ABSTRACT

Drawing on resource dependence theory, we plan to conduct a bilateral survey to examine the effect of dependence on 3PL relationships and explore the different perceptions on logistics outsourcing relationships between 3PL providers and users in this study. The potential insights gained from this study not only will help academicians understand the effect of dependence relationship building and different perceptions of 3PL providers and users in logistics outsourcing relationship, but also will guide 3PL providers and users to adjust their relational activities or behaviors to deal with the issue of dependence and fulfill their partners’ real needs.

KEYWORDS: Third-party logistics, Logistics outsourcing relationship, Dependence, Bilateral survey

INTRODUCTION

Outsourcing logistics activities to third-party logistics (3PL) providers has been proven to be effective in allowing firms to focus on their core competencies and improve their customer service level (Boyson et al., 1999; Lewis & Talalayevsky, 2000). Collaborative relationships with 3PL providers have become increasingly important in terms of achieving competitive advantages in logistics (Chu & Wang, 2012). Meanwhile, uncertainty and risk on logistics outsourcing exist (Lieb & Bentz, 2004), because some crucial criteria is overlooked by 3PL users such as “selecting the right partner, matching inter-organizational needs and capabilities, and clearly defining standards and goals” (Daugherty et al., 2006). Therefore, more research on 3PL relationships appears to be crucial in order to help managers take appropriate course of actions and make sound decisions on logistics outsourcing.

Previous studies have paid attentions to 3PL relationship (e.g. Chu & Wang, 2012; Hofenk et al., 2011; K nemeyer & Murphy, 2004). K nemeyer and Murphy (2004) examined that relational antecedents of trust can influence 3PL performance from relationship marketing perspective. Tian et al. (2008) also found several antecedents of 3PL users’ trust towards 3PL providers, including 3PL users’ satisfaction with prior interactions with 3PL providers, and 3PL providers’ relationship-specific investment, information sharing, and reputation. In terms of outcomes of 3PL relationship, K nemeyer and Murphy (2004) stated that 3PL users’ operations and channel performances are positively influenced by 3PL users’ trust towards 3PL providers. Li (2011) specified three relational benefits (special treatment benefits, value-added benefits, and collaborative benefits) that 3PL users gain from relationships with their 3PL providers; these benefits in turns lead greater customer satisfaction and higher repurchasing intention. Trust and
commitment have been proven as key mediators between relational antecedents and performance (Hofenk et al., 2011; Knemeyer & Murphy, 2004; Morgan & Hunt, 1994).

Nonetheless, outsourcing logistics to 3PL service providers causes the issue of dependence [Dependence refers to “a firm’s need to maintain its business relationships with supply chain partners to achieve its goals” (Frazier, 1983)], because “the increasing demand for high-quality and value-added logistics services makes 3PL users depend more on 3PL providers” (Lai et al., 2013). Identifying how dependence affects 3PL relationship can effectively leverage the issue of dependence and in turn, improve relational performance of both 3PL providers and users. The effect of dependence on 3PL relationship, however, has not been clearly examined yet. Lai et al. (2013) argued that dependence has positive impacts on relationship quality. On the other hand, Morgan and Hunt (1994) suggested dependence resulting from relationship termination costs and relationship benefits positively affects acquiescence and conflict, and negatively affects commitment and trust. Evidently there are discrepancies among these studies. Therefore, drawing on resource dependence theory, we will examine the effect of dependence on 3PL relationships from two perspectives: 3PL providers and users.

At the same time, Nyaga et al. (2010) suggested the questions concerning whether 3PL providers and users care about the same relational antecedents or both parties benefit from the collaborative relationship occur because of single-side data collections (either only from 3PL providers such as Tian et al., 2008; or from 3PL users such as Yew Wong & Karia, 2010). Corsten and Kumar (2005) noted that suppliers and large retailers both benefit from the collaborative relationship, but higher sense of inequity still occurs in the perspective of the suppliers. Nyaga et al. (2010) found that buyers pay more attention on relationship performance while suppliers focus more on protecting their specific investments on relationships. If 3PL providers (or users) overlook their users’ (or providers’) different perceptions on their relationships, the inappropriate activities or policies might be made and in turn, negatively affect the relational performance. Thus, understanding different perceptions on logistics outsourcing relationships between 3PL providers and users will help them recognize and pay more attentions on their partners’ real needs and concerns. By conducting a bilateral survey on 3PL providers and users, we will compare the results from these two groups to explore whether they have the same perceptions and focuses on logistics outsourcing relationships.

