

Status of Third Party Logistics – A Comprehensive Review

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Abstract Third party logistics has many definitions and interpretations. In this paper, we review some of the most commonly used definitions including the ones appear to be broad and inclusive in nature as well as the ones with a narrow and more exclusive focus. We define third party logistics as an external logistics service provider offering single or multiple logistics activities to its customers, which typically is on contract basis. From the provider's point of view, their business covers a great number of relationships involving everything from simple logistical activities to advanced logistical solutions; from the customer's point of view, the degree of outsourcing varies and the outsourced logistics activities differ greatly. We also discuss the reasons why business outsources the logistics functions to 3PLs. Moreover, we review the previous research and attempt to predict the future of 3PL. At the end of the paper, we point out that the rate of growth may decrease, but outsourcing logistics functions to 3PLs is still a major trend. 3PL used to provide services such as warehousing and transportation. More recently, 3PLs are putting more attention on building a long-term contractual relationship with their customers by providing multiple logistics services. We conclude that 3PLs have a significant impact on not only the past and the present, but also the future.

Keywords Third party logistics, Outsource, Logistics, Supply chain management, Warehousing, Transportation

1. Introduction

3PL is third party logistics for short. It was not known in the United States before 1990. The appearance of 3PL is due to the fact that the business environment has become increasingly competitive, which causes enormous pressure for many companies in many industries. In such an environment, companies need to continuously search for ways to design new products, manufacture them and distribute to end customers in an efficient and effective fashion. In order to continuously reduce costs, companies begin outsourcing one or more logistical functions to 3PLs. This becomes a widespread practice in industry all over the world. 3PLs have the resources, scope, scale, and best practice experience in warehousing, distribution and transportation, thus providing services more efficiently and less expensively than what companies can do in-house.

The rest of the paper is organized as follows. We first conduct a comprehensive literature review. Then we discuss the reasons why business outsources the logistics functions to 3PLs. Next we review the previous research and attempt to predict the future of 3PL. At the end, we provide some concluding remarks.

2. Literature Review

3PL is also referred to as third party logistics, contract logistics, integrated logistics, and outsourced logistics[1]-[5]. Although 3PL has many definitions and interpretations, there is no uniform or standard definition that seems to satisfy academic researchers as well as company managers.

We list some definitions as follows. Stank and Maltz[6] refers to 3PL as any firm that provides a good or service that it does not own. Sink et al.[7] define 3PL services as multiple distribution activities provided by a third party, neither the provider nor the customer, who assumes no ownership of inventory. The goal of the 3PL company is to accomplish related functions that the producer does not want to manage. 3PL is a for-hire logistics service provider for the buyer or seller of raw materials, goods in process and finished products[8]. Berglund et al.[9] define 3PL as a logistics service company providing service on behalf of a shipper responsible for the management, transportation and warehousing of goods. Lim[2] defines 3PL as an external company responsible for getting the right products to the right place at the right time, and at the right cost.

Some definitions appear to be broad and inclusive in nature, while others have a narrow and more exclusive focus. McGinnis et al.[10] define 3PL activities as logistical activities that can be provided or required by either a buyer or a seller. Another definition of 3PL characterizes it as an external organization that performs all or part of a producer's

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or consumer's logistical functions[11]. Sink and Langley[12] refer to 3PL provider as an external supplier performing some or all of a manufacturer's or customer's logistical functions. In contrast, Murphy and Poist[13] give a narrow and exclusive definition of 3PL that is a long-term, mutually beneficial relationship between a shipper and a logistics provider that offers various logistics service functions. Bagchi and Virum[14] refer to 3PL as a long-term partner that provides all or a considerable number of logistics activities for the shipper.

In this paper, we consider a 3PL as an external logistics service provider offering single or multiple logistics activities to its customers, which typically is on contract basis. From the provider's point of view, their business covers a great number of relationships involving everything from simple logistical activities to advanced logistical solutions; from the customer's point of view, the degree of outsourcing varies and the outsourced logistics activities differ greatly.

