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Developing Propositions and a Theoretic Framework for the Innovation of the Third-Party Logistics Service Providers

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Abstract

Even though the previous studies on 3PL innovations have already gained valuable insights, however, these studies do not examine the subject from a theoretic framework viewpoint. The purpose of this paper is to develop a theoretic framework for the innovation of 3PL firms and propose the causal

relationships between the key constructs in the framework. The causal relationships between the focal constructs in the theoretic framework are postulated into six theoretic propositions. The propositions and framework developed in this paper have provided a theoretic foundation for the further theory development and testing on 3PL innovation in the future.

Keywords: Innovation, Third-Party Logistics (3PLs), Propositions, Theoretic Framework

1. Introduction

Logistics is an essential business function of a business entity. This function has increased its importance in the past two decades due to factors such as customer requirements, pressure to reduce costs and globalization et al, while still maintain service levels. The focus of logistics management has also changed from the operational to the strategic arena, and also from the internal integration to the external collaboration (Mentzer et al. 2008). Furthermore, due to its nature as a complex service process with the intensive capital requirements, many firms outsource this critical function to the professional logistics service firms who possess expertise in supply chain logistics integration capability.

However, since the evolution of the professional logistics service firms has come from different sources, there is more than one term used in the industry.

Third-party logistics firms, i.e. 3PL firms, are by far the most commonly used term and will also be used in this paper. These firms have formed a fairly new industry in the last three decades that has gradually grown into a highly competitive industry.

Logistics industry scale can be assessed from a national, regional and global perspective. Armstrong & Associates (2011) has been calculating the Global Third-Party Logistics (3PL) Market for more than 10 years. In 2009, the global 3PL industry was estimated to create $507 billions revenues. Europe was the largest ($162.3 billions); Asia came next ($136.7 billions); North America was the third ($128.1 billions); and the rest of the world ($80 billions) was last. However, the global 3PL industry revenues were only 7.64% of the global logistics expenditures ($6,624 billions). This may indicate if the trend of logistics outsourcing continues, there are still ample spaces for the growth of 3PL industry.

The U.S. third-party logistics (3PL) industry has experienced explosive growth in the last two decades (Knemeyer and Murphy 2005) and the trend is expected to continue (Lieb 2008). However, extensive outsourcing of logistical needs is not limited to the U.S. market. The rationale for choosing to outsource is somewhat universal, too. As Lau and Zhang (2006) noted, economic, strategic,

and environmental factors are the main drivers that motivate organizations to outsource in developed, as well as in developing countries. Managers also realize they can develop logistics competencies through third-party relationships, rather than by trying to develop the necessary expertise internally (Halldorsson and Skjott-Larsen 2004). However, despite the tremendous growth in outsourcing, research has identified buyer concerns and dissatisfaction with 3PL service provider performance (Langley et al. 2006; Lieb and Bentz 2005).

In their extensive review of 3PL studies published in leading journals, Selviaridis and Spring (2007) identified key issues in the existing literature. First, over 70 % of the empirical studies are purely descriptive. While descriptive research provides basic information about a phenomenon, it is not useful for exploring relationships or other mechanisms (such as innovation to be explored in this paper) in-depth. Second, 3PL studies have been weakly theorized with 69 % of the papers examined having no theoretical foundation. Without strong theory support, it is difficult to generalize the research results to other contexts. Consequently, there are great opportunities for researchers to expand the current knowledge base on this topic.

The competitive environment of 3PL industry is in a state of flux. A damaged economy due to 2008-9 financial crisis and current European Union debt crisis

has compelled manufacturers, retailers and other 3PL users to re-evaluate their supply chains, as well as the expectations and relationships they have with 3PL providers. On the other hand, many 3PLs are examining their own growth strategies, including the array of services which they provide customers, as well as whether to position themselves to be more of a strategic business partner with their customers, or remain as an on-demand service provider.

Recent industry news and academic studies concerning 3PL firms have shown that the innovation of service offerings at 3PL firms has gained incredible momentum to cope with the unprecedented changes in the world, such as globalization, the global warming, large-scale natural disasters, the emerging shortage of raw materials, and the migration of economic infrastructures, not to mention the ever-increasing demands from the customers (Berman 2010; Clabby 2010; Cui et al 2008, 2009, 2010; Flint et al 2005; Schulz and Berman 2011; Su et al 2011).

Several international comparison studies on logistics innovation at 3PL firms presented some valuable preliminary findings (Flint et al 2005; Cui et al 2008, 2009, 2010; Su et al 2011). First, the motivations for logistics innovation were drawn from the strong intention of 3PL firms to create new business values. Second, the collaboration among supply chain partners is the key to the success

of the 3PL logistics innovation initiatives. However, without a deep and trustworthy relationship among key players, any such initiative is bound to fail. Third, logistics innovations frequently cover more than one business dimension and span more than one company, thus require a more sophisticate collaborative approach to do the jobs. Fourth, a successful logistics innovation project will usually deliver superior business performance to the supply chain tackled. Furthermore, positive environmental effects may result, such as the reduction of CO_2 emissions and savings in the use of materials and energy.

Even though the previous studies on 3PL innovations have already gained valuable insights, however, these studies do not examine the subject from a theoretic framework viewpoint. The purpose of this paper is to develop a theoretic framework for the innovation of 3PL firms and propose the causal relationships between the key constructs in the framework.

2. Literature Review

2.1 The Evolution of Third-party Logistics Service Providers

The third party logistics (3PL) service industry is developing as a result of the emerging demand on logistics services. Specialization and outsourcing, logistics as a strategic component, globalization, lead time reductions, customer orientation are some major drivers contributing to this interest in logistics.

Integration of the supply chain has become an important way for industrial firms to gain competitive advantage (Bowersox, et al. 1989; CLM 1995; Lieb 1992, 1993, 2005, 2008; Mentzer et al. 2008). As a result, the role of logistics service providers is changing in both content and complexity.

A 3PL provider is an external provider who manages, controls, and delivers logistics activities on behalf of a client. This relationship can be formal or informal. The intention is that it should be a mutually beneficial and continuous relationship. The activities performed can include all or a part of the logistics activities. The management and execution of transport and warehousing are the most common outsourced activities. The relationship between 3PL firm and its customers has changed over time from a focus on the contract to partnership and agreement and to be seen as a mutual beneficial and continuous relationship (Bagchi and Virum 1998).

The first party is the supplier (or shipper in a traditional transportation context) and the second party is the buyer. In various occasions, the party roles may be reversed. The third party is a firm acting as a middleman not taking title to the products to which logistics activities are outsourced. However, a 3PL may take product title under special agreements authorized by the first or second party. Strategic partnership between the 3PL provider and the client is often necessary

to meet the business goals and guarantee the quality of the performance.

Typical services outsourced to 3PL providers are domestic transportation, international transportation, warehousing, forwarding, customs brokerage, value-added services, information technology services, supply chain consultancy services, order management, fleet management, customer services and 4PL services, et al. The first three are the most common services of 3PL and also the most common services outsourced from customer firms (Langley, Jr. and Capgemini 2010).