This study potentially provides both theoretical and practical contributions. Although existed literature have examined the positive effect of dependence on relationship quality (Lai et al., 2013), we will attempt to explore the role of dependence in relationship building from relationship marketing literature in this study. By conducting a bilateral survey, we will provide dyadic partners’ comparisons in logistics outsourcing relationship research. This study will guide 3PL providers and users adjust their relational activities and behaviors to deal with the issue of dependence and fulfill their partners’ real needs.

The rest of paper is organized as follows. The next section reviews related literature. We then develop our research model and hypotheses. Our research methodology is described in the next section. We discuss the potential contributions, limitations and suggestions for future research in the last section.

LITERATURE REVIEW

This study aims to investigate the effect of dependence on 3PL relationships and explore the different perceptions on logistics outsourcing relationships between 3PL providers and users. It
is meaningful to provide related literature on 3PL, 3PL relationship building, and dependence issue resulting from the relationship to understand the background and research gaps in these areas. This section provides an overview of the related literature and demonstrates the research gaps we plan to fulfill.

Third-Party Logistics

Logistics is a process dealing with the product flow (such as raw materials, work-in-process products and finished goods) and related information flow from the origin points to the destination points in order to meet customers’ specific requirements (Bowersox & Closs, 1996). Logistics service providers aim to deliver products or services to receivers at the right time, at the right place, with the right quantity, in the right quality, and with the right cost (Lin & Ho, 2009). A company with excellent logistics performance is able to enhance its efficiency and effectiveness in the supply chain. Logistics outsourcing normally represents a contractual relationship with third-parties to meet specified performance criteria set by users (Bolumole, 2003). Both internal and external factors should be considered when organizations make the decision on outsourcing logistics activities (Selviaridis & Spring, 2007). Internal factors may contain “product-related (e.g. special handling needs), process-related (e.g. cycle times, resources and capabilities), or network-related (e.g. countries served)” (Sankaran et al., 2002). External factors are “changes in the business environment, increased competition, pressure for cost reduction, the need for strategic flexibility, the focus on core competencies, the improvement of service quality and the resulting need to restructure supply chains” (Qureshi et al., 2007; Selviaridis & Spring, 2007). Bask (2001) described 3PL as “relationships between interfaces in the supply chains and 3PL providers, where logistics services are offered, from basic to customized ones, in a shorter or longer-term relationship, with the aim of effectiveness and efficiency”. 3PL providers can provide various services, including transportation, comprehensive logistics, value-added services, global logistics management, etc. (Stefansson, 2006). Cooperating with 3PL providers, 3PL users can get rid of unnecessary investment in logistics-related assets such as warehouses, trucks, etc. (Bolumole, 2003). More professional logistics services provided by 3PL can improve 3PL users’ customer satisfaction and ability to expand target market (Bask, 2001).

