

Commoditization of the Third Party Logistics Industry

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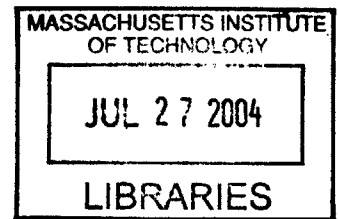
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Abstract

Third party logistics companies in the US emerged in the 1980s and have been providing valuable service for companies willing to outsource logistics. Since then the industry has been growing substantially both in terms revenues and number of players. Nowadays 3PL market has a decent share in total transportation costs and established position in the transportation sector. Furthermore, analysts forecast a significant growth of the industry and an increase of its role in the supply chain management of companies. However, the industry is not enjoying adequate profits and margins are small. 3PL companies have difficulties differentiating among each other and have difficulties demonstrating value proposition to potential customers. At first glance, it signifies commoditization - a competitive environment in which differentiation is difficult, customer loyalty is low and competing offerings are virtually indistinguishable from customer perspective.

The objective of this study is to explore whether third party logistics industry in the US is experiencing commoditization by studying current state of the industry, its competitive environment and dynamics. We investigate the principal drivers of commoditization dynamics in the industry, leverage points for influencing the dynamics, and possible strategic responses of 3PL companies. The methodology for the research is the System Dynamics, analysis of industry competitive forces using Porter's framework, analysis of profitability trend in a sample of fifteen logistics companies over period 1985-2003, and a review of current dynamics in the market.

The study gives better understanding of the current competitive environment and suggests that the 3PL industry is experiencing commoditization. Third party logistics have been approaching commodity status, and transforming the logistics outsourcing value equation from high margins and vendor control into a classic buyers' market with competition driving down margins, adding features and services, and increasing buyer choice.

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Chapter 1: Introduction

Third party logistics companies in the US emerged in the 1980s and have been providing valuable service for companies willing to outsource logistics. Since then the industry has been growing substantially both in terms revenues and number of players. Nowadays 3PL market has a considerable share in total transportation costs and the services provided by 3PLs continue to consume a significant portion of overall logistics and supply chain budgets (Accenture, 2003). Furthermore, analysts forecast (Armstrong and Associates, 2003) an average annual growth rate of the industry at 10-15 percent and an increase of its role in the supply chain management of companies. However, the industry is not enjoying adequate profits and margins are small. 3PL companies have difficulties differentiating among each other and have difficulties demonstrating value proposition to potential customers. At first glance, it signifies commoditization - a competitive environment in which differentiation is difficult, customer loyalty is low and competing offerings are virtually indistinguishable from customer perspective. Such an environment might be favorable for customers as they gain bargaining power to demand lower rates and more services. Although it is not a good environment to be for 3PLs that fight for share in the market limited by boundaries, and play a zero-sum game, where someone must lose a dollar every time others earn, but the sum total of the market remains the same.

The objective of this study is to explore whether third party logistics industry in the US is experiencing commoditization by studying the current state of the industry, its competitive environment and its dynamics. We investigate the principal drivers of commoditization dynamics in the industry, leverage points for influencing the dynamics,

and possible strategic responses of 3PL companies. The methodologies for the research are based on System Dynamics, analysis of industry competitive forces using Porter's framework, analysis of profitability trend in a sample of fifteen logistics companies over period 1985-2003, and a review of current dynamics in the market.

The study is structured along the following outline. Chapter 2 begins with a review of the 3PL concept, its history, segments, business models, and an overview of the US market. Chapter 3 presents a review of the literature on commoditization. Chapter 4 discusses factors that could lead to commoditization of the 3PL industry. Chapter 4 includes several sections: industry profitability analysis; industry analysis using Porter's "Five forces" framework; industry dynamics; and a System Dynamics model. Finally, chapter 5 introduces recommendations for strategic responses for the 3PLs and a summary of the study.

Chapter 2: Third Party Logistics

2.1. Definition

Before exploring commoditization of the 3PL industry, we must define third party logistics. It is necessary to begin with main component of the term: logistics.

The Council of Logistics Management defines logistics as the process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption for the purpose of conforming to customer requirements.

Logistics, according to the MIT Center for Transportation & Logistics, involves managing the flow of items, information, cash and ideas.

Third Party Logistics is the outsourcing of all or a part of a company's logistics operations to a specialized company. A 3PL company is a provider of multiple logistics services for customers operating in various industries locally as well as globally (e.g. aerospace, automotive, chemicals, consumer products, electronics, industrial manufacturing, and retail). Moreover, it is a company that usually offers "one-stop shopping" for logistics services with capabilities to integrate these services in contrast to companies that specialize in a specific area of services (motor carriers, ocean carriers, public warehouses, forwarders, etc).

2.2. History

The main driver of the birth and further development of third party logistics can be attributed to the deregulation of the transportation industry during the 1980s. Prior to deregulation the transportation sector was heavily regulated by government agencies, and these regulations covered practically every phase of a carrier's business. It included

regulation of rates, service offering, equipment, mergers, and acquisitions. The difficulty in obtaining authority to operate and the restrictions ensured lower levels of competition, limited entry into markets, and encouraged firms to internalize their transportation operations. Deregulation has led to restructuring of the industry, increased efficiency, and intensified competition. Due to the high competition, industry fragmentation, over-capacity, the growth of the Internet, and advances in information technology solutions, trucking and other freight companies broadened their service offering from conventional transportation services to materials handling, inventory control, order fulfillment, and other value-added services. Many traditional trucking companies started integrating warehousing, logistics, and less-than-truckload (LTL) services into their suite of services, remaking themselves into third party logistics firms. In addition, warehousing firms started broadening their service offerings by developing them internally and/or through alliances, mergers, and acquisitions and positioning themselves also as integrated logistics service providers. Most of the large 3PL firms spun off from either transportation or warehousing. Other roots include freight forwarders, customhouse brokers, and transportation brokers.

In order to trace the history of third party logistics development we examined a sample of sixteen publicly traded logistics companies to identify when companies established or acquired contract logistics subsidiaries (see Table 1).

Table 1: Dates of establishment/acquisition of contract logistics subsidiary

| Company/Year | 1981 | 1982 | 1984 | 1985 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1996 |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Schneider Logistics* | | | | | | | | | x | | |
| Menlo Logistics, CNF | | | | | | x | | | | | |
| Ryder | | | | | | | | | | x | |
| J.B. Hunt Logistics | | | | | | | | x | | | |
| CHR | | | x | | | | | | | | |
| Hub Group | | | | | | | | | | | x |
| USF Logistics | | | | x | | | | | | | |
| TNT Logistics | | | | x | | | | | | | |
| UPS | | | | | | | | | x | | |
| FedEx | | | | | x | | | | | | |
| Eagle Global Logistics | | | x | | | | | | | | |
| Expeditors Int'l of WA | x | | | | | | | | | | |
| Vitran | | | | | | | x | | | | |
| Bax Global | | x | | | | | | | | | |

* Private company

Source: Company websites

The data gives limited insight into the birth and development of logistics as any of these companies might have been engaged in third party logistics activities before having a subsidiary solely dedicated to contract logistics. More importantly, our sample is relatively small, and the industry has been highly fragmented, consisting of smaller private firms for which historical information is not publicly available.

2.3. Outsourcing

Another driver that attributed to the growth of third party logistics is related to the broader acceptance of the idea of outsourcing in the 1980s and 1990s. Outsourcing is a process when a company concentrates on its core business or main competency and

delegates other functions to third parties rather than performing them internally. Outsourcing logistics became more acceptable because it is generally regarded as a supporting function rather than a mainstream function for many firms. It also brought the opportunity to free up financial resources by reducing asset base, and personnel in areas directly related to logistics.

Recent studies show that large portion of companies use 3PL services in the U.S. The annual study of third-party logistics conducted by Cap Gemini Ernst & Young (2003), Georgia Institute of Technology and FedEx Supply Chain Services found that 78% of North American, 79% of Western European and 58% of Asia-Pacific respondents use 3PL services. Another industry study conducted in by Professor Robert Lieb (2002) shows that about 83% of 66 Fortune 500 manufacturers hired 3PLs, and 72% of those had done it for more than 5 years in a row.

2.4. Reasons for Outsourcing Logistics

According to Robert Leib (2004), Professor at the Northeastern University and the author of annual reports on the 3PL market, there are several primary events that make companies think about outsourcing logistics to 3PL companies: serious financial problems, change of CEO, a merger, or Wall Street backlash for some reason. One of these four things usually accounts for almost every company that goes to 3PL services. Most often cost is the main driver behind considering 3PL services.

In some cases a company thinks that they are very inefficient in terms of what they do inside their organization and often without really having data that proves that. So they outsource it anyway. If they have subsequent problems with the selected 3PL service provider, they may complain, but they very seldom bring logistics back in-house.

Many surveys indicate that managers emphasize potential reduction of costs as one of the main reasons for outsourcing logistics (PE Consulting, 1996, Peters et al, 1998). The other most mentioned reasons include improved service and greater flexibility, followed by ability to focus on core business, avoidance of investments in logistics facilities, obtaining expertise and specialist management.

3PLs are able to deliver the benefits discussed above for the following reasons:

The core business or main competence of 3PLs is logistics. By specializing, focusing on logistics, and leveraging the effect of consolidating requirements and volumes across customers, 3PLs can achieve greater efficiencies and economies of scale. Managing logistics for a large pool of clients allows 3PLs to balance transportation lanes, reduce random fluctuations, better utilize warehousing capacities, even out seasonality, share technology costs, and reduce overhead related to personnel -- thus reducing the average logistics cost for all clients.