These service offerings by 3PLs have been developed in experience, knowledge and technology over time. It has implications for the growth of the 3PL service industry, which has been discussed in terms of an evolution of 3PL industry (Berglund et al. 1999; Gattorna 2001). The first stage was in the 1980s when the traditional transport, warehousing, or freight forwarder firms developed into 3PLs aiming at integrating logistics activities in the supply chain. During the second stage, from early 1990s, firms such as UPS, FedEx, DHL, etc., entered with focus on global infrastructure and business development. In the last and present stage, the players entering are consultants, financial and/or IT management firms such as accenture Consulting, private venture capital funds, and Transplace which extend beyond physical flow services.

A main challenge for a 3PL firm is to balance between an ability of high adaptation to individual customers and organizing the business and the systems for coordination of more than one customer. How they are balanced will guide the strategic development of the 3PL firms and is of vital importance for the resources required, activities to be performed, and core competence needed. The customer coordination could be interpreted to reflect in the degree of problem-solving ability since there should be a need of a higher general ability when coordinating several customers.

3PL firms can be classified into four sub-sectors in Figure 1 according to their degree of problem-solving ability and the degree of customer adaptation ability (Ha°kansson and Johanson). The first sector of 3PLs contains many traditional transportation firms - large, medium and small in fleet sizes, providing mainly transportation of goods between different locations. The second sector locates at the lower right quadrant representing firms providing limited services in freight forwarding and warehousing services. The third sector includes those firms who provide highly standardized logistics services with extensive service locations and highly efficient logistics and technology supported infrastructures. The fourth sector is the most advanced service providers with comprehensive service offerings that can be adapted to the changes of the customer needs and market

demands.

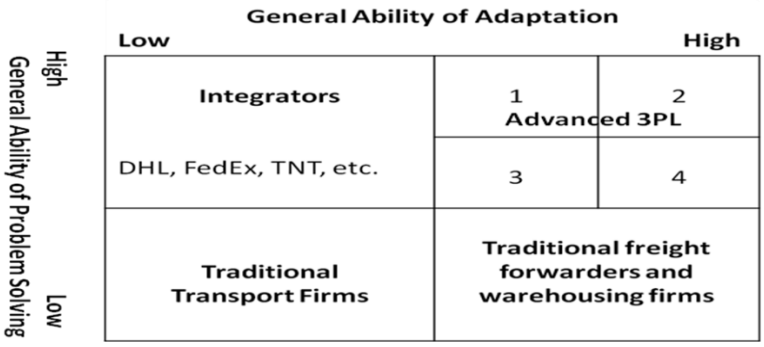

Figure 1 Classification of 3PLs (Adapted from Ha°kansson and Johanson)

It is of particular interest to observe the formation of the sub-sector of the advanced 3PL firms shown in the upper right quadrant in Figure 1 which can be further segregated to Figure 2. The advanced 3PL firms are high performing firms adopting more advanced and innovative approaches to deliver high value to their customers' supply chains, often through the collaboration with their key suppliers. For very large 3PLs such as UPS and DHL who are in the integrators sub-sector, they will normally establish subsidiaries (such as UPS Supply Chain Solutions, DHL Global Forwarding) for the supply chain integration and customization service market due to the nature of this market is very different from the market for more standardized services (such as UPS Parcel, DHL Express).

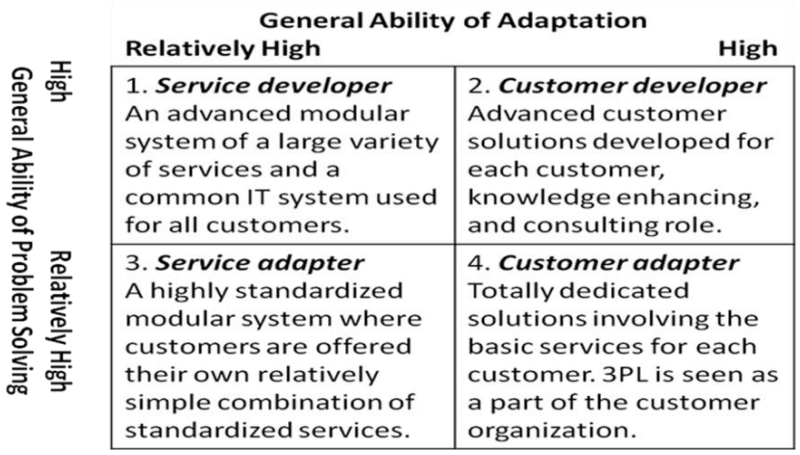

Figure 2 Classification of **advanced** 3PLs

(Adapted from Hertz and Alfredsson, 2003)

Since advanced 3PLs are more capable in adapting to the needs of customers and industry and possess higher ability to solve their customers' problems than other sub-sectors of 3PLs, they are better in delivering innovative services to the needs of customers and markets. In other words, advanced 3PLs are constantly seeking new ways to serve the unique needs of their customers and adopting new mentality to adapt to emerging industry trends, aiming to reap the premium service prices that their other industry peers could not match. Therefore, it is theorized that "advanced 3PLs are more innovative than their counterparts in 3PL industry."

2.2 Service and Logistics Innovation

In the service literature, service innovation and new service development are often used interchangeably. Gadrey et at. (1995) defined service innovation as

innovations in processes and innovation in organization for existing service products. Oke (2007) described service innovation as new developments in activities undertaken to deliver core services products for various reasons. Service innovations are related to variations in product delivery or value-added services embellishing the service experience for the client (Oke, 2007). Further, it has been stressed that innovation in services can be connected to changes in various dimensions such as innovation in the service concept, new client interface, innovation in the delivery system and innovation in technological options (Gadrey et al. 1995; Den Hertog 2000). Following Den Hertog (2000), it is emphasized that in real life most services will involve a combination of changes in multiple dimensions at once. Logistics industry is a fairly new service industry with relatively little literature regarding innovation (Wagner and Franklin 2008).

Sawhney et al.(2006) took the discussion of innovation in business a step forward and argued that business innovation is about new value and is multi-faceted, that is far broader in scope than traditional views. They defined business innovation as the *creation of substantial new value* for the firm and his clients by creatively changing multiple dimensions of the business system. Cui et al. (2009) examined innovation of 3PL firms and verified their innovations are

indeed multi-faceted.

Logistics innovation has a unique nature since it often arises not because of formal plan or process but as an ad hoc response to a customer request (Wagner and Franklin, 2008). Flint et al. (2005 p.114) treat logistics innovation as "any logistics related service from the basic to the complex that is seen as new and helpful to a particular focal audience". Wagner and Busse (2008 p.2) define innovation as "a subjective novelty which is the result of a conscious management process and which aims at economic exploitation". They claim that logistics innovation should be manageable and serves exploitation purpose (Wagner and Busse 2008). They argue that logistics innovation is actually a purposeful organizational process involving focal firm and her customers. Grawe et al. (2011) examined empirically the impact of knowledge synthesis and innovative logistics processes on operational flexibility. It has shown that innovative logistics processes can lead to greater operational flexibility. Operational flexibility is also shown to lead to higher levels of logistics performance.