3PL Relationship

As the importance of 3PL has been widely recognized by academicians and practitioners, an increasing number of studies have pay attention to how to build successful logistics outsourcing relationship (e.g. Chu & Wang, 2012; Hofenk et al., 2011; K nemeyer & Murphy, 2004; Tian et al., 2008). Most studies on supply chain collaborative relationship are from a marketing perspective (e.g. Knemeyer & Murphy, 2004; Qureshi et al., 2007). Relationship marketing can be defined as “all marketing activities directed toward establishing, developing, and maintaining successful relational exchanges” (Morgan & Hunt, 1994). According to this perspective, trust and commitment built by a long-term relationship can lead performance improvement (Min et al., 2005). Trust and commitment have been proven as important drivers for successful relationships in a great number of studies (e.g. Morgan & Hunt, 1994). Tian et al. (2008) studied China’s logistics industry to figure out how to build trust between 3PL providers and users. They find several antecedents of logistics users’ trust towards 3PL providers, including logistics users’ satisfaction with prior interactions with 3PL providers, and 3PL provider’s relationship-specific investment, information sharing, and reputation. In addition, the trust can lead 3PL users’ loyalty behavior towards 3PL providers. Many studies have investigated success drivers for 3PL collaboration (e.g. Van Laarhoven et al., 2000). Hofenk et al. (2011) extended the previous
results to suggest that “hard” contractual factor (contract formality) and “soft” relational factors (trust and commitment) are positive factors for the effectiveness of 3PL relationship. In terms of the benefits from 3PL relationship, Palaima and Auruskeviciene (2007) extended the relational benefits concept from marketing to logistics perspective. Li (2011) studied US manufacturers’ evaluations on logistics service performance to identify relational benefits such as special treatment benefits, value-added benefits, and collaborative benefits from their 3PL providers. According to the benefits-satisfaction-loyalty triads in supply chain relationships, these benefits provided by 3PL providers can effectively help manufactures improve customer satisfaction and further lead higher repurchasing intention (Li, 2011). Additionally, a 3PL provider has been transformed “from a tactical service provider to a hand-in-glove strategic partner” (Li, 2011).

**Dependence**

A great number of firms tend to rely on supply chain partners to achieve cost reduction and process improvement, thus dependence issue comes up with the demands from supply chain partners (Petersen et al., 2008). Some studies have employed power to reflect the dependence in a supply chain relationship. For example, Zhao et al. (2008) argued that power affects commitment. A firm is willing to develop a collaborative relationship with another firm because of a high level of dependence (Pfeffer and Salancik 1978). For example, Benton and Maloni (2005) found that power has a positive impact on buyer–seller relationships, which in turn improves supplier satisfaction and performance. Cai and Yang (2008) suggested that a buyer’s dependence on a supplier is an important driver of cooperative norms. Some studies have focuses on dependence issues specifically in 3PL relationship, but evident discrepancies exist among these studies. For example, Morgan and Hunt (1994) suggested dependence positively affects acquiescence and conflict, and negatively affects commitment and trust. On the other hand, Lai et al. (2013) argued that dependence has positive impacts on relationship quality. Therefore, more research is needed to offer more convincing evidence on the effect of dependence on 3PL relationship.

To summarize, existed literature has introduces dependence issue in supply chain relationships and logistic outsourcing relationships, however, the effect of dependence on relationship building has not been clearly examined yet. Further, with consideration for dependence, the question concerning on whether 3PL providers and users have the same perceptions and focuses on logistics outsourcing relationships has not been analyzed clearly. Therefore, the current study aims to fulfill these two gaps.

**RESEARCH MODEL AND HYPOTHESES**

This section describes a theoretical model (see Figure 1) of logistics outsourcing relationship by identifying hypothesized effect of dependence and linkages between six relationship antecedents and performance. Drawing on resource dependence theory, we hypothesize dependence takes on a moderating role in the research model. The relationship antecedents include relationship-specific investment, information sharing, reputation, prior satisfaction, joint efforts, and opportunistic behavior. The selection of these antecedents combines previous research on logistics outsourcing relationship or buyer-supplier relationship (Knemeyer & Murphy, 2004; Morgan & Hunt, 1994; Nyaga et al., 2010). As suggested by Morgan and Hunt (1994), trust and commitment play key mediating roles in our research model. Two types of performance are examined: relationship performance (satisfaction with the relationship) and supply chain performance. Each of the hypothesized linkages illustrated in Figure 1 will be discussed in the following paragraphs.
Dependence

Resource dependence theory (RDT) by Pfeffer and Salancik (1978) has been broadly applied to demonstrate how organizations manage environmental interdependence in the past thirty years (Hillman et al., 2009). “RDT characterizes the corporation as an open system, dependent on contingencies in the external environment” (Pfeffer & Salancik, 1978). Due to the critical resources controlled by other organizations, firms suffer dependence and uncertainty (Barringer & Harrison, 2000). Organizations intend to structure build relationships to gain and maintain the needed external resources and reduce uncertainty (Hillman et al., 2009; Pfeffer & Salancik, 1978). If dependence exists, it may push firms to develop better relationship between 3PL users and providers, and in turn to gain and maintain critical resources (i.e. advanced logistics services). Thus, when a 3PL user is highly dependent on its major 3PL provider, the 3PL user may develop a closer logistics outsourcing relationship with the 3PL provider. The closer relationship between 3PL users and providers maintain long-term relationship.