3. Reasons for Outsourcing Business to 3PLs

Today outsourcing one or more logistical functions to 3PLs is becoming a widespread practice in industry in the United States and worldwide. An increasing number of companies, large and small, are focusing their efforts on their core competencies that are critical to survival[15]. Moreover, 3PL topics have attracted many researchers, which virtually did not exist prior to 1990, particularly in the United States. See recent comprehensive reviews of[16] and[17]. 3PLs can be used in nearly every industry (retail, service, manufacturing, etc.); moreover, companies can use more than one 3PL.

According to[18], during the 1970's, 3PL originally began as a public warehousing provider. Later during the 1980's, due to the need to improve customer service of distribution managers, 3PL expanded to offer throughput besides just selling space. In the 1990's, 3PLs began to consolidate both transportation and warehousing and offered such services to managers who wanted to reduce operation costs and improve customer satisfaction by providing value-added services. The 1990's experienced explosive growth in the 3PL business by offering expanded services and "one-stop" shopping for all companies' needs. Since 1990's, 3PL has grown dramatically.

Today the business of 3PLs is so much more than managing warehouses or picking and delivering customers' orders. In recent years, 3PLs have expanded their service content, which involves more complex activities and significantly more customer service than before. 3PLs initially focused on providing warehousing and transportation; however, nowadays they perform multiple tasks ranging from purchasing raw materials to managing call centers. The market of 3PL is growing by 18% to 22% per year.

Aghazadeh[18] also points out that companies have been outsourcing businesses to 3PLs and relying heavily on 3PLs for warehousing management (56%), transportation (49%) and shipment consolidation (43%).

Previous extensive research indicated a record high rate of 3PL usage among Fortune 500 companies[4],[18],[19],[20]. Nearly 80% of the Fortune 500 companies are using 3PL[21]. In the early 1990's, only 40% of Fortune 500 companies used 3PLs[5].

More and more companies adopt complex supply chain management strategies and use logistics expertise to obtain a competitive advantage in cost and time efficiency. Companies are more likely to have a partner who already has the equipment, system and experience and is ready to help. The expansion of 3PL in the supply chain through supplementary services is also the result of customization of product or service offerings to customers. By expanding services, a 3PL is able to respond to specific customer demands and can also provide add-on services[22].

There are many reasons that encourage companies to outsource "in-house" businesses to 3PL:

- Reduce logistics costs such as inventory, transportation, and other costs;
- Concentrate on core activities and processes;
- Improve customer service level;
- Integrate the entire supply chain;
- Reduce conflict and reciprocate on mutual goal-related matters;
- Increase efficiency, stability and flexibility;
- Establish market legitimacy;
- Avoid extensive capital expenditures;
- Increase productivity;
- Reduce risk, uncertainty and fluctuation;
- Leverage resources;
- Improve expertise, market knowledge and data access;
- Create a competitive advantage either locally or globally;
- Reduce personnel and equipment costs.

Table 1. Factors that companies should consider when choosing a 3PL provider

Factors to consider when choosing a 3PL:	Cost
	Performance
	Capability
	Responsiveness
	Service range
	Financial stability
	Cultural compatibility
	Customer references
	Operating and pricing flexibility
	Commitment matching

3PLs play an important role in the entire logistics process, especially in providing warehousing and transportation services, because their customers expect them to improve lead time, fill rate, and inventory[23]. They have the resources, scope, scale, and best practice experience in

warehousing, distribution and transportation, thus providing services more efficiently and less expensively than what others can do in-house.

Accordingly, companies are increasingly leveraging the capabilities of 3PLs to magnify their strengths and benefits. But there are a number of important factors that companies should consider when choosing a 3PL (Table 1).

4. Previous Study and Future Trends of 3PL

Outsourcing logistics functions to 3PL is normally a large, multi-year (one to three years) arrangement and switching 3PL providers could be very costly. Because cost is a primary motivator, 3PL has evolved into a strategic partner[2],[5],[12],[13],[15]. 3PLs are not merely a means to make the supply chain operation effective and efficient, but also a strategic tool for creating competitive advantage through increased service and flexibility.

[12] propose a five-step buying process of 3PL activities: (1) identify the need to outsource logistics; (2) develop feasible alternatives; (3) evaluate candidates and select supplier; (4) implement service; and (5) continuously evaluate.

By considering 3PL from both resource and competence perspectives,[24] develop a typology of 3PL with the objective of exploiting competencies and encouraging competence development between 3PLs and their customers.

