall firm performance significantly. The adoption of sustainable supplier development programmes can also be seen as a way of reducing the environmental risk in supplier relationships, something which should also have positive effects on operational costs and overall competitive advantage.

But an honest investment in building relationships with suppliers would require a far more long-term commitment to 3PLs than is the usual current practice. An important barrier to investment by 3PLs in green transport and logistics initiatives today is the short-term contracts that most customers offer⁹. Even though the payback period for many investments from a purely cost perspective may be less than two years, the contracts offered are often shorter than that. Another barrier is the wide variety of green logistics services demanded by customers. For most 3PLs servicing many different customers, this poses a big challenge when they attempt to formulate offerings and change the ways in which they work.

Future Directions

As noted earlier, the role of the 3PL industry in the development of more environmentally sustainable logistics systems has been largely ignored in green logistics research to date. Some exceptions are the work of Lieb and Lieb (2010)¹⁰ based on a global survey of key developments in the sector, and Wolf and Seuring (2010)⁵, with their focus on the procurement and supply of green transport and logistics services. These contributions highlight the importance of information sharing between suppliers and buyers and the fact that customer pressure has been a critical driver in the process of greening 3PLs. While Lieb and Lieb (2010) note a greater acknowledgement of the importance of environmental sustainability among 3PLs, Wolf and Seuring (2010) point out that there is little evidence of concrete green initiatives being undertaken by 3PLs. In a similar vein, Maack and Huge-Brodin (2010)¹¹ highlight the potential for firms in the sector to better utilise their physical, human and other resources. These points are reinforced by the current authors' recent work in this area in Ireland, Italy and Sweden (see, for example, Evangelista et al. 2012).¹²

These points suggest a number of potentially fruitful areas for future development in this area. Our ongoing work strongly suggests that a key focus needs to be on exploring how the perceptions of the 3PL sector align with those of their customers – i.e. the manufacturers, retailers and others that purchase transport and logistics services. The focus of supply chain management (SCM) is on synchronising supply and demand through higher levels of integration and collaboration throughout the supply chain. Our work suggests that the adoption of this thinking in the specific context of 3PL/buyer dyads has the potential to simultaneously improve environmental sustainability and overall financial performance. However, the priority accorded to environmental concerns has been reduced in many firms in recent years as the economic recession forced a strong focus on cost reduction. In this context, it is important to note that there is significant evidence that the achievement of higher levels of environmental sustainability and better cost performance need not be regarded as mutually exclusive. Indeed, our research provides many examples of where a strong focus on the greening of supply chain operations and the attendant reduction of waste contributed directly to reduced costs and improved profitability. The critical success factor in this context is the development of more integrated and collaborative business models in line with contemporary SCM thinking, combined with a strong emphasis on the incorporation of practical approaches to the greening of 3PLs' operations. The more strategic role now being adopted by many 3PLs – i.e. that of a designer and orchestrator of a range of supply chain processes – means that this sector is likely to play a pivotal role in future developments in this area. In this scenario, green sustainability initiatives will be strategically important as differentiators for the 3PLs and the supply chains that they serve. 

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