In some cases, companies choose not to outsource logistics, when logistics and transportation are one of their core competencies or closely connected to their main businesses. These companies are concerned about the loss of domain expertise and loss of connection with other functions.

2.5. The Process of Outsourcing Logistics

McKinnon (1999) describes several ways firms can outsource their logistics. The most radical way would be to decide suddenly to close the in-house system and transfer all responsibility for logistics to an outside contractor. Many companies will find such an approach unacceptable if they are unwilling to dispose of existing logistical assets, reduce staff and are worried about risks related to the disruption of operations during the

transitional period. Most companies prefer to adopt a more gradual process of outsourcing by gradually transferring responsibility geographically, by business sector, or by product group. There are other ways firms can ease the transition:

1. System Takeover: A large logistics service provider can buy out in-house systems including vehicles, depots, and equipment, and retain much of the previous work-force. After a take-over of this type, the system may continue to be operated on an exclusive basis for the original client, or the 3PL company may share the use of the acquired facilities with other clients, thereby improving utilization and spreading overhead costs.
2. Joint Ventures: Some clients prefer to retain part-ownership of distribution facilities and maintain closer involvement in the logistical operation. Joint ventures with contractors offer a more attractive means of injecting outside capital and expertise.
3. System "Spin-off": In some cases own-account operators make their distribution department a separate profit center, allow it to offer services for other businesses and ultimately sell this business unit off, typically as a management buyout. Thereafter the share of the business provided by the parent company may reduce compared to the sales of services to third parties.
4. Management-only Contract: Firms can contract out only the management of their logistics assets to 3PLs and retain the ownership of all assets. Clients view it as a way to upgrade the management of their distribution operation, bringing more specialist expertise and knowledge and gaining more efficiencies than releasing capital for other uses would.

Nowadays the process of outsourcing logistics is usually an evolutionary one. For example, the 3PL's first contract with the customer might be managing inbound flows of

component parts to their manufacturing facilities. A few years later they might obtain outbound movements for the same plant. After that, they may take over internal movements from plant to plant of work-in-process goods. It maybe that the company is buying one service at the beginning and that several contracts later they are farming out almost the entire logistics network to the 3PL to manage for them.

2.6. Services

The typical list of services provided by 3PL companies includes but is not limited to direct transportation service, warehouse management, freight payment, freight forwarding, shipment consolidation, carrier selection, rate negotiation, customs brokerage, and order fulfillment/tracking.

Services can be grouped into the following major categories:

- Integrated Logistics Solutions — customized solutions on a contractual basis for all phases of the distribution process
- Transportation Management — complete freight transportation planning services
- Dedicated Contract Warehousing — warehouse management, packaging, labeling, processing returns, light assembly and product testing
- Dedicated Contract Carriage — common carriage, carrier negotiations, route-optimization services and time-definite delivery programs

Many 3PL companies move toward delivering integrated, end-to-end solutions that corresponds to the first category from the list above, as opposed to just providing several or single conventional logistics services, which are closer to the remaining categories.

There is research by Robert Leib (2002) that investigated which specific services provided by 3PLs brought the greatest service improvement and the greatest cost benefits

for its users. Major U.S. manufacturers indicated that warehouse management (22 %), followed by rate negotiations (16 %), shipment consolidation (14 %), freight payment services (10 %), and direct transportation services (10 %) yielded the greatest service improvement. As for the greatest cost benefits, almost 30 % of the respondents indicated warehouse management services, followed by rate negotiations (16 %), shipment consolidation (14 %), freight payment services (10 %), and direct transportation services (10 %).

Besides managing physical assets, leading logistics companies have capabilities to optimize the flow of information through the supply chain by using information technology systems. In many industries (e.g. the apparel industry), information-related logistics costs, like lost sales, rebates, and inventory financing, can account for a larger portion than the costs related to the movement and storage of goods. The potential savings from higher visibility and better coordination brought by IT solutions are, in many cases, larger than the potential savings from increased efficiencies in transportation or warehousing (Bot & Neumann 2003).

Some 3PLs are taking on more responsibilities in the supply chains of customers and offering additional services like financing and taking ownership of goods in transit. They free up capital resources devoted to inventory moving through the supply-chain pipeline. In some cases, transferring ownership reduces the customer's duties and taxes (Hoffman 2002). 3PLs can also handle the purchasing process from requisition through inventory management and vendor management, including vendor selection. Thereby they assist in the growth of a customer's business and consequently their own.

Sometimes companies shift investments in technology and other assets to 3PL providers, allowing them to convert customer's fixed costs to variable costs, and streamline payments instead of having a lump-sum expense, and as a result they have smoother revenues on financial statements over a long period of time.

Recently, we see that the relationship between 3PL providers and customers can go beyond the common buy-and-sell process. Some leading 3PLs help their customers to achieve their strategic goals: penetrating new geographic markets, assisting in growth and distribution, and improving performance. They create relationships where the survival and success of partners depend on each other (Langley, 2003).

2.7. Business models

The 3PLs can be divided into two categories: those that own transportation, and warehousing assets, typically referred to as asset-based 3PLs; and those that do not -- non-asset based 3PLs.

The advantage of asset-based 3PLs over non-asset-based 3PLs lies in their ability to achieve economies of scale by utilizing their capacities over many clients' volumes and in some cases, to provide better availability of services. Problems with this type of model are related to the inherent nature of asset-based companies. Asset-based 3PLs are likely to be more concerned about the utilization of their capacity than serving a customer in the most effective and efficient way. They might favor the use of their capacity and network, which may not be the cheapest or most beneficial option in terms of lead time. This can lead to sub-optimal logistics solutions and can limit the ability to adapt to the changing supply chain requirements of the customer.

Asset-based 3PLs obviously have higher portions of fixed costs in their total cost structures. From a financial stand point, profits of firms with high operating leverage are more sensitive to changes in sales, and small percentage changes in sales lead to larger percentage changes in net cash flows. Therefore, such firms have higher variability in cash flows and greater risk than firms with a lower ratio of fixed costs to total costs. In other words, such companies are more sensitive to fluctuations in demand for their services, while they get substantial benefits during high utilization of their capacity. Generally, in times of economic slow-down or for other reasons, when asset-based companies can not achieve high utilization, higher costs for all participants or losses for the asset-based 3PL will result. In such times, if exiting a relationship with an asset-based 3PL is easy and there are other less costly options, a “death spiral” can be created. This is a continuous process where triggered by higher costs, clients will start leaving a 3PL making average costs for remaining participants even higher. The opposite process is when with every new customer, the system gains scale and appeal.

However, some large asset-based logistics companies try to give contract logistics departments a high degree of autonomy and flexibility in choosing service solutions for their customers. The goal is to organize the subsidiary so that it is not bound to the assets of the parent company and to use cost-effective solutions and the transportation service providers available in the market, based on the individual needs of a customer. For instance, according to John Williford (2003), president and CEO of Menlo Worldwide Logistics, Menlo is not bound to the assets of its parent transportation company, CNF Inc and has autonomy in selecting transportation and distribution networks for the best interests of a customer.

Non-asset-based providers are usually not bound to physical assets like transportation fleet and distribution facilities. This allows them to better focus on a client's requirements and objectives and gives more flexibility in providing effective and efficient solutions, by choosing carriers that are strong in specific areas and can provide best service/price packages. Sometimes potential clients consider such 3PLs simply as middle men and try to outsource separate functions to different carriers. First, in our opinion, 3PLs are better positioned to negotiate for better terms from carriers if they are able to consolidate shipments, and create larger aggregate volumes coming out of a location and assist in economies of utilization for a carrier. Secondly, by utilizing their knowledge base in several areas of logistics and achieving synergies from broad service offerings, they create capabilities to manage bigger parts of or whole supply chains, unlike asset-based 3PLs whose main focus is around their core business, thus achieving lower overall costs and greater efficiencies.

The line between asset-based and non-asset-based sometimes becomes blurry as the industry increasingly consolidates. Companies merge and acquire other companies to broaden their service offerings, geographic reach, and customer base. It is often the case that primarily asset-based companies merge with non-asset based companies and vice-versa. The general trend is that the non-asset based model is favored over the asset-based model by customers, investors and 3PL companies for the reasons discussed earlier. Non-asset-based 3PLs receive higher financial valuations (Chung, 2002).

2.8. Market Overview

Total U.S. logistics costs in 2002 were estimated at \$910 billion accounting for 8.7 percent of total GDP of the U.S. These costs are broken down into three main

categories: \$298 billion for carrying costs, \$462 billion for transportation costs-motor carriers, and \$109 billion for other carriers. Carrying costs represent the sum of three components: \$23 billion for interest; \$197 billion for taxes, obsolescence, depreciation, and insurance; and \$78 billion for warehousing. Transportation-motor carrier costs consist of truck-intercity and truck-local accounting for \$300 billion and \$162 billion respectively. Other carrier costs include railroads (\$37bn), water transport (\$27bn), oil pipelines (\$9bn), air (\$27bn), forwarders (\$9bn), and logistics administration (\$36bn). Although third-party logistics costs are included in the \$910 billion total, the 3PL market size is estimated at \$76.9 billion according to Armstrong & Associates (Logistics Management, 2002).

The main four segments of the 3PL market follow (Armstrong & Associates, 2004):

- Non-asset domestic transportation management: Value-added transportation management dealing with shipments originating in and destined for North American points. Usually performed in conjunction with freight brokerage, often contractual.
- Non-asset international transportation management: Value-added international transportation management dealing with shipments originating in or destined for North American points. Usually performed in conjunction with freight forwarding, often contractual.
- Asset-based dedicated contract carriage: Dedicated contract carriage supplying tractors, drivers, and management. Trailers are normally included; contract terms are 1-7 years.

- Asset-based value-added warehousing/distribution: Normally long term contract warehousing or distribution center operation with a host of value-adds.