Aghazadeh[18] identifies five steps to choose a 3PL: (1) making the decision; (2) developing criteria and objectives; (3) the weeding out process; (4) determining the top prospect; and (5) beginning the new partnership.

Alp et al.[25] design transportation contracts with 3PLs by means of a bidding mechanism. They define three subproblems within the contract design problem: vehicle dispatching problem, inventory control problem and contract value problem. By solving these three subproblems for an adequate number of contract parameters, the optimal solution with a minimal face value of the contract can be selected.

Menon et al.[8] examine what the criteria of 3PL selection are and how the competitiveness of companies as well as the external environment affects these criteria.

Today 3PL providers expand their services significantly, from the traditional services like transportation and warehousing to a class of new activities, services and processes such as cross-docking and export operations. We review previous work and find that outsourcing logistics has a wide range according to different logistics functions[13],[18],[20],[26]. See a complete list of outsourced logistics functions in Table 2.

Although there is much variance in the growth projection of 3PLs, there is no doubt that this service will continue to grow[26]. The rate of growth may decrease, but it is reasonable to draw a conclusion that outsourcing logistics functions to 3PLs is still a major trend.

Table 2. Outsourced logistics functions

Carrier selection	Consulting services	Cross docking
Customer brokerage	Customer clearance	Export operations
Development of distribution strategy/system	Fleet operations	Fulfillment
Freight bill payments and auditing	Help desk	Import operations
Freight consolidation	Freight distribution	Freight forwarding
Information systems	Intermodal services	International telecommunications
Letter of credit review and compliance	Rate negotiation	Replenish inventory
Management and performance reports	Product returns	Inventory management
Order entry and processing	Order management	Overseas distribution
Overseas sourcing	Pickup and delivery	Product assembly/installation
Product marking, labeling and packaging	Product modification	Product repair
Route and network optimization	Traffic management	Shipment planning
Selected manufacturing activities	EDI capability	Warehousing
Transportation (inbound and outbound)	Expedited delivery	Export licensing assistance

Previously, 3PLs focused mostly on providing single and short-term logistics service, such as warehousing and transportation, which were built on a transaction – by - transaction basis. To become successful in an intense competitive environment, 3PLs still have a long way to go to develop skills, competencies and develop value-added activities. More recently, 3PLs are putting more attention on building a long-term contractual relationship with their customers by providing multiple logistics services. 3PLs have a significant impact on not only the past and the present, but also the future.

Accenture introduced a new concept called the fourth party logistics (4PL). They define a 4PL company as an integrator who puts together the resources, capabilities and technology of all organizations to design, build and run supply chain networks. 4PLs carry out the majority of the administrative activities but leave the physical movement of the goods to other contracted 3PLs. Most 4PLs do not have assets such as warehouse and truck fleet. They just provide services to their customers in the form of knowledge relative to fulfilling the customer requirements[27].

5. Conclusions

Nowadays there are an increasing number of companies focusing their efforts on their core competencies that are critical to survival; therefore they outsource one or more

logistical functions to 3PLs. It is becoming a widespread practice in industry worldwide.

In the future, outsourcing logistics functions to 3PLs is still a major trend, but the rate of growth may decrease. In the past, 3PL used to provide services such as warehousing and transportation, which is single and short-term logistics service. More recently, 3PLs are putting more attention on building a long-term contractual relationship with their customers by providing multiple logistics services. We conclude that 3PLs have a significant impact on not only the past and the present, but also the future.