2.3 Innovation at 3PLs

IPC, the non-profit purchasing arm of SUBWAY chain restaurants in North America, has been experimenting supply chain logistics innovation initiatives

with extraordinary success (Clabby 2010). It has changed the way it works with their key suppliers from a transactional relationship to a collaborative one. This change is not just in the relationship, more importantly in the supply chain processes from raw materials procurements, the re-distribution of key products to stores, to the visibility of these key products in the supply chain. With the knowledge built from the past supply chain logistics innovation efforts, IPC continues its journey on the supply chain innovations in North America and intends to tackle more complex global supply chain issues with its partners in Europe and Asia (Su 2011(1)).

UPS has launched a new service, called *Carbon Neutral Shipment*, in October 2009 to its U.S. clients and expanded later in July 2010 to 35 countries with an intention to provide an integrated platform to help their clients to address the GHG (Green House Gases) emission impacts on the environment created by its traditional shipments. UPS needs to collaborate with a carbon neutral organization, a GHG assessment firm, and its clients in order to provide this innovative service offering (Berman 2010).

After one and half years' overhauling of its U.S. LTL network, FedEx has integrated and launched officially on January 31, 2011 its new LTL freight services into a one company and two services system which offers LTL

customers a simple, easy-to-use, and reliable freight services. Previously, the former FedEx Freight (which was its regional LTL offering) and FedEx National (the former Watkins Motor Lines operation used as a long-haul carrier) used separate terminal operations. But its new unified, streamlined LTL network and proprietary technology allows FedEx Freight to deliver the service choices to customers in all lengths of haul. The new network will also utilize more rail-truck intermodal system for its long-haul shipping to reduce the operational costs and carbon emissions. FedEx predicts the network and service innovation will become a "game-changer" in LTL shipping industry sector and increase its market share (Schulz and Berman 2011).

Dimerco Express Group (DEG), based in Taiwan, started as an air freight forwarder and has evolved into a 3PL firm specializing in Asia Pacific and Greater China region offering global logistics services to the upstream and downstream supply chain firms in many industries. DEG has developed an economic sea-air intermodal service to its global customers as an innovative alternative to air-direct between major China cities and North American cities. Even though this alternative takes a few more days to arrive destinations, it can avoid possible capacity blow-up in the air-direct routes and provide cost savings to customers shipping less time sensitive cargos (Cui et al. 2008). A recent

interview with DEG executives in North America has found that DEG has developed a relatively fast and economic sea-air transshipment service that link Asia to South America via U.S. ports to serve the customers who need to ship products from Asia to South America where very rare direct air links from Asia exist (Su 2011(2)). DEG makes good use of its past innovation experience in China and successfully diffuses the knowledge to create new service between Asia and South America.

A multiple year research project on logistics innovation at 3PL firms has been conducted by the case study methodology since 2007 until now (Cui et al. 2008, 2009; Cui at al. 2010(1), 2010(2)). Several international comparison studies on the innovation of 3PLs in Northern Europe and Greater China (mainland China, Hong Kong, and Taiwan) have revealed new insights to logistics innovation at 3PL firms. The 3PLs selected in the study are all 3PL firms with high recognition in their regions or globally. They can be categorized as advanced 3PL type shown in Figure 1.

In their early studies (Cui et al. 2008, 2009), it was found that 3PL firms possess strong intension to innovate and they innovate in many business dimensions. New values of business of 3PL firms are mainly created by service innovation in the supply chain. 3PL firms interact with their key and potential clients

proactively to develop deeper relationships with these clients so as to define the new value proposition and opportunities in their clients' supply chains. These firms then develop differentiated services, either standardized or customized, with their knowledge and talents to realize the new value creation opportunities. Whenever needed, 3PL firms will introduce the most suitable suppliers to join the innovation efforts to make sure those efforts can be effective in delivering the new supply chain values.

Cui at al. (2010(1)) also looked into the factors that influence why 3PL firms innovate. They found that the key motivations why 3PL firms innovate are tied to the value creation opportunities along their customers' supply chains, such as the supply chain network redesign, value-added services, shipment consolidations, supplier integrations, et al. Innovations at 3PL firms clearly create the tangible benefits and intangible advantages to the firms involved in the supply chain (Cui et al.'s 2010(2); Su et al. 2011). The tangible supply chain benefits include: efficiency improvement, effectiveness achievement, wider service offerings, sales growth, and positive financial performance, while the intangible advantages include: customer satisfaction, enhanced relationships with customers, organizational learning, knowledge diffusion/transfer and better reputation. The benefits and advantages listed above are derived from the case studies and may

not be conclusive.

The innovation of 3PL firms has been conceptualized as a three-stage management process model in a recent study (Su et al. 2011). In the first stage, when 3PL firms investigate an innovation initiative, they should assess what drives them to take the opportunity, what facilitators exist to increase the chance of success, and what barriers might be in the ways to drag all efforts in vain. If the assessment shows strong drivers and facilitators which can overcome the potential barriers, 3PL firms should continue to the next stage in the framework. Since logistics innovation of 3PL firms will involve their supply chain partners, either downstream or upstream, and have major impacts on more than one business dimensions, it is critical to collaborate among supply chain partners to design a good innovation plan, test it and refine the plan until it can be launched for practice, and continuously improve it to deliver superior supply chain advantages. The final stage is also important because the advantages generated from logistics innovation should be recognizable by and be shared in an agreeable manner among supply chain partners.

In summary, a postulation after the literature review is proposed: "*Innovation of a 3PL firm, particularly an advanced 3PL, is driven mainly by the strong motive and other relevant factors to create substantial new supply chain value. Unique*

service offerings covering multi-faceted business dimensions are developed to solve its clients' supply chain problems and are implemented collaboratively with its supply chain partners, thus leads to superior business performance for the 3PL firm, its clients and its supply chain partners."

This paper attempts to verify the postulation proposed above by defining key constructs, proposing their causal relations, and then developing a theoretic framework.

3. Propositions for the Innovation of 3PLs

In this section, critical literatures regarding to the innovations of 3PLs will be reviewed and synthesized to define the key constructs and propose causal relationships between these constructs.

3.1 Strong New Value Creation Motivation

Sawhney et al.(2006) recognized that business innovation is about creating substantial new value and is multi-faceted, that is far broader in scope than traditional views. They defined business innovation as the creation of substantial new value for the firm and his clients by creatively changing multiple dimensions of the business system.