Table 2: 3PL/Contract Logistics Market 2003

| 3PL Segment | Gross Revenue (billions, \$) |
|--|------------------------------|
| Domestic Transportation Management – Asset Based (1) | 9.2 |
| Domestic Transportation Management – Non Asset Based | 21.4 |
| International Transportation Management | 23.5 |
| Value-Added Warehouse/Distribution | 19.8 |
| Software | 3.0 |
| Total | 76.9 |

Source: Armstrong & Associates, Inc

The third-party logistics industry is still highly fragmented. Table 3 shows that 66.8 percent of 3PL businesses have revenues less than \$10 million and only 3.1 percent of 3PLs have sales of over \$100 million. However, this 3.1 percent of the total number of the businesses represents about 65 percent of the market in terms of revenues (Total Gross Revenues from Table 4 divided by the market size estimate for 2002).

Table 3: Industry Fragmentation

| Sales Range | Number of U.S. Based | Cumulative Share of Total |
|---------------------|----------------------|---------------------------|
| \$250MM+ | 39 | 0.90% |
| \$100MM - \$249.9MM | 101 | 2.30% |
| \$50MM - \$99.9MM | 140 | 3.10% |
| \$25MM - \$49.9MM | 314 | 7.00% |
| \$10MM - \$24.9MM | 894 | 19.90% |
| Less than \$9.9MM | 2,996 | 66.80% |
| Totals | 4,484 | 100% |

Source: USBX Industry Research, 2002

Table 4: North American-Based 3PL Revenue

| 3PL | Net Logistics Revenue | Gross Logistics Revenue |
|---|------------------------------|--------------------------------|
| Exel plc - Americas | 1499 | 2578 |
| Ryder | 1492 | 1902 |
| UPS Supply Chain Solutions | 1402 | 1969 |
| Danzas Management Ltd. | 1386 | 3960 |
| Schneider Dedicated Operations | 1134 | 1134 |
| Penske Logistics | 1054 | 2329 |
| Caterpillar Logistics Services, Inc. | 1000 | 1700 |
| Tibbett & Britten Group Americas, Inc. | 908 | 908 |
| APL Logistics | 723 | 723 |
| Expeditors Int'l of Washington, Inc. | 682 | 2297 |
| EGL, Inc.(Eagle) | 672 | 1680 |
| TNT Logistics North America/CTI | 635 | 750 |
| J. B. Hunt Dedicated Contract Services | 628 | 628 |
| AmeriCold Logistics, Inc. | 550 | 700 |
| nAL | 499 | 579 |
| C. H. Robinson Worldwide | 484 | 3294 |
| USCO Logistics | 403 | 1478 |
| Menlo Worldwide | 388 | 969 |
| BAX Global Supply Chain Management | 355 | 600 |
| Werner Dedicated | 334 | 334 |
| Ruan Transportation Mgmt Systems | 330 | 580 |
| UTi Worldwide, Inc. | 328 | 1000 |
| Standard Corporation Integrated Logistics | 305 | 305 |
| DSC Logistics | 280 | 280 |
| Swift Transportation Co., Inc. | 270 | 270 |
| USF Logistics | 266 | 266 |
| Ingram Micro Logistics | 260 | 2250 |
| GENCO Distribution System | 250 | 250 |
| NFI Industries | 244 | 358 |
| Ozburn-Hessey Logistics | 220 | 220 |
| Total Logistic Control, Llc. | 196 | 196 |
| Logistics Insights Corporation | 186 | 412 |
| Cardinal Logistics Management | 181 | 200 |
| FedEx Supply Chain Services | 170 | 262 |
| Kenco Logistic Services | 165 | 205 |
| Jacobson Companies | 165 | 165 |
| Hub Group, Inc. | 163 | 1336 |
| Pacer Global Logistics Services | 137 | 914 |
| Schneider Logistics Inc. | 100 | 1600 |
| Total: | 20444 | 41581 |

Note: Gross revenues shown have not been reduced for purchased transportation costs. Net logistics revenues are better estimates of actual company activity and size. Revenues are actual company reported, or Armstrong & Associates, Inc. estimates

Source: Armstrong & Associates, Inc.

Chapter 3: Literature review on commoditization

Commoditization means the conversion of the market for a given product or service into a commodity market, which is characterized by increasing competition, lowered barriers to entry, and declining prices and profit margins. It is a process, a set of dynamics in an industry, resulting in companies being unable to profitably differentiate their products and services. Recently, commoditization has become a hot topic, as many industries have confronted these dynamics. In addition, in various industries many firms do not want to admit existence of commoditization or even use this word because of its negative implications. Commoditization means that a company's offering becomes indistinguishable from the offerings of the competitors. Furthermore, price becomes the main tool of competition, which implies that profit margins are very low.

Examples of industries experiencing commoditization include air transportation, computer software, hardware, hotel industry, financial services and telecommunications, and many other industries are on their way towards commoditization.

Passenger air transportation is a business of transporting people from point A to point B at the lowest price, with no major distinguishable differences. Price has become the customer's main or only consideration for choosing airlines (Prokesh, 1995). A similar situation is in the hotel industry. For many travelers, a Days Inn is the same as a Quality Inn, which is the same as a Ramada Inn, or a Sheraton is the same as a Hyatt.

Not long time ago financial information systems such as Reuters, Bloomberg had dominant positions in their industry and enjoyed significant profits. Now it costs almost nothing and in many occasions it's free to get almost the same financial information out of the Web from a large number of providers. We see commoditization in retail financial

services. For example, there is no substantial difference in where to open up a checking account. Insurance policies and mortgages, in our opinion, are commodities. The Internet has been playing a significant role as a facilitator and driver of commoditization in this industry.

Computer hardware is another example of commoditization. Disk drives, RAM and other components are mass-produced in Asia. PC producers (more often referred to as assemblers) have difficulty differentiating from their competitors because customers understand that what is inside the computer is the same everywhere. An example of a successful business model in this industry is Dell, which became popular not because of the higher quality, better design, or functionality of its products, but because of the lower price. Lower cost structure was achieved by the implementation of solutions (direct-sales, make-to-order, risk pooling) that made Dell successful in the commodity market. It will be interesting to follow the future dynamics in this industry as competitors start to replicate many things Dell has been doing.

Gordon Cook (2003) describes the commoditization in the software industry: "When new software is needed, it may be designed in North America or Europe. But the code is written in Bangalore, or Moscow, or Shanghai. Back 'home' a handful of folk do the integration, first of the software, and then of the firmware and prototype hardware. They ship the result back to Bangkok or Kuala Lumpur for replication and assembly. Container ships bring the boxes back to ports like Yokahama, Newark, or Antwerp for sale on the shelves of Best Buy and Comp USA and other warehouse retailers. Prices are driven inexorably downward."

According to industry analyst James Kobielus (2003) even Microsoft started facing commoditization: “Microsoft CEO Steve Ballmer recently declared that the company will discount its software sharply rather than lose market share to open source alternatives such as Linux. Apparently, Microsoft is willing to sacrifice profit margins to prevent erosion of its substantial foothold in many market segments. More than anyone else at Microsoft, Ballmer is keenly aware of the software Goliath's vulnerabilities. As Ballmer noted in a recent presentation to industry analysts, Microsoft can no longer compete as the low-cost provider in many market segments. Server software commoditization - driven by open source initiatives and enterprise preferences for function-limited, best-of-breed products - is exerting continued pressure in many of Microsoft's core markets.

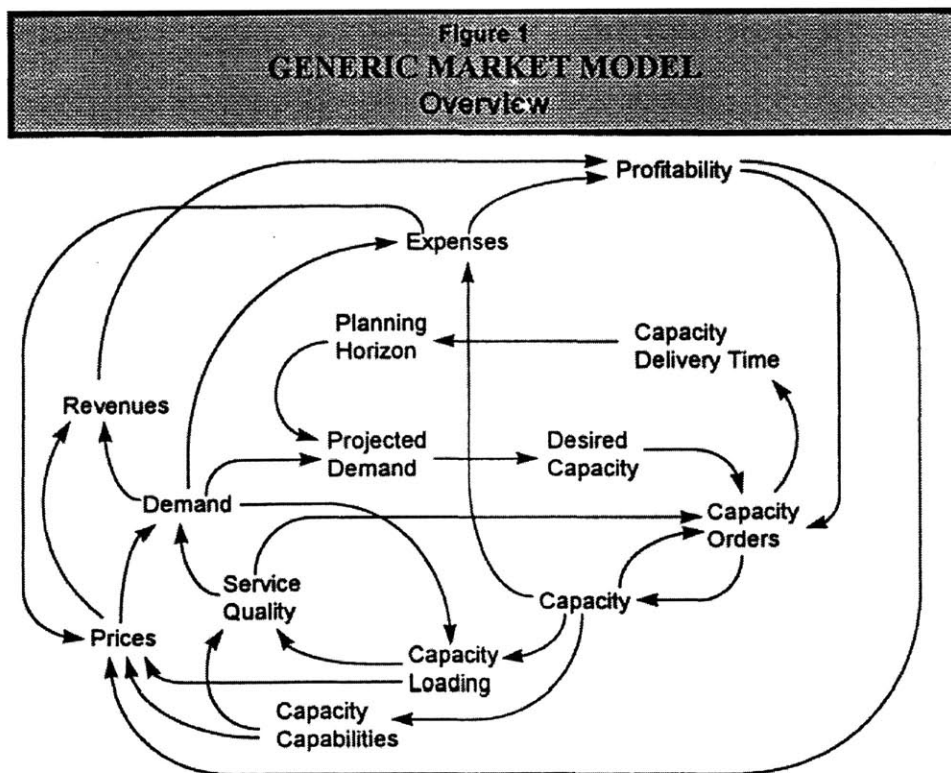
Creeping commoditization - not Linux or open source - is Microsoft's biggest foe and poses the most fundamental threat to the long-term profitability and revenue growth of traditional software vendors. Commodity-like offerings, many based on open source software, are starting to come on strong in many market niches, such as Web servers (Apache, for example) and mail servers (Sendmail, for example).”