Lai et al. (2013) argued that dependence has positive impacts on relationship quality; whereas Morgan and Hunt (1994) suggested dependence resulting from relationship termination costs and relationship benefits positively affects acquiescence and conflict, and negatively affects commitment and trust. Evidently there are discrepancies among these studies. Cahill et al. (2010) stated frequency of conflict has moderating effect on the satisfaction-customer loyalty relationship. This point of view suggests positioning dependence as moderator to affect relationship success. As such, we hypothesize that:

H1. Dependence moderates the relationship between relationship antecedent and the level of trust and commitment.

Relationship Antecedents

Relationship-specific investments refer to investments in a relationship that are of lower value when used in an alternative relationship (Heide & John, 1988). These investments by a 3PL party offer tangible evidence that it is trustworthy, it cares for the relationship, and it is willing to make sacrifices through such investments (Ganesan, 1994). As such, we hypothesize that:
H2. Relationship-specific investment is positively related to the level of trust and commitment.

Information sharing (Communication) refers to the expectation that the parties will freely and actively provide useful information to each other (Heide & John, 1992). It was described by Mohr and Nevin (1990) as "the glue that holds together the channel of distribution", thus is also important for successful 3PL relationships (Gardner & Cooper, 1988; Ellram & Cooper, 1990). Pruitt (1981) argued that information sharing enhances trust and coordinative behavior of the parties. Anderson and Narus (1990) and Morgan and Hunt (1994) empirically argued that information sharing leads to trust and commitment. As such, we hypothesize that:

H3. Information sharing is positively related to the level of trust and commitment.

Reputation is built when "3PL partners send signals of their future actions through their performance and behaviors in other relationships" (Knemeyer & Murphy, 2004). Reliable and consistent behaviors over time form a firm's reputation (Ganesan, 1994). A firm is more willing to trust and commit to another if the other organization holds a reputation for cooperative behavior (Macauley, 1963; Pruitt, 1981). "By making sacrifices and showing their concern for the buyer, third parties should be able to develop a reputation for fairness within the 3PL industry" (Anderson & Weitz, 1992). Thus, reputation enhances the level of trust and commitment. As such, we hypothesize that:

H4. Reputation is positively related to the level of trust and commitment.

Joint effort, "such as planning, goal setting, performance measurement, and problem solving", is critical to building a successful relationship (Min et al., 2005). When parties work together on their joint operations and processes, trust can be strengthened and the level of commitment to the relationship can be increased (Jap & Ganesan, 2000). Making more joint decisions can effectively encourage suppliers to commit their relationship (Subramani & Venkatraman, 2003). As such, we hypothesize that:

H5. Joint effort is positively related to the level of trust and commitment.

Opportunistic behavior refers to "deceit-oriented violation of implicit or explicit promises about one's appropriate or required role behavior" (John, 1984). Since opportunistic behaviors seek for self interest in a relationship (McLvor, 2009), considerable costs have to be spent on control and monitoring (Wathne & Heide, 2000). Knemeyer and Murphy (2004) empirically examined that opportunistic behavior to be harmful to logistics outsourcing relationships. Thus, when a firm believes that its partner engages in opportunistic behaviors, the level of trust and commitment will be decreased in their relationship (Morgan & Hunt, 1994). As such, we hypothesize that:

H6. Opportunistic behavior is negatively related to the level of trust and commitment.

