Examining the Relationship between Collaborative Relationships and Organizational Innovation within the Third-Party Logistics Industry

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RICHARD BUSHART

Prescott Valley, Arizona
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Approval Page

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By

RICHARD BUSHART

Approved by:

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Chair: Dr. Kris Iyer, Ph.D. Date

Certified by:

_____ _____

Dean of School: Dr. Peter Bemski, Ph.D. Date

Abstract

Third-Party Logistics (3PL) industry revenues in the United States increased by 7.2% from $149.1 billion in 2010 to $159.9 billion in 2011 (Davies, 2012). However, the growth in the 3PL industry was in jeopardy because shippers viewed their 3PL partners as mostly transactional and incapable of fostering collaborative business relationships leading to the types of inter-organizational innovation required to solve the vexing challenges facing global supply chains (Langley, 2012). The problem examined in the study was the deficiency of collaborative relationships leading to organizational innovation within the third-party logistics industry in the United States. This quantitative, cross-sectional study used two published and validated survey instruments to measure the predictor variable of collaborative relationships and outcome variable of organizational innovation. Data were collected from 222 employees working in the 3PL industry and analyzed using SPSS statistical software. The results linked to the first research question indicated that increased collaboration between 3PLs and shipper-partners can produce greater organizational innovation. The Pearson product-moment correlation test revealed that the relationship between the predictor and outcome variables was moderately positive with $r = .36$ and statistically significant with a p-value $< .0005$. The results pertaining to the second research question utilizing a multiple linear regression analysis indicated that demographic variables (age and gender) were not a significant amount of the variance in organizational innovation over and above what was explained by collaborative relationships with p-values of .42 and .31 respectively. This study provided new empirical evidence on the statistically significant relationships between increased collaborative relationships and organizational innovation that can

assist 3PLs in creating new training programs, corporate policies, and best practices that can be applied practically within the 3PL industry as well as a foundation for future research using other innovation, creativity, and relationship variables. 3PLs now have new findings and recommendations on how to produce the disruptive innovations that are desperately needed to move the 3PL industry forward.

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Chapter 1: Introduction

The third-party logistics (3PL) industry continues to grow in the United States due to globalization and an increasing need for 3PLs by shippers (Davies, 2012). 3PL industry revenues in the United States increased by 7.2% from $149.1 billion in 2010 to $159.9 billion in 2011 (Davies, 2012). With this increased growth, shippers expect an elevated level of innovative solutions from their 3PL partners (Langley, 2012). However, the recent growth in the 3PL industry is in jeopardy because shippers view their 3PL partners as mostly transactional and incapable of providing the organizational innovation needed to solve difficult global supply chain problems (Lieb & Lieb, 2011). Although 3PLs have become more innovative over the past decade, there is still a critical need for them to build truly collaborative relationships with shippers that can lead to advanced organizational innovation in which their shipper-partners are searching for in a 3PL relationship (Langley, 2012).

Outsourced 3PLs are an important part of the supply chain for many global shipping companies because they offer a multitude of different services (Murray, 2013). A third-party logistics company provides logistics services such as transportation, warehousing, cross-docking, inventory management, packaging, and freight forwarding (Bozrath & Handfield, 2011). However, shippers have the option of handling their transportation and logistics' needs in-house. From the late 2000's, the third-party logistics sector has been greatly affected by the global recession (Lieb & Lieb, 2011); profitability has decreased and market share has become more difficult to obtain due to shipper consolidation. In any case, the relationship between shippers and their 3PLs has always been complicated and it is not uncommon for shippers to complain that their 3PLs

are not meeting their challenging supply chain needs and providing innovation (Davies, 2012). Organizational innovation is critical to moving any business forward especially in the 3PL industry given the competition (Crossan & Apaydin, 2010).

3PLs struggle to foster collaborative business relationships needed to deliver the types of inter-organizational innovation required to solve the difficult challenges currently facing global supply chains (Langley, 2012). Inter-organizational innovation is a new product or service idea generated by multiple organizations interacting with one another to create new organizational relationships aimed at pooling resources and sharing knowledge to develop innovative solutions that significantly change a market and/or value chain by automating, simplifying, generating value, or reducing costs (Miller, Perry & Thompson, 2007). Innovation is an acknowledged critical driver to growth, profitability, and competitive advantage in the third-party logistics' industry, but as the logistics industry matures and becomes more global, collaborative relationships leading to inter-organizational innovation is proving to be elusive (Nusair, 2013). However, currently 3PL-shipper relationships are not structured to support innovation because they are mostly tactical and uncollaborative (Murray, 2013). Shippers claim there is a lack of an organizational culture that promotes innovation within 3PLs today (Murray, 2013).

As evidenced by shipper feedback, there is a critical need for 3PLs to become more collaborative business partners with shippers in order to provide innovative ideas aimed at addressing complex industry challenges (Langley, 2012). Within the context of this paper, the practical application of collaborative relationships and organizational innovation were studied to determine if collaborative 3PL-shipper relationships will effect organizational innovation within 3PLs. Examining the relationship of

collaborative 3PL-shipper relationships on organizational innovation will equip industry experts and executives with new information that can be used to solve the challenging problems facing global supply chains.