Value creation depends on the relative amount of the value that is subjectively realized by a target user (or buyer) who is the focus of the value

creation —whether individual, organization, or society—and that this subjective value realization must at least translate into the user's willingness to exchange a monetary amount for the value received. And how users will evaluate the novelty and appropriateness of the new task, product, or service, will be consistent across disciplines and levels of analysis (David, Ken, and Taylor, 2007).

Many managers who had previously added value to their companies by nurturing competencies within the firm now add value by developing collaborative partnerships with outside firms (Kay, 1993; Prahalad and Ramaswamy, 2000). Value creation in the supply chain has attracted considerable attention in the literature. It has typically been characterized as being the result of either external or organization spanning, or internal efforts to improve supply chain performance. High levels of value creation, such as supply chain innovation, are in turn positively associated with superior firm performance. This has implications for supply chain design and configuration (Jayaram, Kannan and Tan, 2004).

Value creation in a supply chain is the process by which the capabilities of the supply chain partners are combined so that the competitive advantage of either the supply chain relationship or one or more of the partners are improved. And value-creation initiatives are actions that firms undertake and that directly

enhance value creation (i.e., successful supply chain innovative initiatives, logistics integration, unilateral learning or development, or bilateral learning). These value-creation initiatives differ from one value-creation logic to another as a function of differences in interdependence, objectives, and focus of coordination (Hammervoll, 2009).

Tompkins Associates (2010) developed a Supply Chain Value Creation Framework, this framework depicts why supply chains are important: They drive value, which ultimately reaches shareholders and investors. Value creation is to stimulate interest in learning more about how to leverage supply chains to achieve higher business and supply chain value. With these value creation opportunities in mind, businesses can generate more opportunities for top-line and bottom-line growth. If the opportunities are linked to profitable growth, margin improvement, or capital efficiency, then they can be measured and valued (Tompkins Associates, 2010). However, this framework does not take intangible values such as better supply chain partner relationships, increase of the brand equity to the supply chain (partners), information transparency, et al., into consideration.

According to Cui et al. (2008, 2009), 3PL firms possess strong intension to innovate and they innovate in many business dimensions. New values of

business of 3PL firms are mainly created by service innovation in the supply chain. 3PL firms interact with key and potential clients proactively to develop deeper relationships with clients so as to define new value proposition and opportunities in their clients' supply chains. Innovation allows 3PLs to differentiate themselves from their competitors and create competitive advantages.

Why 3PL firms put innovation as their top agenda? It is because there are the internal and external driving forces that motivate and ignite them to innovate. Three categories driving 3PL firms' innovation were found in a recent study and they are: company driver, supply chain driver, and environmental driver (Su, et al. 2011). Depending on the business situations facing each firm, firms are affected by different combination of these drivers. The company driver may include motivations such as desire to grow, becoming competitive, developing better infrastructure, offering comprehensive service package, market expansion, and continuous improvement, et al. The supply chain driver may include triggers such as the customer requirements, the target for new customer development, and the need to integrate supply chain, et al. The environmental driver relates to those factors such as coping with major regulatory changes, adopting new technology, facing market disruptions, and environmental pressures, et al. Among three

drivers, the company driver and the supply chain driver can be controlled by 3PL firms and, thus, have become the major drives of new value creation at 3PL firms. However, the environmental driver is an uncontrollable factor to 3PL firms and, therefore, is more situational and responsive in terms of new value creation. The review of the literature discussed in this section leads us to the following definition of the ***strong new value creation motivation*** (NVCM) construct:

> *New values of business of 3PL firms are created by service innovation in the supply chain. 3PL firms are strongly driven by those controllable factors to look for substantial new value creation opportunities in their supply chains.*

3.2 Close and Trustworthy External Relationships

Payne et al. (1999) argue that the dominant form of competition in coming years will be between networks of supply chain relationships rather than between individual organizations. This underpins the importance of examining relationships in the context of achieving effectiveness and competitiveness in supply chains. The examination of relationships is especially applicable to supply chains due to the problems that can surface regarding the sharing of sensitive information between multiple suppliers and intermediaries (Weitz and Jap, 1995).

The competitiveness of 3PL firms will depend to a large extent on their ability to add value to the bottom line of their clients. 3PL firms can do that effectively through collaborating with their clients, learning their business practices and introducing innovations, all with a view towards improving the performance of the supply chain (Panayides & So 2005). This will require a close understanding and collaboration with their clients in order to understand their business and assist them in improving the supply chain process. Therefore, a close and trustworthy relationship between 3PL firms and their clients is essential for any innovative initiative leading to a substantial improvement in the performance of the supply chain.

Relationship orientation refers to the proactive creation, development and maintenance of relationships with customers and other parties that would result in mutual exchange and fulfillment of promises at a profit (Harker, 1999). Relationship orientation may be viewed as a philosophy of doing business successfully and as an organizational culture that puts the buyer–seller relationship at the centre of a firm's strategic and operational thinking (Panayides & So 2005). Buyer-supplier relationships that feature higher levels of joint dependence, such as 3PL-client relationships, trigger a higher degree of

involvement by both companies and are characterized by higher quality information flows between business partners (Sytch and Gulati 2008).

3PL sector is facing increasing competitive pressures in a highly fragmented, high growth market, and challenges that threaten its viability as evidenced by recent consolidations (Gordon, 2003; Langley et al 2008). Strong, enduring and flexible inter-firm relationships can and should play a significant role in a firm's competitive posture. This is because the firm can respond to customer needs in a timely fashion and also adapt to market needs more effectively than its competitors. Not only will a strong relationship influence the development of organizational competencies but will also have a direct influence on the 3PL's effectiveness and supply chain performance.

Langley et al. (2007) found logistics executives at 3PL user firms perceive a disconnect between buying firms' desire to work collaboratively with 3PL's and how to go about doing so. They concluded that "the greatest shared challenge (for the 3PL industry) is that of forming and growing successful collaborative relationships between users and providers of logistics services" (p.44).

The expertise and behavior of 3PL employees influence buying firm's willingness to collaborate if the buyer firm regards the 3PL provider as a valuable partner that can be relied on because of favorable interactions with

knowledgeable and experienced 3PL employees (Chiou and Dröge 2006). Thus, in addition to a sound understanding of customer operations, the positive attitudes and effective communication skills of 3PL employees can increase buying firm confidence and trust in the 3PL provider (Ahearne, Jelinek, and Jones 2007). Since current industry surveys point to buyer concerns and dissatisfaction with 3PL service provider performance, 3PL customer service expertise appears to be in relatively short supply.

Su et al. (2010) summarize one of their findings in their multiple-year case study on the logistics innovation at 3PL firms stating: "An innovative 3PL interacts with clients proactively and develop intelligence capability to monitor key industry trends to define new value proposition and opportunities. It then develops differentiated services with their knowledge and talents for their existing and potential clients".