Several researchers in academia have tried to define the dynamics of commoditization in specific industries, identify its main drivers, and propose strategic responses for companies operating in such competitive environment.

Henry Weil (1996) conducted a multi-year research program to analyze commoditization in service markets, specifically, air transportation and traditional fixed-link telecommunications. He argues that the experience of many technology-based industries suggests the existence of long-term powerful dynamics that lead to

commoditization of products and services. He defines commoditization as a competitive environment in which product differentiation is difficult, customer loyalty and brand values are low, and sustainable advantage comes primarily from cost (and often quality) leadership. A generic market dynamics model has been developed using the System Dynamics methodology to illuminate the causes of commoditization dynamics, key differences among industries and markets and leverage points for influencing the dynamics.

Figure 1: Generic Market Model by Henry Weil



The generic market model was used by H. Weil to represent the decision-making and behavior of air transportation consumers, the managers of airlines, technological factors that influence airline costs and fleet utilization, and the effects of government

regulations and policies on the airlines. Simulations were run based on historical data for the U.S. market with scenarios for macro-economic conditions, technological trends, capacity production, airline industry management objectives and policies, and the behavior of their customers. A range of sensitivity tests have been performed exploring how the simulation results are affected by changes in various inputs and cause-effect relationships.

The conclusion was that commoditization is mainly driven by excess capacity in the market. They indicate that over-capacity in a regional market arises from a complex set of causes such as: over-estimation of demand growth; proliferation of players; amplification of planning errors; lapse of financial constraints; and impacts of market liberalization.

The analysis forecast the cycles of "boom and bust", dramatic peaks separated by very wide valleys for industries encountering commoditization. The reasons include the asymmetries, i.e., it now is much easier to expand capacity than to reduce it. In addition, such pattern results from how markets change as they mature, i.e., demand growth becomes increasingly driven by the decline of fares, which happens in irregular waves because of cycles in capacity loading. The author notes that one should expect the return on capital in the industry facing commoditization to erode, because the periods with excess capacity will be longer than the periods where capacity is "right." Under these circumstances, the long-term trend in margins will be downward.

The study also argues that commoditization will progressively spread from one regional market to another, because excess capacity will move from markets where commoditization is more advanced into markets that offer relatively higher margins and

demand growth, e.g., from the U.S. to Asia. Market liberalization will make such capacity movements more and more feasible.

In a subsequent research project Henry Weil and Mark Stoughton (1998) looked at the development of air transportation, long distance telecommunications, and refined petroleum product markets over a thirty-year period. The results from comparing and contrasting the drivers of the dynamics and long-term performance of three different markets support their conclusion that commoditization is driven by excess capacity. In addition, they show that complex interactions over time among industry structure, management policies, and technology strategy inspire persistent excess capacity and, hence, commoditization.

They explain in detail the dynamics of growth, cyclicalities and commoditization. A set of factors were presented as the main drivers of commoditization (Weil, Stoughton 1998, 39-42pp.):

- 1) "Demand growth in commoditized markets tends to follow an irregular 'stair step' pattern, driven by the combination of recurring cycles of overcapacity and price-cutting and macroeconomic cycles.

- 2) In commoditized markets, the relationship between prices and costs is complex and highly dynamic. During periods of low capacity, utilization intense competitive pressures appear to decouple price from underlying costs. Strong competitive pressures cause less than 100% of any cost increase to be reflected in prices. Even when costs are declining significantly, competitive pressures can drive prices down faster and farther.

- 3) The combination of slowing demand growth, eroding profitability, and inherently long asset lifetimes leads to stagnation of the industry's portfolio of capacity.

There are powerful incentives in a commoditized industry to stretch asset lives and invest as little as possible. Significant 'barriers to exit', which make it more difficult and/or costly to eliminate capacity, exacerbate those dynamics.

4) Technological progress is very important in mitigating commoditization. It can play its role in stimulating greater demand and facilitating differentiation. Highly commoditized industries will have periodic opportunities to introduce new technologies, but these will be quite limited both in duration and relative to the installed base of capacity. Technologies that offer the possibility of moderating or escaping from the commodity game have a small impact. The research indicates that this is a crucial part of the advanced stages of commoditization. Industries, at least in their traditional forms, become trapped in a commodity business from which escape is increasingly unlikely.”

There are other views that look at commoditization from different perspective. According to Arnaldo Hax (2003) the reason why industries become commoditized lies in the managers' perception of the company's strategy. The behavior that leads towards the commoditization of the product or service offering is caused by the thinking that the ultimate goal of the company's strategy is to beat its competitors. By being obsessed about competitors, companies tend to imitate them. Such behavior leads to the convergence of the industry where all of key players begin to respond by following each other's footsteps. Imitation becomes a preferred pattern of competition. Imitation leads to sameness, creating an environment where commoditization is a real threat and often an unavoidable outcome.

Hax formulates his three tenets of strategy: first, the achievement of superior economic performance; second, the establishment of customer bonding through a unique

and differentiated value proposition; and third, the creation of a spirit of success that is established by attracting and retaining superior talent. Commoditization is against each one of these tenets and should be avoided at all cost. He believes that with a commodity business you will never enjoy outstanding economic performance; you will never provide unique offerings to your customers; and you will never be able to attract and retain the most valuable talent.

A similar view by Benson Shapiro (2003) helps to explain the dynamics and behavior that lead to commoditization. In his opinion, many companies become obsessed with beating their competitors. In addition, major customers exert enormous pressure to force suppliers to cut prices. The consolidation of purchases and purchasers adds to the pressure. In an attempt to gain market share or market position, competitors often succumb and thus destroy the profitability of whole markets.

Jonathan Byrnes (2003) provides additional factors besides competitive imitation and aging of products that drive commoditization. Two other factors are related to customers. First, as customers learn more about product, the mystique diminishes. "Yesterday's magic and excitement becomes tomorrow's commodity". Second, important customers assert their bargaining power over suppliers by bargaining for lower prices, as well as additional costly services and support. This leads to relatively low profitability. This frequently occurs when customer industry consolidates more rapidly than the supplier industry. Byrnes' observation is that services become commoditized just as products do. Additionally, this happens whether they are consumer or business-to-business services, and whether they are provided in traditional way or electronically.

Martin Shwirr (2002) presents his view on three main types of commoditization:

“Real commoditization occurs when competitors' products are perfectly interchangeable. This purest form of commoditization largely affects products whose physical and chemical characteristics are the primary purchase criteria. Salt and sugar are perfect examples of this category; many pharmaceuticals also undergo real commoditization once their patent rights expire.

Quasi commoditization occurs when product differences exist but consumers either are indifferent to or do not understand these differences. Thus, the differences do not affect consumers' purchase decisions. Quasi commodities - nails and screws are two examples may behave like commodities in the largest market segments but retain their identities in smaller, specialized markets that pay attention to differences.

Perceived commoditization is a process in which product differences continue to be important in some situations and applications but consumers assume that the product is a commodity. In such markets, most consumers can't find parameters for judging a product because of limited knowledge, the inability to assess a large number of technical factors effectively, or the inability to discern which characteristics are important for specific applications. As a result, they zero in on price when they make their purchase decisions.”

Chapter 4: Signs of Commoditization in the 3PL Industry

4.1. Industry Profitability Analysis

Commoditization implies that competitive advantage comes primarily from cost leadership and competitive rivalry mainly is based on prices. One would expect profitability of an industry to decrease over time as an industry moves toward commoditization. Therefore, decreasing profitability could provide some evidence of commoditization of the 3PL industry. However, changes in the profitability of an industry and a company are influenced by many other factors, including economic conditions, regulations, changes in technology, stage of development of a company, and its management. Analysis of profitability is a tool to provide us with better insight into underlying conditions of the 3PL market, but it is not the ultimate means to determine whether the 3PL market is moving toward commoditization.

Research on industry and competitor analysis (Wernerfelt, Montgomery 1988) has further shown that industry conditions play an important role in the performance of individual firms. Their findings state that average industry profitability is by far the most significant predictor of firm performance. It is far more important even than market share and much more important than the extent of a firm's diversification. By observing the dynamics of the industry we can better understand implications for individual firms.