Chapter 1 is an introduction to the research study. The chapter begins with a background of the 3PL industry to provide a context for the problem statement. The problem statement includes the specific issue addressed by this study. The purpose statement section includes the intended objective of the study. The research questions and hypotheses establish the foundation for the research, and the nature of the study section outlines the research methodology. Lastly, the chapter concludes with key definitions and a summary statement.

Background

The 3PL industry is part of the global economy, representing $616.1 billion U.S. dollars in revenues in 2011 (Langley, 2012). In 2011, global 3PL revenues increased by 13.7% from $541.6 billion in 2010 to $616.1 billion. This is due to ongoing globalization and increasing business for the world's 3PL providers (Davies, 2012). 3PL industry revenues in the United States increased by 7.2% from $149.1 billion in 2010 to $159.9 billion in 2011 (Davies, 2012). Aside from the decline in market share and revenues for 3PLs from 2007-2009, the sector has shown steady growth in recent years both globally and in the United States (Murray, 2013). However, the recent growth in the 3PL industry is in jeopardy because shippers view their 3PL partners as transactional and incapable of providing organizational innovation needed to solve difficult global supply chain problems.

The 3PL industry has come a long way in a relatively short time period. Over the past two decades the 3PL industry has shifted from providing almost 100% transactional related services for shippers to providing a combination of transactional services and some more integrated solutions (Langley, 2012). 3PLs have learned to hone their expertise in the industry while gaining the trust of the shippers in which they serve (Bozrath & Handfield, 2011). This increased trust has led to better relationships and collaboration at a basic level (Klein & Ray, 2009). This progress is evident in recent feedback from shippers stating that they are overall satisfied with the transactional services provided by their 3PL (Langley, 2012). However, on the maturity curve, 3PLs seem to be stagnant and having difficulty building truly collaborative relationships with shippers that can lead to advanced organizational innovation in which shippers are searching for in a 3PL relationship (Murray, 2013). There is a lack of unconditional trust and collaboration that only highly evolved collaborative relationships realize that includes the sharing of information, technology, proprietary data, resources, and investments (Miller et al., 2007). As the economy grows and shippers look to 3PLs to provide innovative solutions to the difficult global supply chain challenges, it is critical that 3PLs understand how to build highly collaborative relationships with their shipper-partner that can lead to organizational innovation (Lieb & Lieb, 2011). The consequence of not building collaborative relationships and organizational innovation could be the loss of market share and stagnancy within the 3PL sector.

Innovation is widely viewed as essential to the success of an organization (Crossan & Apaydin, 2010). This statement is especially critical to 3PLs because as the global economy increases, competition tightens, and shippers look to their 3PL partners

for innovative solutions, 3PLs need empirical evidence and recommendations on how to produce the disruptive innovations that are desperately needed to move the industry forward (Murray, 2013). As conveyed by Langley (2012), shippers will no longer accept incremental improvements from their 3PL partners, they are searching for disruptive innovative solutions that will help them to discover new supply chain paths and differentiate from their competitors. However, as the 3PL industry continues to mature, disruptive supply chain innovation becomes more challenging and elusive (Lieb & Lieb, 2011). Fundamental changes are needed to improve the relationships between 3PLs and shippers and evolve to an advanced collaborative relationship (Murray, 2013). 3PLs need empirical evidence as to how collaborative relationships affects organizational innovation which will assist them in creating new corporate policies and best practices that can be applied practically (Isaksen & Aerts, 2011). The new empirical knowledge will allow 3PLs to be more proactive as opposed to their traditional reactive approach and be seen as a viable strategic partner that provides innovative solutions to their shippers.

Statement of the Problem

It takes truly collaborative relationships among all business partners to develop and deliver the types of inter-organizational innovation needed to solve the vexing challenges facing today's supply chains (Langley, 2012). The problem examined in this study was the deficiency of collaborative relationships between 3PLs and their shipper-partners leading to organizational innovation within the 3PL industry today. 3PL industry revenues in the United States increased by 7.2% from $149.1 billion in 2010 to $159.9 billion in 2011 (Davies, 2012). Yet, this increase is not as much as it could be given that 3PL's are finding it difficult to retain business of the shippers; nearly three in

five shippers (58%) claim they are reducing the number of outsourced 3PL's they use (Langley, 2012). This is attributed to shippers not believing that 3PL's are able to provide collaborative innovative solutions. The absence of collaborative relationships leading to innovation within the 3PL industry can also be linked to an absent culture of continuous improvement promoting organizational innovation; the 3PL sector is currently uncollaborative and business relationships are not structured to provide innovation. If this trend continues, 3PLs could lose additional market share, and eventually face declines in revenues and profits (Howland, Krupp & Schoemaker, 2013). A broader consequence of 3PL's not building collaborative relationships leading to innovation is the increased likeliness of commoditization and stagnancy within the shipping industry.