Following the literature reviewed and analyzed in this section, we define the ***close and trustworthy external relationships*** (CTER) construct as:

> *In order to find new value creation opportunities, the innovative 3PL firms are keen to develop close and trustworthy relationships with their supply chain partners, especially focusing on the core clients.*

From the definitions of NVCM and CTER constructs, the first proposition for the

innovation of 3PLs can be derived as follows:

P1: **Strong drivers to create substantial new values (NVCM) positively affect 3PL firms to develop close and trustworthy relationships with their current or potential clients (CTER) that may lead to opportunities to create substantial supply chain values.**

3.3 Client's jobs-to-be-done

Harvard Business School professor Theodore Levitt (1960) first pointed out, customers do not really buy products - they hire suppliers to accomplish particular tasks. He famously said that people don't go to the hardware store to buy a drill, for instance; they go to buy a hole. The drill they purchase is the candidate hired to get that job done.

Today, most companies support the theory that customers buy products and services for a specific purpose: to get jobs done. A job is defined as the fundamental goal customers are trying to accomplish or problem they are trying to solve in a given situation. From the customer's perspective, it is the job that is the stable, long-term focal point around which value creation should be centered because the job's perfect execution reflects the customer's true definition of value (Ulwick 2011).

Figuring out how to help customers get a job done better or helping them get other or new jobs done is the real goal of innovation. Customers have also emotional or social jobs they are trying to get done when using a product or service. Knowing what these emotional or social jobs are can influence product design and help companies develop a more effective value proposition and marketing communications strategy (Johnson 2010; Ulwick 2011).

Every thriving enterprise is propelled by a strong **c**ustomer **v**alue **p**roposition (CVP), that is, an offering that helps customers more effectively, reliably, conveniently, or affordably solve an important problem or satisfy a job-to-be-done at a given price (Johnson 2010). Too often companies start with the question: "How can I get customers to buy my product (or service)?" What they should be asking is "Why should a customer want to buy it?" A great CVP identifies an important, unsatisfied consumer problem, or "job," and then proposes a focused offering to do that job at a given price. So, before you can design a great CVP, you must first develop a comprehensive understanding of your target customer's job-to-be-done (Johnson 2010).

Over the last few decades, a lot of emphasis has been put on "customer needs" and "the voice of the customer." (Griffin and Hauser 1993; Griffin 2005) But understanding a customer's job-to-be-done is not the same as understanding a

customer. Too often, “needs” are thought of only in relation to existing products and services – “What do you need my product to do?” The white space is by definition the place where a company needs to operate with a different business model than it is currently using. To develop new CVPs in the white space, companies must stop trying to figure what kind of product people are trying to buy and instead work out what they are trying to get done that they haven’t been able to do satisfactorily (Johnson 2010). Figuring out how to help customers get a job done better or helping them get other or new jobs done is the real goal of innovation (Ulwick 2011).

Once understand the various dimensions of the job-to-be-done, design an offering that fulfills that job in a unique way. An offering is a product, service, or some combination, made available at an affordable price. Included in the concept of an offering is the experience of purchasing, using, and maintaining it (Johnson 2010).

Flint et al. (2005) proposed a four-stage Logistics Innovation Process Model including: 1) Setting the stage activities; 2) Customer clue gathering activities; 3) Negotiating, clarifying and reflecting activities; 4) Inter-organizational learning. In this process model, the second stage can be viewed as the act to define the logistics jobs-to-be-done for the customers.

The concept of jobs-to-be-done is particularly applicable to the advanced 3PL firms. Their customers face constant changes in the marketplaces and therefore, have great demand to develop an effective and agile supply chain to take advantages of or cope with these changes without spending or investing beyond their means. With close and trustworthy relationships built with their key clients (Su et al. 2011), 3PL firms are in a very good position to discover the jobs-to-be-done of their key clients with the intention to formulate the most accurate CVPs for these clients (Cui et al. 2008).

The cited finding (Su et al. 2010) in the external relationships construct can also be cited here to support the jobs-to-be-done construct proposed for this study, that is, "A 3PL interacts with clients proactively and develop intelligence capability to monitor key industry trends to define new value proposition and opportunities. It then develops differentiated services with their knowledge and talents for their existing and potential clients." Clearly, 3PL is very eager to discover what they can do for their clients and define correct CVPs that can be pursued to create new values.

Our interpretation and synthesis of the literature discussed here leads us to the following definition of the **jobs-to-be-done** (JTBD) construct:

A 3PL interacts with their key clients proactively and develop

intelligence capability to monitor key industry trends to identify important but unsatisfied clients' problems, or "jobs-to-be-done" with the goal to design new service offerings to help clients more effectively, reliably, conveniently, and affordably solve these important problems.

From the definitions of CTER and JTBD constructs, the second proposition for the innovation of 3PLs can be derived as follows:

P2: **Close and trustworthy external relationships (CTER) with current or potential clients positively affect 3PL firms' ability to identify logistics jobs-to-be-done (JTBD) opportunities in the clients' supply chains.**

3.4 Innovative service offerings with multifaceted dimensions

Van De Ven (1986) pointed out "A common characteristics of the innovation process is that multiple functions, resources, and disciplines are needed to transform an innovative idea into a concrete reality." We will elaborate on the statement for this study and develop the theoretical foundation for the construct in this section.

The concrete reality is well-termed and is also the goal that any innovation efforts intend to achieve. What concrete reality means can be interpreted as to design, test, launch and improve the products or services, related resources and processes innovated to serve the jobs-to-be-done or unmet needs of users, or in

this study, the clients of 3PL firms. In the past decade, the supply chain and logistics management arises in the corporate ladder and emerges as an important strategic business function. Increasing studies on supply chain and logistics innovations can also be found in academic journals and industry reports (Bessant and Kaplinsky 2003; Flint et al 2005; Flint et al 2008; Grawe 2009; Cui et al. 2009; Cui et al 2010(1); Cui et al 2010(2); Clabby 2010). However, most of these studies neglected to look at the "concrete reality" from the product and service aspect other than the one done by Cui et al. (2009). In Cui et al.'s study (2009), they actually found that the dimensions of logistics innovation at 3PL firms are multi-faceted. Providing an innovative service offering will often necessitate simultaneously the innovations of other business dimensions, such as how customers use the service, where customers get the services, who are serving customers, and what technologies are required, et al.

The second interpretation is that innovation is a complex endeavor that requires the integration of multiple functions, resources, disciplines, and even organizations. That is why supply chain management comes into the scene. Based on the synthesis of existing literature, Chen et al. (2010) proposed that connectivity and simplification are the two most basic and crucial elements of

supply chain process integration and these two concepts can be further assessed from the internal and external angles.