REFERENCES

- [1] Sheffi, Y. Third party logistics: present and future prospects. *Journal of Business Logistics* 11(2), 27-39, 1990.
- [2] Lim, W.S. A lemons market? An incentive scheme to induce truth-telling in third party logistics providers. *European Journal of Operational Research* 125(3), 519-525, 2000.
- [3] Knemeyer, A.M., Corsi, T.M., & Murphy, P.R. Logistics outsourcing relationships: customer perspectives. *Journal of Business Logistics* 24(1), 77-109, 2003.
- [4] Knemeyer, A.M. & Murphy, P.R. Evaluating the performance of third-party logistics arrangements: a relationship marketing perspective. *The Journal of Supply Chain Management* 40(1), 35-51, 2004.
- [5] Knemeyer, A.M. & Murphy, P.R. Exploring the potential impact of relationship characteristics and customer attributes on the outcomes of third-party logistics arrangements. *Transportation Journal* 44(1), 5-19, 2005.
- [6] Stank, T.P. & Maltz, A.B. Some propositions on third party choice: domestic vs. international logistics providers. *Journal of Marketing Theory and Practice* 4(2), 45-54, 1996.
- [7] Sink, H.L., Langley, C.J., & Gibson, B.J. Buyer observations of the US third party logistics market. *International Journal of Physical Distribution & Logistics Management* 26(3), 38-46, 1996.
- [8] Menon, M.K., McGinnis, M.A., & Ackerman, K.B. Selection criteria for providers of third-party logistics services: an exploratory study. *Journal of Business Logistics* 19(1), 121-137, 1998.
- [9] Berglund, M., Laarhoven, P. van, Sharman, G., & Wandel, S. Third-Party Logistics: Is There a Future? *The International Journal of Logistics Management* 10(1), 59-70, 1999.
- [10] McGinnis, M.A., Kochunny, C.M., & Ackerman, K.B. Third party logistics choice. *The International Journal of Logistics Management* 6(2), 93-102, 1995.
- [11] Coyle, J.J., Bardi, E.J., & Langley, C.J. *The management of business logistics – a supply chain perspective*. Mason, OH: South-Western College, 2003.
- [12] Sink, H.L. & Langley C.J. A managerial framework for the acquisition of thirdparty logistics services. *Journal of Business Logistics* 18(2), 163-189, 1997.
- [13] Murphy, P.R. & Poist, R.F. Third-party logistics usage: an assessment of propositions based on previous research. *Transportation Journal* 37(4), 26-35, 1998.
- [14] Bagchi, P.K. & Virum, H. European logistics alliances: a management model. *The International Journal of Logistics Management* 7(1), 93-108, 1996.
- [15] Skjoett-Larsen, T. Third party logistics - from an interorganizational point of view. *International Journal of Physical Distribution & Logistics Management* 30(2), 112-127, 2000.
- [16] Selviaridis, K. & Spring, M. Third party logistics: a literature review and research agenda. *The International Journal of Logistics Management* 18(1), 125-150, 2007.
- [17] Marasco, A. Third-party logistics: a literature review. *International Journal of Production Economics* 113(1), 127-147, 2008.
- [18] Aghazadeh, S.M. How to choose an effective third party logistics provider. *Management Research News* 26(7), 50-58, 2003.
- [19] Boyson, S., Corsi, T., Dresner, M., & Rabinovich, E. Managing effective third party logistics relationships: what does it take? *Journal of Business Logistics* 20(1), 73-100, 1999.
- [20] Vaidyanathan, G. A framework for evaluating third-party logistics. *Communications of the ACM* 48(1), 89-94, 2005.
- [21] Yeung, J.H.Y., Selen, W., Sum, C., & Huo B. Linking financial performance to strategic orientation and operational priorities. *International Journal of Physical Distribution & Logistics Management* 36(3), 210-230, 2006.
- [22] Hoek, R.I. The contribution of performance measurement to the expansion of third party logistics alliances in the supply chain. *International Journal of Operations and Production Management* 21(1), 15-29, 2001.
- [23] Ko, H.J., Ko, C.S., & Kim, T. A hybrid optimization/simulation approach for a distribution network design of 3PLS. *Computers and Industrial Engineering* 50(4), 440-449, 2006.
- [24] Halldorsson, A. & Skjott-Larsen, T. Developing logistics competencies through third party logistics relationships. *International Journal of Operations & Production Management* 24(2), 192-206, 2004.
- [25] Alp, O., Erkip, N.K., & Gullu, R. Outsourcing logistics: designing transportation contracts between a manufacturer and a transporter. *Transportation Science* 37(1), 23-39, 2003.
- [26] Murphy, P.R. & Poist, R.F. Third-party logistics: some user versus provider perspectives. *Journal of Business Logistics* 21(1), 121-133, 2000.
- [27] Stefansson, G. Collaborative logistics management and the role of third-party service providers. *International Journal of Physical Distribution and Logistics Management* 36(2), 76-92, 2006.