There has been limited empirical research on the effect of collaborative 3PL-shipper relationships on organizational innovation. Moreover, currently there is no corporate policy, best practice, training program, or qualitative industry knowledge designed to address this problem and guide this critical paradigm shift (Langley, 2012). Therefore, today it was not known if collaborative 3PL-shipper relationships would have an effect on organizational innovation within the 3PL industry in the United States. Since there was no practical industry knowledge and limited empirical evidence to address this problem, this study was critically needed within the 3PL sector. By filling this research gap 3PL's will be better positioned to build collaborative relationships with shippers leading to innovative solutions and gain market share, profitability, and sustainability.

Purpose of the Study

The purpose of this quantitative, cross-sectional correlational survey research study was the examination of the relationship between collaborative relationships and organizational innovation within the 3PL industry from a sample of 1,000 respondents randomly selected from third-party logistics companies in the United States using Leonard's Guide, an online resource specializing in up-to-date and accurate information on the logistics' industry (Leonard's Guide, 2013).

The current study used two separate instruments to measure the predictor variable of collaborative relationships and outcome variable of organizational innovation. The first instrument was a collaborative relationship assessment (Lynch et al., 2010). There were 28 survey items within eight construct dimensions in the collaborative relationship assessment used for this study. The second survey instrument was a situational outlook questionnaire (SOQ) used to assess organizational creativity and innovation (Isaksen & Aerts, 2011). The SOQ consisted of 53 quantitative questions scored on a 4-point Likert scale. For this study, 3PL employee demographics (age and gender) were viewed as uncontrolled variables which could have an adverse effect on the relationship between the predictor and outcome variables (Hill & Lewicki, 2007; Johnson & Christensen, 2007). As such, age and gender were monitored as potential confounding variables and used for regression analysis. By examining the relationship between collaborative relationships and organizational innovation under a 3PL context, the applied implications is new information that industry experts and executives can use to solve the challenging problems facing global supply chains and create new corporate policy, best practices, and training programs.

Research Questions

The following research questions examined the relationship between collaborative relationships and organizational innovation within the 3PL industry in the United States. RQ 1 was descriptive and addressed the collaborative relationships between 3PLs and shipper-partners that enable 3PLs to provide more organizational innovation. RQ 2 investigated if 3PL employee demographics, (age and gender) explain variance in 3PL organizational innovation over and above that which is explained by collaborative relationships (Hill & Lewicki, 2007; Johnson & Christensen, 2007). Age and gender were monitored as potential confounding variables and used for regression analysis. Confounding variables are demographics for individual differences that will assist with eliminating alternative explanations for significant relationships (Chiaburu & Bryne, 2009). Although it is impossible for a researcher to control for every possible confounding variable, controlling for variables that might be relevant to the study outcome is a preferred approach (Hosein, 2005). Age and gender were selected as potential confounding variables because they are considered to be susceptible to influence on the study variables of collaborative relationships and organizational innovation (Langley, 2012). The shipping industry's employee base is generally mature and predominantly male (Howland et al., 2013). The age and gender control variables helped to explain if a relationship between collaborative relationships and organizational innovation was observed, whether it is influenced by the participant's age or gender. Understanding if age and gender influence the main study constructs was critical to reliability and generalization. Using age and gender as potential confounding variables will give 3PL leadership an added element of empirical research that can be used to

further shape best practices and policy as well strengthen the study results and recommendations. There are two research questions and related hypotheses for the study:

Q1. What is the relationship, if any, between collaborative relationships and organizational innovation within third-party logistics companies in the United States?

Q2. To what extent do the demographic variables (age and gender) explain variance in 3PL organizational innovation over and above that which is explained by collaborative relationships?

Hypotheses

The hypotheses tested associations between collaborative relationships and organizational innovation within third-party logistics companies in the United States as well as to what extent employee demographics (age, gender, work classification, and years of service) could account for variance in the outcome variable beyond what can be explained by collaborative relationships. Collaborative relationships stress an exchange of information, knowledge, complementary resources and capabilities, and relational asset specific investments (Klein & Rai, 2009). Increasingly, firms are attempting to build collaborative relationships with their supply chain partners in order to achieve efficiencies and stimulate innovation (Lynch et al., 2010). Collaborative relationships adopt a long-term approach with joint efforts by each partner to create value (Corsten & Kumar, 2005). Although there is a lack of empirical evidence on the effects of collaborative relationships, basic collaborative relationship research between business-partners positively supports companies sharing knowledge. Thus, a relationship between collaborative relationships and organizational innovation is anticipated.

$H1_0$. There is no relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States.

$H1_a$. There is a relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States.

$H2_0$. Demographics (age and gender) do not explain a significant amount of the variance in 3PL organizational innovation over and above that which is explained by collaborative relationships.

$H2_a$. Demographics (age and gender) explain a significant amount of the variance in 3PL organizational innovation over and above that which is explained by collaborative relationships.