Firms wishing to achieve an enhanced internal connectivity should focus on developing employee skills in coordinating various business processes; provide focus by developing common goals, setting specific objectives, and using common standards for each process; and focus on ensuring compatibility and communication capabilities among the internal processes. External connectivity extends the coordination, compatibility, communication, etc. to external partners. Internally, simplification measures center on reducing complexity, eliminating redundant activities and unnecessary steps, and limiting duplication of jobs across areas. External simplification focuses on similar reductions and efficiency improvements that extend throughout the channel/supply chain to other business entities. In achieving higher levels of supply chain effectiveness it is important to update systems and processes. Innovation, particularly in terms of investing in new systems that will enhance supply chain integration and communication, is imperative (Rutner et al., 2003). For instance, establishing advanced links with their customers enables companies to transmit and receive information, which gives potential to speed up the entire transaction and improve efficiency in terms of fulfilling promises to customers (Stefansson, 2002). Openness to new ideas

that promote administrative efficiencies and adoption of new process technologies will culminate in an improvement of the 3PL's effectiveness in the supply chain (Panayides and So 2005).

Two findings from Su et al.'s multiple year case studies (2010) are relevant to the construct discussed in this section and are listed below:

F4: Innovation of a 3PL is multi-faceted and leads to superior business performance for the 3PL, its clients and supply chain partners in stake (i.e. supply chain).

F8: Proper technology adoption is a key enabler to the service innovation of a 3PL.

Our interpretation and synthesis of the literature discussed in this section leads us to the following definition of the **innovative service offerings with the multi-faceted dimensions (MFSO)** construct:

> *A 3PL designs, tests, launches and improves the innovative service offerings supported by the multi-faceted business dimensions for its clients in need and collaborate effectively with its clients. Other supply chain partners may often join to bring in their capabilities that are required to deliver the innovative service offerings.*

The third proposition regarding how the jobs-to-be-done construct relates to the innovative service offerings with the multi-faceted dimensions construct can be stated below:

P3: **Knowing the clients' logistics jobs-to-be-done opportunities positively affect 3PL firms to pursue the innovative multi-faceted logistics service offerings to satisfy the clients' jobs-to-be-done.**

3.5 Organizational transition in supply chain

Cummings and Worley (1995) describe a comprehensive, five-phase, general process for managing change, including: 1) motivating change, 2) creating vision, 3) developing political support, 4) managing the transition and 5) sustaining momentum. That process seems suitable for organizing and describing general guidelines about managing organizational changes and transitions needed for 3PL logistics innovations.

There are four major problems in making organizational transitions (Van De Ven 1986). First, there is the human problem of managing attention because people and their organizations are largely designed to focus on, harvest, and protect existing practices rather than pay attention to developing new ideas. The more successful an organization is the more difficult it is to trigger peoples' action thresholds to pay attention to new ideas, needs, and opportunities. Second, the

process problem is managing ideas into good currency so that innovative ideas are implemented and institutionalized. While the invention or conception of innovative ideas may be an individual activity, innovation (inventing and implementing new ideas) is a collective achievement of pushing and riding those ideas into good currency. The social and political dynamics of innovation become paramount as one addresses the energy and commitment that are needed among coalitions of interest groups to develop an innovation. Third, there is the structural problem of managing part-whole relationships, which emerges from the proliferation of ideas, people and transactions as an innovation develops over time. Finally, the context of an innovation points to the strategic problem of institutional leadership. Innovations not only adapt to existing organizational and industrial arrangements, but they also transform the structure and practices of these environments. The strategic problem is one of creating an infrastructure that is conducive to innovation.

The innovation process will inevitably ignite the organizational transformation of participating parties including behavioral changes and transitions of individuals and groups in the participating organizations to adapt to the new ways of doing business. Intensive collaborations between 3PL firms and their clients are required for any successful logistics innovations. According to the study of

Fawcett et al. (2008), successfully implementing SCM strategies hinges on the ability of firms to achieve high levels of supply chain collaboration. Many firms struggle to achieve high levels of collaboration. The lack of collaboration is not a result of inadequate initiative, but rather a lack of maturity in managing the change process. Systemic cultural and structural changes are required to create more collaborative supply chains. Such changes are not easy to initiate and sustain. Firms must implement specific practices that can unfreeze and transform their cultures and practices in a way that promotes collaboration.

Best practices for the successful supply chain collaboration are twofold. First, establishing commitment and creating understanding regarding logistics innovation are critical to the willingness and ability to collaborate effectively. This commitment must exist at the top, be widespread, and be made visible throughout the supply chain. Supply chain mapping's ability to make the need for innovation visible solidifies managerial commitment by helping managers agree on specific activities that must be initiated to transform the supply chain. Second, resisting forces to supply chain collaboration must be removed. Relatively low levels of trust typify supply chain relationships (Fawcett et al. 2008). Trust was identified as the single most important relationship-building factor for alliance success (Malhotra and Murnighan 2002). High level of trust

must be established by involving the critical decision-makers to the supply chain innovation process and design decisions as early as possible. Trust enables members of the supply chain innovation team to rely on each other and thereby promote collaboration, flexibility, risk-taking, shared information, and shared resources. Well-managed supply chain advisory boards can provide a stream of opportunities to achieve the collaborative successes needed to establish high levels of trust and transition to more effective collaboration.

In innovation literature, organizational learning theories are most often used to explain the critical role of intra- and inter-organizational learning in the innovation process (Senge 1999;Bessant and Kaplinsky 2003; Flint et al 2005). Learning ability will improve as the partners sustain their business relationship over time and develop a joint understanding that allows uniquely efficient communication and know-how of when to contribute and draw on each other's resources.

Barlow and Jashapara (1998) examine the influence of inter-organizational relations in the context of promoting organizational learning. It is shown through case studies of major UK organizations that improved learning at all levels is partly the result of effective communication and information distribution systems, both within and between organizations. In their paper, Hurley et al. (1998)

indicate that elements of inter-organizational relationships such as collaboration and communication would have an impact on innovation. Inter-organizational relationships would entail openness to new patterns of behavior and the adoption of new ideas as an aspect of a firm's culture.

The milestone case study on supply chain learning conducted by Bessant and Kaplinsky (2003) expands our understanding of the organizational learning from within a firm to between the firms in supply chain. They explored the potential of a three-stage mechanism: setting-up, running, and sustaining, to enable learning and competence development in a supply chain. The study supports a previous study's finding: "learning is not a natural feature of business networks. It is unlikely to thrive unless it is part of the emerging new models for inter-company collaboration which stress trust, co-operation, and mutual dependence." (DTI 2000)

Flint et al. (2005) pointed out inter-organizational learning refers to the new insights and understandings that emerge jointly for managers from the logistics service provider and customer organizations. These insights about industry opportunities, technological advancements, and process improvement possibilities, emerged in part because an adequate stage had been set for learning to occur. Because people with open minds, curious to learn from each other, have

been involved in the exchange of detailed and important information, social interaction across organizational and functional boundaries allows new realities to emerge.

With a further comparison, the 3PL innovation management process model proposed by Su et al. (2011) is quite coincident with the change process model (Cummings and Worley 1995), the supply chain learning process model (Bessant and Kaplinsky 2003) and the logistics innovation process model (Flint et al. 2005). All relate to the innovation and its changes, though they are presented from different angles. They all touched upon the transition of organizations in either an implicit or explicit way.