There are two main measures of profitability that we considered for use in this study: (1) the rate of return on assets (ROA), and (2) the profit margin percentage. ROA measures a company's success in using assets to generate earnings, and the profit margin is a measure of the ability of a company to generate operating income from a particular level of sales. There are several drawbacks to using ROA for our analysis. First, there are

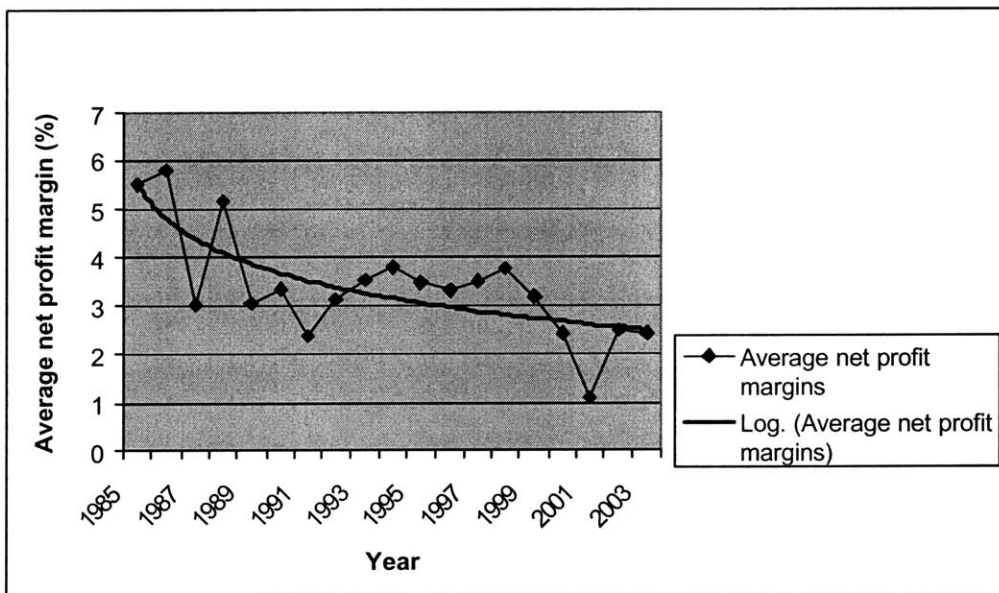
two main business models of 3PLs: asset based and non-asset based. Therefore, ROA would not be meaningful for our study as we pool data for companies that use their own assets and infrastructures, as well as those that use third-party assets and capacity to generate sales. In other words, we deal with companies that have different asset bases. In addition, ROA ignores the means of financing of those assets. Therefore, profit margin, in our judgment, is a more appropriate measure of the industry profitability and stage of maturity, and is a basic indicator of the commoditization of the 3PL market.

We study net profit margins in a sample of fifteen companies offering third party logistics services in the US over the period from 1985 to 2003. Our sample includes the following companies: Ryder System, Inc., J. B. Hunt Transport Services, Inc., C.H. Robinson Worldwide, Inc., TPG N.V., EGL, Inc., Expeditors International of Washington, Inc., CNF Inc., The Brink's Company, USF Corporation, Swift Transportation Co., Inc., Werner Enterprises, Inc., U.S. Xpress Enterprises, Inc., Hub Group, Inc., and Vitran Corporation Inc. This sample represents most of the biggest publicly traded 3PLs operating in the US. Due to the lack availability of data we did not include foreign 3PLs operating in the US and 3PLs that are not publicly traded. Companies' annual revenues vary widely, and all the revenues of the companies included in the sample may not come only from the US, as geographic coverage of companies varies. We should also mention that their subsidiaries might be engaged in activities other than logistics. The best approach would have been to take profit margins corresponding only to contract logistics in the US, but due the limited data we had to use profit margins of whole companies.

Net profit margin is calculated as net earnings after taxes divided by revenue. A higher profit margin indicates a more profitable company. On the other hand, a lower profit margin can indicate pricing strategy and/or the impact of competition on margins. The source of data is the Wharton Research Data Services.

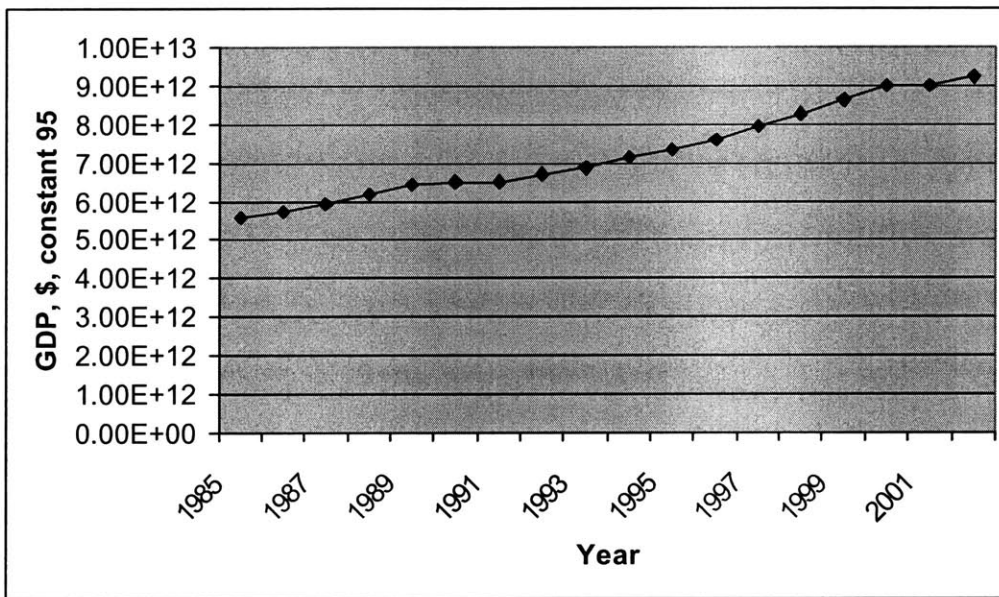
The plot of average profit margins in Figure 1 brings better insight on competitive dynamics and the competitive environment in this industry. Average profit margins decreased from a high of 5.8 percent in 1986 to a low of 0.9 percent in 2001. More recently it was 2.2 percent in 2003. We observe cycles and an overall decreasing trend of average profitability in our data, which is consistent with the findings Weil, Stoughton 1996, who studied commoditization and observed cyclical and decreasing profitability for the industries they examined. They argued that it is common for commodity markets to have cycles of “boom and bust” and dramatic peaks separated by wide valleys, which is similar to what we see in our graphs.

Figure 2: Average Net Profit Margins, 1985-2003



It's worth noting that GDP (constant 1995 \$) of the US (See Figure 2) grew almost constantly for the same period, but at different rates. The direction of causality is unclear, as GDP consists of many items, including the logistics/transportation sector. The performance of the whole economy influences the sector we are examining, and yet at the same time its numbers are included in the GDP.

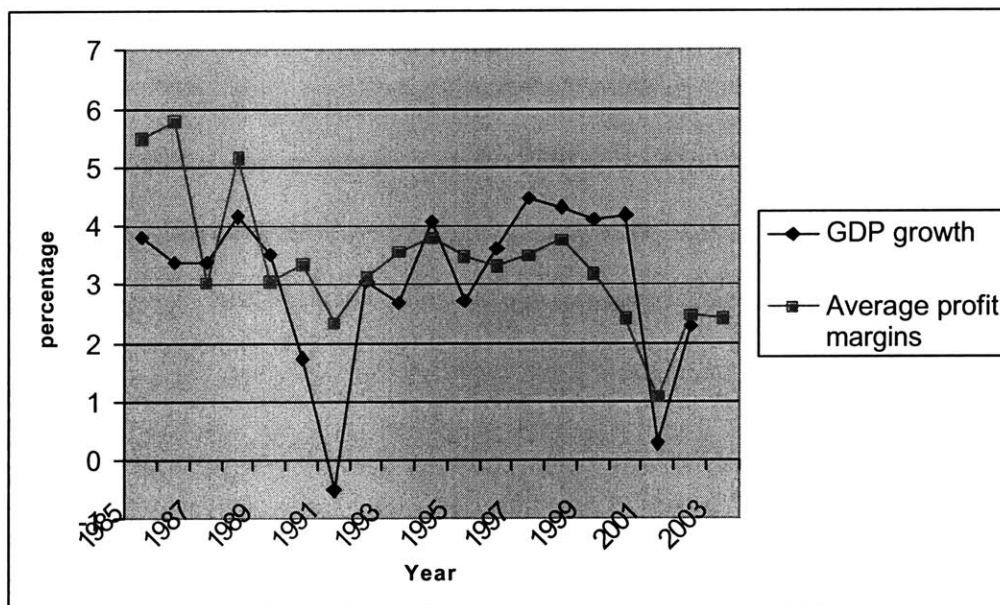
Figure 3: GDP of the US, 1985-2003



Next, the growth rates of the GDP depict a somewhat similar pattern to the average profit margins of companies in our sample over the same period, but the correlation between data is not strong (0.57). It is hard to explain the co-movement of profit margins and growth rates of GDP. One possible explanation is that during increasing growth of the economy 3PLs obtain more profitable projects through new accounts and that companies tend to outsource logistics operations during growth periods more easily. But again, the absolute value of GDP of the US grew during that period. Although we realize there is a relationship between the performance of the economy and

the performance logistics sector companies, we infer that *profitability* of the industry is more influenced by the structure of the industry and its competitive dynamics. Long-term trend in profit margins is downward sloped, signifying possible commoditization of the industry.

Figure 4: GDP Growth Rates and Average Profit Margins, 1985-2003



4.2. Industry Analysis – Porter’s Five Forces

We conducted analysis of five competitive forces according to Michael Porter’s framework. The five competitive forces – threat of entry, threat of substitution, bargaining power of buyers, bargaining power of suppliers and industry rivalry – jointly determine the industry competition and profitability. The framework is useful tool for analyzing the structure of an industry and predicting the industry’s future evolution.

4.2.1. Threat of Entry – High

Threat of new entry can be characterized as high for several reasons :

1) Pressure from adjacent industries

Pressured by intense competition and inadequate profitability in their own industries, carriers, freight forwarders, wholesale distributors, and warehousing firms try to broaden their service offerings in order to differentiate and offer more value-added services. These companies start providing services that 3PLs are offering and some of them eventually become 3PL companies. In fact, most of the existing 3PLs followed the same path earlier in the 1980s and 1990s. But this dynamic still exists and puts pressure on existing 3PLs reducing the profitability of the industry as more players come into the 3PL market. In addition, many foreign competitors entered or plan to enter U.S. market with full 3PL service offerings.