Nature of the Study

A quantitative, correlational research design collecting cross-sectional data was used for this study. A quantitative method was preferred for this study because numerical data were collected via questionnaires to answer the research questions (Cozby, 2012). Moreover, the use of a quantitative method provided for statistical analysis of the questionnaire results using proven empirically tested measurements such as correlation and variation (Trochim & Donnelly, 2008). A qualitative method was not recommended because, although this method would potentially add to the body of knowledge, it would be too time-consuming and difficult to measure the selected variables due to the open-ended questions associated to interviews and qualitative surveying. A sequential mixed method would provide additional understanding to the criteria variables as well, but this approach would be unnecessarily complex and time-consuming.

A correlational design was appropriate because the study examined the relationship between the predictor and outcome variables (Trochim & Donnelly, 2008). Correlational research does not attempt to identify a cause-effect relationship between variables but rather linkage between the variable relationships, which makes a correlational design ideal for the scope of this research. A cross-sectional approach was preferred because the study purpose did not require an in-depth analysis detailing trends over months or years with multiple data points, but rather one dataset at a snapshot in time provided sufficient information in an efficient manner for this study (Creswell, 2009). Cross-sectional studies are used to collect information from a sample audience at one point in time to reflect on their behavior at that point. A survey design is an optimal method to quantitatively provide descriptions of opinions, or trends related to a population by studying a subset of that population. The survey questions and scales used within the quantitative approach have been empirically tested in prior research and provided construct reliability and validity. Since prior research used a quantitative, correlational design with cross-sectional data gathered via survey to study employee creativity, and organizational vision, innovation, and performance, this approach was preferred for this study as well (Imran, 2011; Ussahawanitschakit, 2011).

The current study used two separate instruments to measure the predictor variable of collaborative relationships and outcome variable of organizational innovation. The first instrument was a collaborative relationship assessment (Lynch et al., 2010). There were 28 survey items within eight construct dimensions in the collaborative relationship assessment used for this study. The second survey instrument was a situational outlook questionnaire (SOQ) used to assess organizational creativity and innovation (Isaksen &

Aerts, 2011). The SOQ consisted of 53 quantitative questions scored on a 4-point Likert scale. The data results were tested using SPSS statistical software. The major statistical computations assessing relationships in this study included (a) bivariate correlations, and (b) multiple regression analysis. Descriptive statistics were computed for all analysis. Mitus (2006) successfully used a bivariate Pearson product-moment correlation analysis to test the relationship of organizational behavior variables in the study. Multiple regression analysis was used to determine to what extent employee demographics (age and gender) could account for variance in the outcome variable beyond what could be explained by collaborative relationships. Johnson and Christensen (2007) successfully used a multiple regression analysis to better understand if subordinates' demographics (gender, age, and military rank) influenced or were uncontrolled factors between subordinates' perceptions of the emotional intelligence of managers and organizational commitment in the Army. Since no strong prior prediction was claimed to suggest a positive or negative relationship between the variables, a two-tailed significance test was used to assist in deciding if there is correlation between the variables. The aforementioned statistical tests provided the results needed to answer the hypotheses; (a) there is no relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States, and (b) demographics (age and gender) do not explain a significant amount of the variance in 3PL organizational innovation over and above that which is explained by collaborative relationships.

For the purpose of the study, two survey instruments pertaining to collaborative relationships and organizational innovation were used to collect data. The quantitative cross-sectional survey approach was preferred because the information collected from the

sample group was quantifiable and in a format that could be analyzed using SPSS statistical software (Creswell, 2009). The data was gathered by randomly selecting third-party logistics' companies in the United States from Leonard's Guide, an online resource specializing in up-to-date and accurate information on the logistics' industry (Leonard's Guide, 2013). A list of 289 logistics' companies was identified in the master online list with an average of 100 employees per company for a total available population for this study of 28,900. Because of the cross-sectional survey approach, participants available during the collection period were emailed a questionnaire pertaining to the major variables using SurveyMonkey (SurveyMonkey, 2013).

G*Power statistical software was used to determine the required sample size for this study and the corresponding actual statistical power required. Within G*Power a two-tailed t test using two groups was computed and an a priori analysis completed to determine the required sample size. The criteria for the t test included an effect size d of .5, alpha level of .05, and beta level of .98. The G*Power output suggests a sample size of 222 participants that will yield an actual power of .9598.

Significance of the Study

3PLs struggle to foster collaborative business relationships needed to deliver the types of inter-organizational innovation required to solve the difficult challenges currently facing global supply chains (Langley, 2012). However, currently 3PL-shipper relationships are not structured to support innovation because they are mostly tactical and uncollaborative. Shippers claim there is a lack of an organizational culture that promotes innovation within 3PLs today. If this trend continues, 3PLs could lose additional market share, and eventually face declines in revenues and profits (Howland et al., 2013). A

broader consequence of 3PL's not building collaborative relationships leading to innovation is the increased likeliness of commoditization and stagnancy within the shipping industry. As evidenced by shipper feedback, there is a critical need for 3PLs to become more collaborative business partners with shippers in order to provide innovative ideas aimed at addressing complex industry challenges (Langley, 2012).