In the inter-organizational innovation of 3PL-clients context, once the jobs-to-be-done are verified and converted to CVPs, 3PL firms will leverage their close relationships with key clients for communications regarding the new service offerings and changes needed for those unmet needs or unsolved problems to be resolved. They would then develop the new service offerings by integrating their resources and processes with those of clients' and the selected supply chain partners'. Extensive collaborating and learning activities among the participating partners will be going on to prepare themselves for a successful

organizational transition to the changes needed for the logistics innovation in supply chain.

Our interpretation and synthesis of the literature discussed here leads us to the following definition of the ***organizational transition in supply chain*** **(OTSC)** construct:

> *A 3PL owns reliable, flexible and economic service capability to effectively interact and collaborate with its clients and supply chain partners to achieve its transition from the current organizational format to that needed by the multi-faceted innovative solution provisions for clients.*

The fourth proposition regarding the relationship between the innovative service offerings with the multi-faceted dimensions construct (MFSO) and 3PL supply chain organizational transition construct (OTSC) can be stated below:

P4: **The development and implementation of the innovative multi-faceted logistics services for clients affects positively the transition of 3PL and its supply chain organizations.**

3.6 Supply chain performance

Seminal studies in organizational innovations suggested that innovations at the organizational level are expected to result in an organizational change that might

affect the performance of that organization (Armour and Teece, 1978; Rosner, 1968; Mansfield, 1968). Venkatraman and Ramanujam (1986) focused on organizational effectiveness and classified business performance measures either as financial or operational.

Effective supply chains achieve the timely delivery of products and related information that is accurate. In doing so, it is essential that supply chain operations are effective and any arising problems are dealt with swiftly. Effective management of supply chains can minimize costs, reduce cash-to-cash cycle time, and improve the rate of utilization of facilities (Brewer and Speh, 2000; Shin et al., 2000). Innovation will actually lead to improved 3PL effectiveness in the supply chain (Panayides and So 2005). It can be inferred that as the supply chain parties become more innovative in terms of adopting new processes and investing in new technological systems, supply chain effectiveness in terms of ability to fulfill what was promised, meet standards and solve problems will improve.

In a study (Jayaram et al. 2004), authors found that firms with superior capabilities in setting up the structural mechanisms (use of information systems, supply chain participation, geographical proximity, ability to manage inventory) as well as in building relationships with key supply chain partners are able to

develop and sustain higher levels of supply chain value. High levels of supply chain value creation are in turn positively associated with superior firm performance (market share, return on asset, competitive position, customer service level).

Supply chain collaborations are likely to impact business performance through improved organizational performance, better asset utilization, stronger competitive position, and improved profits (Matsuno and Mentzer 2000; Zacharia et al. 2009). Firms that are interdependent in terms of knowledge and skills, and those who share a deep understanding of each other, will likely have a high level of collaboration. Understanding supply chain partners helps to collaborate at an intense level, which leads to improvements in operational outcomes (cost, quality, customer service, cycle time, customer value), and enhance relational outcomes (trust, credibility, relationship effectiveness) between the collaborating firms. Successful collaborations in terms of operational and relational outcomes will lead to improvements in business performance (Zacharia et al. 2009).

Hunt and Morgan (1995) apply the resource-based view of the firm to suggest that competitive advantage results from the firm, relative to its competitors, being able to produce an offering for some market segment that is perceived to

be of superior value. Because of the centrality of logistics to customer value creation (Flint et al. 2005; Lambert, García-Dastugue, and Croxton 2005), the performance of logistics activities must be perceived as differentially superior to competitors in the same market segment(s) (Williamson, Spitzer, and Bloomberg 1990).

A study on the perceived 3PL performance by buyers of 3PL services had categorized 3PL performance into three factors: operations, channel, and asset reduction (Knemeyer and Murphy 2004). Operations performance factor includes 10 items such as "improved logistics system responsiveness", "achievement of logistics cost reductions", "improved information technology", "increased logistics expertise" that seem to be more inward focus; Channel performance factor includes 5 items such as "help integrating the supply chain", "increased post-sale customer support", "expanded geographic coverage"; and asset reduction performance factor includes 2 items: "the reduction of owned assets" and "the reduction of the user's employee base". This study focused on buyers' perspective and did not differentiate between tangible and intangible performances and how they can be utilized or harvested for 3PL management purpose.

As logistics innovations provide firms with a competitive advantage, business partners are likely to adopt these innovations and competitors are likely to imitate successful logistics innovations (Dickson, 1992). Diffusion of innovation is defined as the process of communicating an innovation throughout a network (Rogers, 1995). Much of the literature that addresses innovation in logistics is concerned with the diffusion of innovations within and across firms (Russell and Hoag 2004; Sheffi, 2004; Grawe 2009). In their qualitative study of two cases, the authors found that the factors influencing the success of such implementations include perceptions of the innovation, organizational culture, types of communication channels used to diffuse knowledge of the innovation, and various leadership factors such as management level support and breadth of support (Russell and Hoag, 2004).

Su et al. (2011) identified two categories of supply chain performance measures for 3PL innovations, that is, tangible benefits and intangible effects. Tangible benefits are operational and financial performances discussed in many logistics and supply chain performance studies (Venkatraman and Ramanujam 1986; Matsuno and Mentzer 2000; Jayaram et al. 2004; Zacharia et al. 2009). Measures for tangible benefits cited more often include the cost reductions, the faster response to customer's needs, the profit growth, the cycle time reduction, and the

increase of asset turns. These measures are easier to quantify. Intangible effects are competence-related and relational (Cui et al. 2010(2); Su et al. 2011). Measures for intangible effects are less studied and more difficult to quantify, therefore, are often assessed by qualitative statements. Measures for intangible effects include the innovation knowledge diffusion, the enhanced supply chain relationships, ability to control supply chain better, more business opportunities for suppliers, less supply chain risks, a paradigm shift, better supply chain inventory visibility, stronger competitive position, and the increased brand images among the key supply chain partners (Clabby 2010; Su et al. 2011). Leveraging both tangible benefits and intangible effects in a proper way can create sustained supply chain advantage for 3PL and its supply chains. These have become the harvesting stage in the three-stage 3PL innovation management process model (Su et al. 2011).

The relevant finding from Su et al.'s multiple year case studies (2010) to the construct discussed in this section is listed below:

F4: *Innovation of a 3PL is multi-faceted and leads to superior business performance for the 3PL, its clients and supply chain partners in stake (i.e. supply chain).*

Our interpretation of the literature discussed in this section leads us to the following definition of the **supply chain performance** (SCP) construct:

> *New supply chain values composed by the tangible benefits and the intangible effects are created from the superior supply chain performance when 3PL innovative service offerings supported by multi-faceted business dimensions are successfully implemented. Tangible benefits are related to operational and financial performances and can be measured quantitatively. Intangible effects are related to competent and relational performances and are normally measured qualitatively.*

The fifth proposition regarding the relationship between 3PL supply chain organizational transition construct (OTSC) and its supply chain performance construct (SCP) can be stated below:

P5: **The successful transition of 3PL and its supply chain organizations affects positively the performance of 3PL's supply chain.**

The last proposition defines the relationship between 3PL supply chain performance construct and the strong new value creation motivation (NVCM) below:

P6: **The performance of 3PL's supply chain affects positively the motivation of 3PLs to create new supply chain values.**

4. Theoretic Framework Development

A theoretic framework for the innovation of 3PLs is developed in Figure 3 and will be discussed in this section.