2) Economies of Scale

In many cases, 3PL companies have difficulties exploiting the economies of scale assumed by their business model. Most of the customers require tailored logistics solutions and often position themselves as a “special case”, so contracts end up with very detailed specifications that do not allow 3PLs to scale up their operations. For example,

instead of installing an industry best-practice IT system, developed and improved for many clients, 3PLs must often build expensive customized systems. They might require dedicated distribution facilities, while in contrast sharing facilities with other companies or with competitors might lead to better utilization of capacity, balance of routes, etc. In addition, large carriers to whom 3PLs usually outsource shipments often are not motivated to agree to long-term worldwide contracts if routes are fragmented and do not offer improvements of utilization of their systems. Therefore, difficulties in achieving economies of scale for existing players in the industry lowers barriers of entry for new players.

3) Capital Requirements

Potential entrants, such as carriers, freight forwarders, warehousing firms have required capabilities and have invested in infrastructure that enables them to do part of the activities 3PLs perform. They might need to invest more in technology and other areas, but capital is not significant barrier as in other fields like mineral extraction or integrated circuit production.

4) Experience

The main component of 3PLs is human capital. Experience in the 3PL industry and in the industry verticals they are serving is one of the main factors that might act as a barrier to entry. But high turnover of employees in the 3PL industry allows competitors and new entrants to overcome this barrier.

4.2.2. Intensity of Rivalry – High

Many large 3PLs strategically target industries like automotive, electronics, computers, and retail. Those market segments are intensely competitive, and margins are

very low. There are many 3PL companies in this space. The 3PL industry is also very fragmented as it is represented by more than 1000 companies, and the four largest companies represent around seven percent of the total 3PL market.

Competition is mainly based on price and service, because customers see costs reduction as the main reason for logistics outsourcing and perceive fragmented 3PL services as commodities or near commodities. There is a lack of differentiation among 3PL providers, and switching service providers is not really a serious problem according to responses of 3PL users (Leib, 2000).

The co-existence of two 3PL business models, mainly asset-based and non-asset based, plus some overlap in coverage from other adjacent asset-based industries create strong pressures on pricing and profits. High fixed costs for asset-based players exert enormous pressure to fill their capacity, which often leads to price cutting when there is excess capacity.

4.2.3. Substitutes – Medium

In our opinion, there are several substitutes for 3PL. Doing logistics and supply chain management in-house can be a substitute for 3PL. The other substitutes are the broad range of firms that specialize in service specific areas (motor carrier, warehousing, forwarder, etc). The reason we consider them as substitutes relate to our observation that real “one stop shopping,” the main objective of the 3PL model, was not achieved in many cases. Companies tend to have strong capabilities in one area, but are weak in others, and are seldom strong in all areas. Once some of them achieved a complete range of services and had all pieces for doing logistics along whole supply chain (inbound, outbound, data management, etc), there were difficulties in providing integrated solutions, and a lack of

capabilities to perform “total” supply chain management. Hence, potential customers pick either 3PLs strong in a specific area or specialized firms for a service and maintain logistics planning and supply chain management in-house.

4.2.4. Bargaining Power of Buyers -- Medium/High

What is happening in the industry is that customers, especially big ones, are continually exerting downward pressures on prices and bargaining for higher quality and more services, which leads to a decrease of industry profitability. In general, buyers have bargaining power over 3PLs for the following reasons:

In many cases, especially for smaller 3PLs, sales are concentrated in few accounts. Secondly, customers feel confident that they can always find an alternative service provider and may play companies against each other. Thirdly, they have the ability to switch providers as was mentioned earlier. Finally, buyers pose some degree the threat of backward integration, bringing logistics back in-house.

Buyers undergo a learning process through repeat purchasing and accumulate knowledge about 3PL services, their uses, and characteristics of competing firms. Over time, as buyers become more sophisticated and purchasing tends to become based on better information, 3PL services become more like commodities. Especially big buyers may stop using 3PLs once they accumulate the necessary experience and knowledge. Thus there is a natural force reducing differentiation of 3PL firms in the industry.

4.2.5. Bargaining Power of Suppliers – Medium

We consider carriers (motor, air, and ocean), physical asset providers (public warehousing), and IT vendors as suppliers for 3PLs. Although most of these industries

experience intensive competition and over-capacity, bargaining power of suppliers, in our opinion, is moderate.

The industry is not a very important customer for the supplier. We did not see the relative research that shows numbers on the portion of business brought by 3PLs to those suppliers. But, according to our judgment, 3PLs do not represent a major portion of their business. Purchase of transportation costs of top 40 3PLs, representing 40% of the market accounted for around \$20 billion, when total transportation costs in the U.S were around \$571 billion in 2002.

Many of these industries (motor, air, ocean carriers) are more concentrated than the 3PL industry. For instance, net logistics revenue generated in North America by the four largest 3PLs accounted for about six billion dollar or seven percent of total 3PL market of \$76.9 billion, while the market share of four largest companies in the US air cargo constituted 50%, and 99%, 57%, and 12% in rail, less-than-truckload and truckload industry in 1999, respectively (Boyle, 2000), in addition, since 1999 these industries underwent consolidations, which significantly increased their concentration. The supplier group also poses a credible threat of intruding into 3PL area.

These five forces put strong pressure on the 3PLs and create a competitive environment where commoditization is expected. Structural analysis will be used for recommendations in setting diversification strategy for 3PLs, which will be presented in Chapter 5.

4.3. Industry Trends and Dynamics Analysis

In this section, we would like to discuss industry trends and dynamics that could illuminate the signs and degree of commoditization of this industry. The analysis is based

on observations of industry experts from the literature as well as opinions collected through interviews. The objective is not to give a final diagnosis, but to better understand the dynamics and develop strategic options in such environment in subsequent sections of the thesis.

We take overall macroscopic look at the 3PL industry. We understand that the industry is not homogeneous and consists of firms that differ according to capabilities, geographic coverage and industry verticals served. However, when we refer to the 3PL industry we consider everything along the continuum. In most of the cases, we will be implying the top (30) leading logistics providers and major industries they serve.

We provided several definitions of commoditization and reviewed studies done on this topic in Chapter 3. As a reminder, commoditization is a process, a set of dynamics in an industry resulting in companies being unable to profitably differentiate their products and services as a result of virtual sameness or the inability of customers to distinguish the differences. After looking at the current dynamics and conditions of the industry we are inclined to say that the 3PL industry fits well into this definition. Several factors presented next support our view.

4.3.1. Same service offering

The service offerings of major 3PL providers look very similar. Table 4 shows the service offerings of 3PL companies operating in the U.S; the gray area denotes the type of services offered by a company and the numbers correspond to types of services listed in Table 5. Table 4 reveals that most of the 3PLs have almost an identical range of services.

The trend in the market has been that 3PLs try to find a new service, new geography that could differentiate them from everybody else. What happens is that a 3PL moves first, adopting a new service, and then all the other companies move in unison. Thus it is difficult to maintain that differentiation.

Table 4: Service offerings of 3PLs

| Company Name | Type of service offered | | | | | | | | | | | | | | | | |
|-----------------------|-------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Bax Global Logistics | | | | | | | | | | | | | | | | | |
| Caterpillar Logistics | | | | | | | | | | | | | | | | | |
| C.H. Robinson | | | | | | | | | | | | | | | | | |
| Commodity Logistics | | | | | | | | | | | | | | | | | |
| Eagle Global | | | | | | | | | | | | | | | | | |
| Exel plc | | | | | | | | | | | | | | | | | |
| FedEx Supply Chain | | | | | | | | | | | | | | | | | |
| GENCO | | | | | | | | | | | | | | | | | |
| Hub Group Inc | | | | | | | | | | | | | | | | | |
| InSite Logistics | | | | | | | | | | | | | | | | | |
| Kenco Logistics | | | | | | | | | | | | | | | | | |
| Menlo Worldwide | | | | | | | | | | | | | | | | | |
| Ozburn-Hessey | | | | | | | | | | | | | | | | | |
| Penske Logistics | | | | | | | | | | | | | | | | | |
| Ryder | | | | | | | | | | | | | | | | | |
| Schneider Logistics | | | | | | | | | | | | | | | | | |
| Tibbet & Britten | | | | | | | | | | | | | | | | | |
| TNT Logistics | | | | | | | | | | | | | | | | | |
| Transport Logistics | | | | | | | | | | | | | | | | | |
| UPS Supply Chain | | | | | | | | | | | | | | | | | |
| USCO Logistics | | | | | | | | | | | | | | | | | |
| USF Logistics | | | | | | | | | | | | | | | | | |
| Weber Distribution | | | | | | | | | | | | | | | | | |

Note: Numbers correspond to type of services in Table 5

Source: Logistics Today, "Third-party logistics providers", www.logisticstoday.com, Feb 2004

Table 5: Type of services

| | |
|--|----------------------------------|
| 1-Bar coding/RFID | 10-Outbound transportation |
| 2-Crossdocking | 11-Reverse Logistics |
| 3-EDI | 12-Shipment tracking & tracing |
| 4-Freight bill audit/payment | 13-Supplier management |
| 5-Freight consolidation/distribution | 14-Supply chain event management |
| 6-Freight-forwarding/customs clearance | 15-Transportation Management |
| 7-Inbound transportation | 16-Warehouse management |
| 8-Inventory Management | 17-Web-enabled communication |
| 9-Order Management | |

4.3.2. Low profitability

Profitability has been an ongoing concern in third party logistics industry. Most 3PLs are falling short in profitability. That is indicated in several works and our analysis on a sample of fifteen logistics companies over the period from 1985 to 2003.