There has been limited empirical research on the effect of collaborative 3PL-shipper relationships on organizational innovation. Moreover, currently there is no corporate policy, best practice, training program, or qualitative industry knowledge designed to address this problem and guide this critical paradigm shift (Langley, 2012). Therefore, it was not known if collaborative 3PL-shipper relationships would have an effect on organizational innovation within the 3PL industry in the United States. Since there is no practical industry knowledge and limited empirical evidence to address this problem, this study was critically needed within the 3PL sector. Examining the relationship of collaborative 3PL-shipper relationships on organizational innovation will equip industry experts and executives with new information that can be used to solve the challenging problems facing global supply chains. 3PL's will be better positioned to gain market share, profitability, and be seen as a viable outsourcing option to their shipper-partners. As global supply chain revenues continue to increase and competition tightens as shippers consolidate, the long-term significance and practical application of this study is new empirical evidence and best practices for 3PL's to use when building collaborative relationships with shipper-partners that can lead to innovative solutions in which the entire industry can benefit.

Definition of Key Terms

Collaboration. Collaboration is a process in which autonomous actors interact through formal and informal negotiation, jointing creating rules and structures governing their relationships (Miller et al., 2007).

Collaborative relationships. Collaborative relationships stress an exchange of information, knowledge, complementary resources and capabilities, and relational asset specific investments (Klein & Rai, 2009).

Competitive advantage. A competitive advantage is defined as when a firm is able to deliver the same benefits as competitors but at a lower cost or deliver benefits that exceed those of competing products (Akram & Shah, 2011).

Innovation. Innovation is the introduction of new solutions to the marketplace through more effective products, services, processes, or technologies (Lieb & Lieb, 2011).

Inter-organizational innovation. Inter-organizational innovation is defined as new products or service ideas generated by multiple organizations interacting with one another to create new organizational relationships aimed at pooling resources and sharing knowledge to develop innovative solutions that significantly change a market and/or value chain by automating, simplifying, generating value, or reducing costs (Miller et al., 2007).

Organizational innovation. Organizational innovation is defined as the degree of support and encouragement an organization provides its employees to take initiative and explore innovative approaches predicted to influence the degree of actual innovation in the organization (Nusair, 2013).

Strategic network alliances. Strategic network alliances are inter-organizational collaborative relationships directed to the generation of knowledge sharing and innovation (Powell, Koput & Smith-Doerr, 1996).

Third-Party logistics (3PL). A third-party logistics company provides multiple logistic services such as transportation, warehousing, cross-docking, inventory management, packaging, and freight forwarding (Bozrath & Handfield, 2011).

Summary

By conducting a quantitative, correlational research design based study there was an opportunity to gain an understanding of the relationship between collaborative relationships and organizational innovation within 3PLs in the United States. It was not known if collaborative 3PL-shipper relationships would have an effect on organizational innovation within the 3PL industry in the United States. Since there was no practical industry knowledge and limited empirical evidence to address this problem, the proposed study was critically needed within the 3PL sector. Data was gathered through questionnaires sent to employees on all major variables; collaborative relationships, and organizational innovation. For this study, 3PL employee demographics (age and gender) were the predictor variables for regression analysis. The major statistical computations assessing relationships in this study included (a) bivariate correlations, and (b) multiple regression analysis. Descriptive statistics were computed for all analysis. The applied contribution of this study is an evidence base to assist senior leadership and industry experts in the development of best practices, industry standards, and corporate policy concerning collaborative relationships as related to organizational innovation. Additionally, 3PL organizations has new information that can be leveraged to empower

their workforce to create more innovative solutions needed to solve the vexing challenges of today's supply chains.

Chapter 2: Literature Review

The purpose of this quantitative, cross-sectional correlational survey research study was the examination of the relationship between collaborative relationships and organizational innovation within the 3PL industry from a sample of 1,000 respondents from randomly selected third-party logistics companies in the United States using Leonard's Guide, an online resource specializing in up-to-date and accurate information on the logistics' industry (Leonard's Guide, 2013). This chapter contains a review of prior empirical research related to the proposed research variables; organizational innovation and collaborative relationships. Specifically, a scholarly review surrounding organizational innovation and collaborative relationships under varying contexts and organizational behavior constructs will be conducted to identify themes that can be applied to the proposed research. The literature review helped to guide this study addressing shipper concerns and the absence of 3PL organizational innovation by answering the following research questions: (a) what is the relationship, if any, between collaborative relationships and organizational innovation within third-party logistics companies, and (b) to what extent do the demographic variables (age and gender) explain variance in 3PL organizational innovation over and above that which is explained by collaborative relationships? The following paragraphs will summarize important points and key past empirical research that will be discussed later in greater detail within the literature review.