**Mediators**

Trust refers to “the extent to which relationship partners perceive each other as credible and benevolent” (Ganesan, 1994). Trust leads to “greater openness between suppliers and retailers and thus greater knowledge and appreciation of each other’s contribution to the relationship” (Corsten & Kumar, 2005). As such, trust has positive influence on relationship success (Doney & Cannon, 1997; Geyskens et al., 1999; Monczka et al., 1998; Whipple & Frankel, 2000).
Commitment refers to the partner's desire to continue the relationship and to warrant maximum efforts at maintaining it (Morgan & Hunt, 1994). Anderson and Weitz (1992) argued that commitment can achieve mutual goals in buyer-supplier relationship. Jap and Ganesan (2000) found that retailers’ perceptions of their suppliers’ commitment influenced the retailers’ evaluation of supplier performance and their satisfaction. As such, we hypothesize that:

H7. The relationship between relationship antecedents and relationship performance is mediated by trust and commitment.

Performance

Two types of performance are examined as dependent variables: relationship performance (satisfaction with the relationship) and supply chain performance. Satisfaction is overall positive evaluation a firm’s collaboration with its partner (Dwyer et al., 1987). Successful collaborative relationships may effectively improve supply chain performance, such as cost inventory level, cycle time, lead-time, delivery delay (Whipple & Frankel, 2000; Daugherty et al., 2006). When two parties are satisfied with their partner's relational contributions, cooperation is able to be enhanced, further it makes supply chain more efficient and higher performing (Ross et al., 1997). As such, we hypothesize that:

H8. Satisfaction on relationship is positively associated with supply chain performance.

METHODOLOGY

We will conduct a bilateral survey for this research. The surveys will be sent to a total of 2,000 to 2,400 potential respondents across two independent samples (1,000 to 1,200 for each sample): 3PL professionals (as the sample of 3PL providers), and logistics/supply chain managers mainly in manufacturing industries (as the sample of 3PL users). These two samples will not be paired or matched dyads, which is one of the limitations of this study discussed in the last section. Both 3PL providers and users will be asked about the various aspects of their efforts to maintain the collaborative relationship, satisfaction on their partner’s efforts, and supply chain performance.

The respondents will select their outsourced (or provided) logistics functions from a list of twenty-nine functions (e.g. outbound/inbound traffic control, carrier negotiation and contracting, freight consolidation, etc.). Summarized results of outsourced logistics functions will be compared with those from previous studies (e.g. Lieb & Randall, 1996; Boyson et al., 1999; Murphy & Poist, 2000; Knemeyer & Murphy, 2004).

We will use structural equation modeling to test the hypothesized causal relationships between constructs. “SEM has become a quasi-standard in marketing and management research when it comes to analyzing the cause–effect relations between latent constructs” (Hair et al., 2011), while it is less rigorous for dealing with empirical research challenges such as smaller sample sizes (Marcoulides & Saunders 2006; Sosik et al., 2009). We will perform two-group invariance tests across the two independent survey samples to figure out whether there are different perceptions between 3PL providers and users. We will focus on comparing if the model’s paths are different for 3PL providers and users, and if the hypotheses are supported across these two samples.
POTENTIAL CONTRIBUTIONS, LIMITATIONS, AND FUTURE RESEARCH

This study will provide both theoretical and practical contributions. By drawing on resource dependence theory, this paper will explore the role of dependence in relationship building, and will offer evidence on how dependence influences logistics outsourcing relationship. 3PL providers and users can recognize their dependence issue and take advantages of their dependence on partners to build closer collaborations. In addition, this paper will conduct a bilateral survey. It will provide more accurate description of the causal relationship among relationship antecedents, mediators/moderators, relationship performance and supply chain performance from 3PL provider’s and user’s perspectives. By figuring out the similarities and differences between 3PL providers’ and user’s perceptions on collaborative relationship, the future research will enable to avoid overlooking the different perspectives on 3PL collaborative relationship. This study will guide 3PL providers and users to adjust their relational activities or behaviors to deal with the issue of dependence and fulfill their partners’ real needs.

There will be three limitations in this paper. First, all of the respondents will be from single country (e.g. US). It will cause cultural limitation. The collaborative relationship is normally culture-sensitive, so future research on different cultural organizations is meaningful. Then the time issue will not be tested in this paper, thus a longitudinal study should be very helpful. Finally, although we conduct the survey on both 3PL providers and users, the matched relationship between them will not be guaranteed. It might cause certain misunderstandings of the collaborative relationship. If the study between matched 3PL providers and users can be conducted, it is certainly valuable.

REFERENCES