Industry analysts indicate that the average return on invested capital (including goodwill) for pure 3PL companies has been around 7-8 percent, which is below their cost of capital for years. Margins, measured as earnings before interest, taxes, and amortization, have also declined, from about 5.3 percent in 1997 to 3.4 percent in 2002 (Bernard Bot & Carl-Stefan Neumann 2003). Inadequate profitability was the most important problem identified by the CEOs of the twenty largest 3PL companies operating in North America in a recent survey conducted by Robert Leib (2003)

4.3.3. Customer perception and continued downward pressure on pricing

Because the service offerings of the 3PLs are identical, as described earlier, customers tend to think that providers are interchangeable and that there is not much of a

difference between 3PLs other than that one 3PL uses dedicated assets and another uses leased facilities. They all have broad range of services, IT solutions, and linkages in the carrier community. Hence customers perceive 3PLs as commodities.

This attitude is also reflected in continued downward pressure on pricing from customers, an industry dynamic that has been ranked highest for the last three years and had been increasing through the ranks in previous years in the annual studies of 3PLs. In addition, customers expect service improvements at lower costs; customer value has been decreasing and 3PLs indicate that they have difficulties related to demonstrating value propositions to potential customers (Lcib, 2003).

“Customers ask more of their 3PLs, they are beating down prices through canny contract negotiations that shrink profit margins and make returns on invested capital inadequate. The result is a business model increasingly under pressure precisely as related transportation businesses — freight forwarders, express integrators, contract manufacturers, and wholesale distributors — are encroaching on the 3PLs' territory,” as was pointed out by Bot & Neumann (2003)

4.3.4. Purchase of fragmented services

Customer perception of 3PL services as commodities often leads to situations when clients choose different 3PLs to perform separate functions based on price. This behavior does not allow full integration along the supply chain and optimization of operations, limiting 3PLs' opportunities to differentiate themselves. Essentially, customers buy commodity services largely on the basis of price and continue to design their supply chains in-house. Companies in some industries regard the optimization of logistics as a core success factor and see little point in outsourcing the design of their

supply chains. Such behavior is also caused by the fact that many of 3PL service providers can have capabilities that are strong in a certain area but poor in others. The emergence of 4PLs, whose function is to manage several 3PLs for total supply chain management, implicitly supports the notion that 3PL services are commodities.

4.3.5. Switching providers

Bot & Neumann (2003) also note renewal rates of 3PL contracts of around forty percent, prompted in part by low quality of service and making promises that were not fulfilled. Although we did not come across other studies on 3PL contracts renewals or estimated switching costs, a forty percent renewal rate denotes high switching behavior between service providers and relatively low switching costs. The latter point is also supported by the study where one third of respondents, who were 3PL users, said that it would be very hard to switch 3PL service providers, while two-thirds indicated that it would be uncomfortable but possible to do so (Leib, 2001). In addition, a survey conducted by the New York-based Outsourcing Institute in 1999 revealed that 55 percent of third-party partnerships in their study sample failed within five years.

4.3.6. Second-tier providers

Second-tier service providers, smaller companies in terms of revenue (below the top 50), currently represent around 35 percent of the U.S. market and are expected to make up between 30 and 80 percent in the future (eyefortransport Global Research, 2004). In addition, second-tier service providers are competing well with top providers on the selective market basis, meaning that they can offer similar services of similar quality and price. This, in our opinion, also signifies commoditization of the 3PL industry.

The report on North American 3PL market released in March, 2004 indicates that price has been the initial and a key delineator and the bottom line for the successful existence of 3PLs. It also mentions that core service offerings are being commoditized, while value-added services and relationship management skills are becoming points of differentiation.

4.4. System Dynamics Model

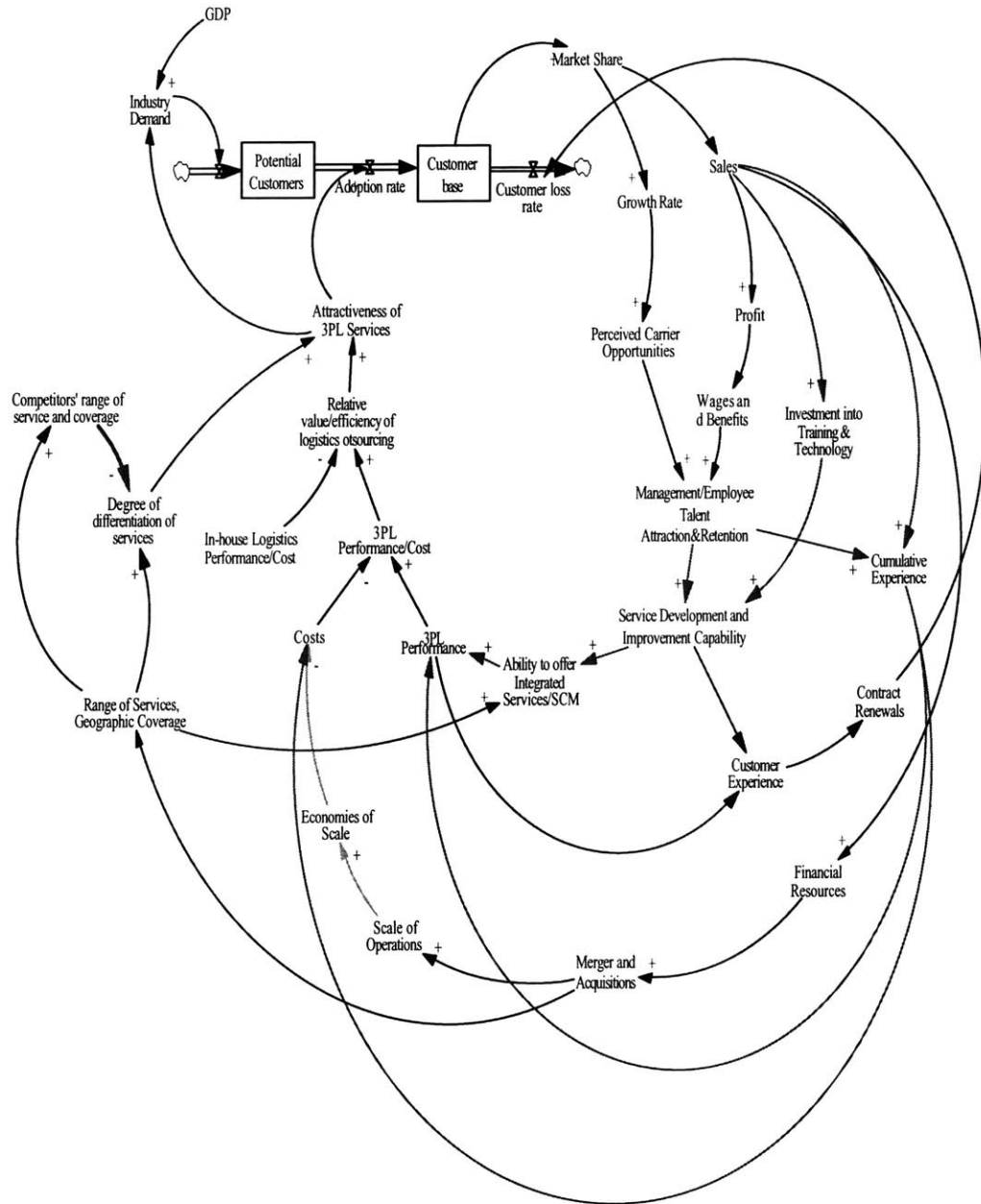
In this section we introduce our conceptual market dynamics model using the System Dynamics methodology. System dynamics is a powerful method to gain useful insight into situations of complexity and policy resistance. It is increasingly used to design more successful policies in companies.

The model represents the feedback structure of a system characterizing the 3PL industry. It is being used to analyze the behavior of players in the 3PL market and understand principle drivers of commoditization in the industry. In other words, it is a framework to analyze third party logistics companies and a useful tool to answer our research questions. The analysis here is entirely qualitative and conceptual. An overview of our System Dynamics model is shown in Figure 5.

This model consists of variables connected by arrows denoting causal influences among the variables. Variables are related by causal links, which are shown by arrows. Each causal link is assigned a polarity, either positive (+) or negative (-) to indicate how the dependent variable changes when the independent variable changes. A positive link means that if the cause increases, the effect increases above what it would otherwise have been, and if the cause decreases, the effect decreases below what it would otherwise have been. A negative link means that if the cause increases, the effect decreases below what it

would otherwise have been, and if the cause decreases, the effect increases above what it would otherwise have been. Stock and flow structure is included in the model to represent the flow of customers in and out of a customer base.

Figure 4: System Dynamics Model



The diagram includes feedback useful for understanding dynamics that possibly lead to commoditization and proposing strategies for 3PL companies in such an environment. First, we present some of the important variables in the model and provide descriptions of several feedback loops to illustrate our assumptions and give a better idea of how we use this model. After that, we try to explain which feedback loops drive commoditization of the 3PL industry.

Potential customers move into the customer base of a 3PL company when they perceive 3PL services as attractive. The rationale for outsourcing logistics is usually determined by relative value, efficiency of a 3PL's offering both in terms of costs and performance compared to the same parameters under running logistics in-house. At the end of a contract period or because of negative experience with a 3PL service provider a customer can terminate the relationship and leave the customer base of a 3PL company. The attractiveness of services of a 3PL company is also determined by the degree of differentiation from competitors in terms of range of services and geographical coverage.

Attractiveness will increase adoption rate, accumulating a larger customer base, and increasing industry demand and bringing more potential customers. Industry demand also depends on the overall condition of the economy. A larger customer base leads to larger sales. The more sales, the more financial resources a 3PL firm will have to acquire other logistics firms and increase its range of services and geographic coverage (which has been typical way of growing in the industry). This, in turn, drives attractiveness up (assuming competitors' offerings remain same) and increases the customer base and so on again. In addition, mergers and acquisitions increase the scale of operations, which coupled with a large customer base it give an opportunity to achieve economies of scale.