A literature review search strategy was developed and employed to find empirical research and other supporting documentation related to the proposed study. The Northcentral library provided a good foundation of publications and databases to use for

the research including: ProQuest, Sage Journals Online, Business Dateline, and National Academic Press. A review of well over 100 journal articles, books, and other documents was conducted as a part of the literature review process and evaluation of prior empirical work related to the study topics. The literature review foundation started by developing an outline of search topics and themes. The search topics included collaborative relationships, general innovation, creativity and innovation, innovation theory, organizational innovation, organizational innovation theory, network theory of competitive advantage, third-party logistics, and supply chains. The balance of a progressive historical view of the study topics and a more current literature review assisted in developing the need for the proposed study. This approach created an opportunity for a thorough synthesis of available literature related to the study topics and themes as well as research gaps to be exposed. The exposed gaps discussed in this literature review were (a) lack of scholarly knowledge regarding collaborative 3PL-shipper relationships, (b) and lack of empirical evidence on collaborative relationships related to organizational innovation within the 3PL industry. This chapter contained a review of prior empirical research related to the proposed research variables; organizational innovation and collaborative relationships.

The literature review presented empirical literature on the following topics and themes (a) collaborative relationships (Cachon & Feldman, 2011; Klein & Ray, 2009; Miller et al., 2007), (b) creativity and innovation (Amabile, 1998; Berta et al., 2012; Isaksen and Aerts, 2011), (c) innovation theory (Schempeter, 1934, 1943; Sundbo, 2003), (d) concept of organizational innovation (Attarnezhad & Razavi, 2013; Imran, 2011; Isaksen & Ekvall, 2010; Nusair, 2013; Ussahawanitchakit, 2011), (e) organizational

innovation (Crossan & Apaydin, 2010; Isaksen & Aerts, 2011; Panuwatwanich et al., 2007), (f) organizational innovation theory (Isaksen & Ekvall, 2010; Imran, 2011; Sundbo, 2003; Ussahawanitchakit, 2011), (g) and network theory of competitive advantage (Capaldo, 2007; Gulait et al., 2000; Inkpen & Tsang, 2005; Langley, 2012; Powell et al., 1996). Since 3PLs struggle to foster collaborative business relationships needed to deliver the types of inter-organizational innovation required to solve the difficult challenges currently facing global supply chains (Langley, 2012), the evaluation and synthesis presented within the literature assisted in developing this study and addressing this critical struggle. The literature review was used as a foundation for this study overall. The literature review also helped to guide this study addressing shipper concerns and the absence of 3PL organizational innovation by answering the research questions: what is the relationship, if any, between collaborative relationships and organizational innovation within third-party logistics companies? As this research aimed to examine the relationship between collaborative relationships and organizational innovation within the 3PL industry from a sample of 1,000 respondents in the United States, it is also expected that this research will add to scholarly knowledge within the topic areas studied and assist future research by expanding innovation, organizational innovation, and the network theory of competitive advantage.

Documentation

A literature review search strategy was developed and employed to find empirical research and other supporting documentation related to the proposed study (Table 1). The literature review is a synthesis of research conducted on topics that are directly and indirectly related to the study variables; collaborative relationships, and organizational

innovation. The Northcentral library provided a good foundation of publications and databases to use for the research including: ProQuest, Sage Journals Online, Business Dateline, and National Academic Press. A review of well over 100 journal articles, books, and other documents was conducted as a part of the literature review process and evaluation of prior empirical work related to the study topics.

Table 1

Literature Search Strategy

Develop Outline of Topics	Prepare List of Key Words	Search Business Publications & Databases
Organizational Innovation	Organizational Innovation	Business Dateline
Collaborative Relationships	Collaborative Relationships	EBSCOhost OmniFile
Creativity and Innovation	3PLs Innovation	EBSCOhost Regional Business News
3PLs	3PLs Relationships	Euromonitor International
Organizational Innovation Theory	Creativity	Gale Academic OneFile
Network Theory of Competition	Innovation	Gale Business Economics and Theory
--	Innovation Instruments	Gale Criminal Justice Collection
--	Collaborative Instruments	Gale Military and Intelligence Database
--	Employee Creativity	LexisNexis Academic
--	Workplace Innovation	Mergent Online
--	Network Theory	National Academic Press
--	Competitive Theory	ProQuest
--	--	PRoQuest Research Library
--	--	Reference USA
--	--	Sage Journals Online
--	--	Sage Research Methods
--	--	ScienceDirect
--	--	SpringerLink
--	--	Wiley Online Library

The foundation of the literature review began by developing an outline of search topics and themes. The search topics included collaborative relationships, general innovation, creativity and innovation, innovation theory, organizational innovation, organizational innovation theory, network theory of competitive advantage, and 3PLs. The review included relevant scholarly books, online databases, journal publications and articles, and web searches. The literature was extracted by concentrating on current, relevant peer-reviewed empirical research targeting the proposed study variables as well

as specific research within the 3PL sector. Additional related articles to the primary search topics were reviewed if identified during the literature review discovery process.

The process of developing the literature review included due diligence of both historical theoretical perspectives on the study topics and themes as well as a review of current, relevant empirical research. The balance of a progressive historical view of the study topics and a more current literature review assisted in developing the need for the proposed study. This approach created an opportunity for a thorough synthesis of available literature related to the study topics and themes as well as research gaps to be exposed. Additionally, this simplified strategy will allow for an easier understanding of the literature review by a reader and alignment of the study overall. The exposed gaps that were discussed in this literature review included (a) lack of scholarly knowledge regarding collaborative 3PL-shipper relationships, (b) and lack of empirical evidence on collaborative relationships related to organizational innovation within the 3PL industry.