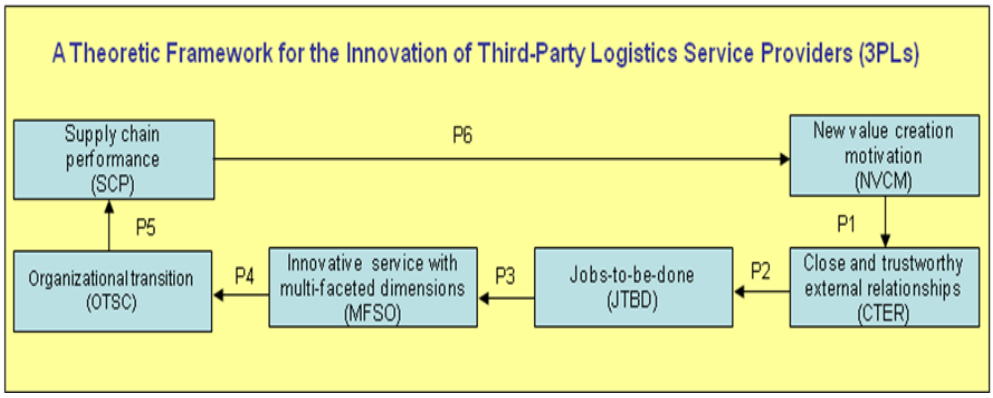

Figure 3 Theoretic Framework for the Innovation of 3PLs

The theoretic framework in Figure 3 is composed by the six constructs and the six propositions developed in section 3. Each construct is the abstraction of a 3PL's unique and core managerial behavior, and the interaction with its supply chain partners during the innovation cycle. Each proposition defines the causal relationships between two adjacent constructs and the interactive nature of these constructs. A continuous cycle is formed as an eco-system for the logistics innovations of 3PLs that represents a generic innovation process which can sustain and prosper.

The framework in Figure 3 can be best understood by going through the six

related propositions in the sequence below.

P1: **Strong drivers to create substantial new values (NVCM) positively affect 3PL firms to develop close and trustworthy relationships with their current or potential clients (CTER) that may lead to opportunities to create substantial supply chain values.**

P2: **Close and trustworthy external relationships (CTER) with current or potential clients positively affect 3PL firms' ability to identify logistics jobs-to-be-done (JTBD) opportunities in the clients' supply chains.**

P3: **Knowing the clients' logistics jobs-to-be-done (JTBD) opportunities positively affect 3PL firms to pursue the innovative multi-faceted logistics service offerings (MFSO) to satisfy the clients' jobs-to-be-done.**

P4: **The development and implementation of the innovative multi-faceted logistics services (MFSO) for clients affects positively the transition of a 3PL and its supply chain organizations (OTSC).**

P5: **The successful transition of a 3PL and its supply chain organizations (OTSC) affects positively the performance of the 3PL's supply chain (SCP).**

P6: **The performance of a 3PL's supply chain (SCP) affects positively the motivation of the 3PL to create new supply chain values (NVCM).**

5. Discussions

According to the multiple-year 3PL innovation case study findings (Cui et al. 2008, Cui et al. 2010(1), Su et al. 2010), the innovation at 3PL firms is a serious business that requires a rigorous and scientific multi-stage approach to accomplish the goal, that is, create substantial values for clients, themselves, and key supply chain partners (Su et al. 2011). The innovation of service offerings at 3PL firms has gained incredible momentum with the knowledge accumulated in the past two decades to cope with the unprecedented changes in the world that bring great impacts to their clients and other supply chain partners. Professional logistics innovators have transformed from the logistics operations executors (more of a 3PL model) to the integrated supply chain masters (more of a 4PL model) (Gattorna 2011; Zacharia, et al. 2011).

The firms studied in the multiple-year 3PL innovation case studies (Su et al. 2011) are all highly recognized with superior financial and operational performance in the past decade. Many findings in those studies are derived from observing the innovation of these firms. Since there are many 3PL firms in the markets as shown in Figure 1 and 2, our premise is that innovative 3PL firms differ from their peers who are not or less innovative. This study further reviewed many related literature to develop the constructs, define propositions and formulate the

theoretic framework regarding the innovation of 3PL firms. Therefore, the theoretic framework developed in this study provides a clearer picture regarding the key constructs and the linkage between these constructs in a 3PL innovation context. This knowledge should be valuable to 3PL firms who aim to become more innovative in the marketplace. It could also facilitate the clients of 3PL firms to make better decision when they are seeking logistics service partners. Apart from the past studies of the conceptual frameworks focusing on the cycle of social learning activities or highly abstract constructs to define logistics innovation (Flint et al. 2005, Grawe 2009), the theoretic framework developed in this paper is grounded on the chronological research findings of the multiple-year 3PL logistics innovation case studies (Cui et al. 2008, Cui et al. 2009, Cui et al. 2010(1), Cui et al. 2010(2), Su et al. 2010, Su et al. 2011). The theoretic framework integrates the key constructs of 3PL innovation into a business-oriented conceptual model that presents the core managerial activities of the innovations of 3PL firms. Causal relationships are proposed in the framework that may be used for the future theory testing. The framework allows researchers and managers to better understand what these core managerial activities of 3PL innovation represent and how they are interacted. In other words, for research purpose, the framework lays out a theoretic foundation for

researchers to further investigate the innovation behaviors of 3PL firms; while, for practice purpose, the framework provides companies a system structure to develop the customized innovation settings in their organizations.

Thus, this paper has contributed to a better understanding of the emerging role of 3PL firms in the economy and the importance of logistics innovation for 3PL firms. The research findings provide both theoretical and managerial insights. Logistics innovation at 3PL firms starts with a strong drive to create new supply chain values and ends with a superior supply chain performance, however, the process continues to the next cycle, as shown in Figure 3.

6. Conclusion and Future Research

3PL industry has evolved into a highly diversified industry that is composed by different types of firms; some are still very traditional, while others are very advanced (and innovative). More and more firms recognize the value of 3PLs and are seeking innovative logistics solutions through the collaboration with 3PLs to develop logistics competitiveness.

The effort to develop a theoretic framework on 3PL innovation can enhance our understanding of the process and behaviors of innovative 3PLs and add to the rare literature base regarding 3PL innovation. Future study can be extended to test the propositions of the innovation of 3PL firms developed in this paper and

solidify the research findings or even revise the framework and develop better theories regarding the innovation of 3PL firms.

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