Economies of scale obviously decrease unit costs, increasing attractiveness and creating other positive reinforcing loop.

Larger sales in a specific industry served or in a specific service lead to the accumulation of experience in a firm under the condition that management and employees remain in a firm. Cumulative experience will improve performance and service level of a 3PL firm, increasing relative efficiency and attractiveness for potential customers. Better performance also satisfies existing customers and improves customer experience by better matching expectations and fulfilling the service levels promised in a contract. It builds trust between parties, and encourages customers to renew contracts, potentially increasing sales and slowing down the outflow from the customer base.

Bigger firms can also better attract management and specialist talent and afford more investments in technology and training to build up capabilities in service development and improvement. Coupled with broad range of services and large geographic coverage, these capabilities allow offering integrated solutions for the customer, which lead to better performance in terms of more flawless movement of goods and information, better coordination in the channel, shorter cycle and lead times, decreased inventories, increased responsiveness, and reduced uncertainties. This allows shifting 3PLs and their customers to the next level -- from managing logistics to managing supply chains, and moving from sequential optimization to global optimization that can bring substantial benefits to the customer and give a differentiating edge for a 3PL firm, consequently increasing its attractiveness.

From the model we see several important positive reinforcing loops that could cause a 3PL firm to grow and be successful. However, there are other feedback loops in

the system that come into play and represent other factors, including behavior of competitors that can halt the growth of a firm. In addition, some feedback loops have delays. For example, it takes some time to integrate companies after mergers and acquisitions, postponing the benefits from economies of scale.

Managers might not fully understand the system they are operating in or might not have a framework that could visualize feedback and the implications of policies. For example, during a relatively difficult time for a company they may cut investments in technology and training and let talent go by decreasing wages or benefits, thereby creating negative reinforcing loop. As a result, attractiveness and customer experience will decrease, thus reducing an inflow into the customer base and increasing an outflow of unsatisfied customers that limit the growth of a company in the long-run.

Our model suggests that one of the main factors that leads to the similarity of 3PL firms, and hence their commoditization, is the way they try to differentiate themselves, for instance, in terms of range of services and geographic coverage. As a 3PL firm broadens its service offering and geographic coverage, competitors will respond and try to match this offering in fear that they will lose market share to others, thereby decreasing the degree of differentiation, and reducing attractiveness of the initial firm. The same dynamics affect other firms; imitation becomes a preferred pattern of competition and leads to sameness of companies. An indication of this behavior is supported by the evidence of similarity of the service offerings of 3PLs discussed in earlier in this study.

In the same manner, 3PL's ability to differentiate is affected by other indirect competitors from adjacent industries encroaching on 3PLs' territory and offering separate

services at potentially lower cost; in contrast 3PLs can integrate these services and bring substantial benefits for customers. Hence the most profitable elements are exposed to competitive attack by these players, virtually unbundling and fragmenting 3PL service offerings.

In many instances, there are difficulties in estimating relative value of logistics outsourcing, which requires knowledge of service and cost trade-offs across functional and company boundaries. This factor also contributes to the commoditization of 3PL. It creates an environment where customers are inclined to make decisions primarily based on prices for separate services. This limits 3PLs' ability to provide integrated solutions and to sell these solutions.

Other current dynamics illuminate the factors that create delays and block important feedback loops in our model, and do not allow 3PLs to profitably differentiate: problems with management and specialist talent attraction and retention, inadequate profitability, negative customer experience, and difficulties exploiting economies of scale.

Chapter 5: Summary and Recommendations

5.1. Summary

The intention of the study was to investigate the current conditions of the 3PL industry and, in particular, to understand whether the industry is commoditized, explore the principal drivers of commoditization. In addition, we intended to identify the leverage points for influencing the dynamics, as well as propose strategic options for 3PL companies in such an environment.

In our opinion, third party logistics have been approaching commodity status, and transforming the logistics outsourcing value equation from high margins and vendor control into a classic buyers' market with competition driving down margins, adding features and services, and increasing buyer choice.

This research is primarily qualitative and based on a combination of different approaches of analyzing the industry. The study gives better understanding of the current competitive environment and suggests that the 3PL industry is experiencing commoditization. In addition, this dynamic can potentially amplify creating adverse conditions for current players.

Further research could conduct simulation experiments of the current industry conditions using System Dynamics methodology to bring better insight into commoditization of the industry, explore scenarios of market development under different firm policies, elaborate on recommendations for strategic options for 3PLs and provide a case study of a successful differentiating strategy.

5.2. Recommendations

From the analysis of our model, the industry and its dynamics we conclude that the 3PL industry has been experiencing commoditization. In this section we propose recommendations for strategic options for 3PL companies in an environment, where ability to generate adequate profits is under pressure as a result of virtual sameness of companies. Although not all of the options may fit all 3PLs, our goal is to provide generic strategies to achieve competitive advantage and mitigate the effects of the commoditization in this industry.

It might sound quite radical, but some companies might consider an option of withdrawing from the industry and finding other business with higher profit potential. Another option is to simply ignore the problem and continue operating without implementing any changes. This will likely result in inadequate profitability and loss of market share -- not a promising outcome for a company and its shareholders.

In coping with commoditization in this industry, there are three potentially successful basic strategies that can be classified as 1) play the commodity game: achieve cost leadership, exploit economies of scale, become less capital-intensive, employ dynamic capacity management 2) differentiate: provide integrated solutions, focus on industries and markets, deliver a superb customer experience, increase geographic coverage, build brand value, and 3) redefine the game – create proprietary products, exploit disruptive technologies, develop IT solutions, move along the value chain.

The first set of options is aimed at achieving overall cost leadership. This goal can be achieved through cost reductions from experience, tight cost and overhead control, avoidance of marginal customer accounts, better utilization of capacity, and sharing

facilities, infrastructure, and technology among many customers. Achieving cost leadership also might require increasing scale of operations.

Retaining existing customers and increasing their purchases is important in a mature industry experiencing commoditization, as increasing market share and attracting new customers becomes difficult and expensive.

The second set of options allows differentiating the service offering of a 3PL firm, making it unique from the perspective of the customer. 3PLs can create partnerships, alliances, and engage in M&A to increase service offering as they have been doing. Importantly, as we have seen from our model having broad range of services is necessary but it is not going to provide a sustainable competitive advantage. The ability to integrate these services, and achieve better performance, and provide a superb customer experience will provide principal differentiating factor for 3PLs. The goal is to become a single-point-of contact provider of end-to-end supply chain solutions. In order to achieve that, 3PLs should focus on industry verticals served, obtain experience, and develop competency and detailed knowledge of the industry and the businesses of customers at the process level.

Attracting and retaining management and specialist talent is vital not only to preserve cumulative experience in the organization but also to build up capabilities in service development and improvement.

Branding successfully and delivering promised service levels can turn small differences in service offerings into bigger differences in market share. Because for many companies logistics are very important and even of strategic importance, customers will tend to choose 3PL companies recognized for quality and reliability in order to avoid

risks of having bad experiences and to avoid comparison among the myriad of 3PLs. 3PLs are likely to shift basis of differentiation from tangible factors like services, products and performance to more intangible factors like brand, trust, and customer experience. Relationships between customers and 3PLs are expected to become more long-term and strategic with higher levels of trust, empowerment, and adequate risk and reward sharing. Truly integrated solutions coupled with good customer relationships will bring rewards not only to customers, but also to 3PLs as they become deeply engaged in customer organization, creating customer lock-in, while at the same time allowing customers to focus on their core competencies.

Finally, the third set of options is intended to provide more differentiation among competitors, increase attractiveness for potential customers, and mitigate the effects of commoditization. It includes the development of proprietary products and IT solutions (although they can be outsourced) based on competencies in multiple areas of logistics and a deep understanding of customers' businesses.

The development of proprietary products, supply chain innovations and significant improvements in current practices are not attainable without the management and specialist talent discussed earlier. The use of technologies like radio-frequency identification technology can have a significant impact on supply chain management and change the competitive environment in the industry, but the effect on commoditization is unclear. It might create competitive advantage for early adopters or firms successful in implementation, but as the adoption of technology increases, the competitive advantage fostered by technology will diminish. Further, when almost everybody has same

technology, the utilization of the fixed costs related to technology may play an adverse role in strengthening commoditization.

Moving along the value chain or redefining the current business model is another option. 3PLs might consider becoming less capital-intensive and playing role of pure logistics integrator also referred to as 4PL. This development will require a consultant sales approach identifying total economics of the impact of 3PL services across company division boundaries and across the entire value chain. Such an approach is likely to create close customer relationships and to gain more inside information into what the customers need and value.

In our opinion, 3PLs are better positioned for this role, as they have tools to execute, have built up an infrastructure, and have invested in IT solutions. They have expertise and they stay involved on a continuous day-to-day basis, unlike consulting firms. In addition, they are likely to have less disconnect between what they advise in a consulting project and what they do afterward.

In fact, we believe, many 3PLs can move to the 4PL role, a term originated by the consulting industry and describing what some 3PLs have been doing (Hoffman, . As an analogy, Frederick Winslow Taylor (1856-1915) on his business card identified himself as “Consultant to management”, not a common term at that time. “He explained that he had intentionally chosen these new and strange terms to shock potential clients into awareness of his offering something totally new” (Peter Drucker, 2001).

On the other hand, currently non-asset-based 3PLs can invest in fixed assets like facilities, fleet, etc, as they achieve some “critical mass” and continue to grow exploiting scale-based advantages and creating high barriers of entry. 3PLs may start moving to

such areas as contract manufacturing or trading, possibly integrating downstream. Although, such options should be company and context specific considering main competencies of specific companies.

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