Collaborative Relationships

The scholarly research on collaborative relationships has been limited and focused primarily on transactional-based relationships. Overall, there has not been an overload of recent empirical research completed on collaborative relationships, specifically relationships that enhance partnerships to the point of creating innovation. Although prior collaborative relationship research between business-partners positively supports companies sharing information (Klein & Rai, 2009), there is a gap in research because it is not known how collaborative relationships relate to an increase in organizational innovation beyond simply sharing data. Collaborative relationships adopt a long-term approach with joint efforts by each partner to create value (Corsten & Kumar, 2005).

More and more firms are attempting to build collaborative relationships with their supply chain partners in order to achieve efficiencies and stimulate innovation (Lynch et al., 2010). Any empirical evidence on collaborative business-partner relationships will only help to advance this important organizational behavior area. This section of the literature review examined the limited research on collaborative relationships and introduced the link to the research to examine the relationship between collaborative relationships and organizational innovation.

Shippers and 3PL industry gurus have identified collaboration and collaborative relationships as key organizational areas of focus. Collaboration is a process in which autonomous actors interact through formal and informal negotiation, jointing creating rules and structures governing their relationships (Miller et al., 2007). Collaborative relationships stress an exchange of information, knowledge, complementary resources and capabilities, and relational asset specific investments (Klein & Rai, 2009). Collaboration between companies leading to inter-organizational innovative solutions is a term used by scholars in prior empirical research on collaborative relationships to describe a process that can emerge as organizations interact with one another to create new organizational relationships aimed at pooling resources and knowledge to create innovation. 3PLs struggle to foster collaborative business relationships with shippers that are needed to deliver the types of innovation required to solve the difficult challenges facing global supply chains (Langley, 2012). Since 3PLs struggle to foster collaborative relationships with shippers**,** 3PLs can benefit from empirical research examining collaborative business-partner relationships.

The current trend in general and supply chain collaborative relationship research focuses more on the sharing of information. Examples of current literature on collaboration and collaborative relationships are presented by Klein and Rai (2009) and Miller et al. (2007). Klein and Rai performed a quantitative confirmatory study using a survey instrument to validate findings during a qualitative exploratory phase that investigated strategic information flows in logistics supply chain relationships. The purpose of the study was to determine if there was a relationship between strategic information flows and buyers and suppliers within logistics supply chain relationships. Miller et al. performed a quantitative correlational research study collecting cross-sectional data in order to measure and conceptualize collaboration. The primary purpose of the study was to stimulate interest in the measurement of collaboration and refinement of the model in order to further promote research in this area. The aforementioned studies present findings surrounding collaboration and information sharing between business-partners, but do not examine knowledge sharing and collaboration to the point of producing innovative solutions. The progression of research by Klein and Rai and Miller et al. surrounding information sharing between business-partners provides a good foundation on collaborative relationship research, but also exposes an opportunity to extend the research to examine the relationship between collaborative relationships and organizational innovation. As noted by Langley (2012), knowledge sharing and data integration play a key role in advancing collaborative relationships between 3PLs and shippers on the road to innovative solutions.

Despite recent research on collaborative relationships between business-partners, there is a gap in empirical evidence on the relationship between collaborative

relationships and organizational innovation (Langley, 2012). Klein and Rai (2009) found positive support that collaboration, and sharing strategic information and IT customization both upstream and downstream within strategic partnerships in logistics supply chains is productive for business relationships, and Miller et al., (2007) found support in a structural equation model of collaboration. Other empirical research studied the collaboration and sharing of order-level information in supply chains finding that sharing this type of information improved the collaborative relationship (Cachon & Feldman, 2011). However, past research only addressed information-sharing on orders, inventory, or customer demographics between business-partners. Basic knowledge sharing between business partners is helpful to enhance the collaborative relationship, but does not take the relationship to the level of solving the vexing challenges facing supply chains and providing inter-organizational innovation. The apparent gap in prior research suggested that there was still empirical evidence needed surrounding the link between collaborative relationships and organizational innovation research and theory under this study context because collaborative and strategic knowledge-sharing within supply chains that would enhance relationships to the point of creating inter-organizational innovation had not yet been studied.

Creativity & Innovation

Organizational creativity and innovation have increased in scholarly importance over the past decades and continue to be critical to business strategy. There are varying perspectives on how to increase organizational innovation by both researchers and business gurus. Many innovation gurus are adamant that innovation cannot exist without individual creativity (Berta et al., 2012). Amabile (1998) wrote that the main difference

between innovation and creativity is that creativity anticipates or precedes innovation. Simply, if creative ideas did not exist there would not be new innovative products or services to take to the market. This section provided a framework for creativity leading to innovation and introduced prior scholarly studies surrounding this linkage. It is important to set the foundation and linkage of creativity and innovation to this study to examine the relationship between collaborative relationships and organizational innovation within a 3PL context as it will help to critically analyze existing research and develop the gap in empirical evidence related to this study.

Creativity and innovation move closely together within an organization. In the 1980's researchers suggested that a creative work environment lead to organizational innovation (Ekvall, 1996). According to Ekvall organizational climate and creativity influences business processes such as problem solving and decision making. Three significant research programs took place in the 1980's and 1990's that targeted the attributes of creative and innovative organizations (Berta et al., 2012). Born from these research programs were several well-respected creative and innovative climate organizational questionnaires: (a) Work environment inventory questionnaire (Amabile, 1998); (b) Situational outlook questionnaire (Isaksen & Treffinger, 2004); and (c) Creative climate questionnaire-t (Ekvall, 1996). The development of these creative and innovative questionnaires provided a tool for empirical research within the organizational innovation area. Isaksen and Aerts (2011) studied the link between problem-solving style and creative organizational climate. Best and worst case climates were assessed using a situational outlook questionnaire in which 213 individuals were identified as the sample. The study findings confirmed that significant differences between best and worst case

workplace climates exist. Moreover, the study suggested that problem-solving styles make a difference in the outcome of workplace climate. This study is significant to the proposed research because this study shows that there is ample leeway when it comes to creativity, innovation, and problem-solving within an organization. Moreover, that leadership has the responsibility to create an environment and work climate that encourages problem-solving. The empirical work completed by Isaksen and Aerts can be correlated to this research because 3PLs in general and leadership within 3PLs struggle to create an innovative, problem-solving environment that leads to innovation. The empirical research by Isaksen and Aerts combined with the creativity and innovation questionnaire creation of Amabile, Isaksen and Treffinger, and Ekvall assisted in the development of this study and instrument used to measure innovation within a 3PL context.

Innovation Theory

Prior research has attempted to define innovation theory and the link to organizations. An understanding of the progression of innovation theory and theoretical implications to the 3PL industry on a practical level can help to guide future policy, best practices, and promote competitiveness. As market share becomes increasingly difficult to obtain within the 3PL sector, organizations look to innovation to differentiate themselves from their competitors (Langley, 2012). Since innovation is an acknowledged critical driver to growth, profitability, and competitive advantage in the 3PL industry, this section will discuss a progression of innovation theory and how the theory can be applied to the proposed study and expand scholarly knowledge.

From the factors that produce innovation to the link between innovation and organizational attributes, the theory and practical application of this key area is important to business gurus and senior leaders alike (Sundbo, 2003). Isaksen and Akkermans (2011) studied organizational leaders and their influence on innovative productivity as well as the climate for creativity and innovation. This exploratory study included 140 respondents from 103 organizations, 31 industries, and 10 countries. The findings suggested that those who perceived more leadership support for innovation had significantly better creative climate scores. Moreover, those who perceived higher levels of innovative productivity also had better climate scores. Lastly, organizational climate as an intervening variable between leadership behavior and innovation was confirmed. An organization's senior leadership has an intrinsic and social responsibility to the company's employees and, in part, industry overall to encourage creative behavior and set policy and procedures that promote an organizational creative and innovative climate. The study findings support the critical role that creative climate plays between leadership and innovative productivity. The empirical work by Isaksen and Akkermans provides evidence that leadership support and a creative work climate really do go together within an organization. Since 3PLs are searching for ways to become more creative and innovative in order to exceed shipper expectations, Isaksen and Akkermans provided critical insight and helped to guide this study.

As the need and interest for innovation increased within organizations, the development of innovation theory has also evolved (Sundbo, 2003). Scholarly knowledge and the understanding of innovation theory have changed over time with each theoretical perspective being replaced by a newer viewpoint. It is important to

understand the progression of each aforementioned theory in order to develop the theoretical framework as well as to build the foundation for this study and link to studying organizational innovation theory under the 3PL context. Organizational innovation theory and the application to this study will be discussed later in this section.

The study of innovation theory dates back to the 1930's and can be linked to Joseph Schumpeter (1934). According to Schumpeter's innovation theory of the economy growth, innovation was the determinant in growth when an economy begins to prosper. However, as the years passed Schumpeter's theory was viewed as a macro explanation to innovation theory, and a need for a meso, and eventually micro, understanding of innovation theory surfaced. Thus, Schumpeter's innovation theory of the economy growth was replaced by a modern theory of innovation (Sundbo, 2003). Sundbo (2003) introduced a more current perspective he called the modern innovation theory that was developed into three sub-theoretical views with each one succeeding the prior view: (a) technology-economics innovation theory, (b) entrepreneur innovation theory, (c) and strategic innovation theory.

Around the 1980's, the technology-economics innovation theory was viewed as the central determinant of an organization's capability to grow (Sundbo, 2003). The technology-economics innovation theory focused on the efforts of renewal with an emphasis on the market. However, the technology-economics theory was difficult to apply within a service company. For this reason, a newer innovation theory surfaced called entrepreneur innovation theory. In the late 1980's the technology-economics innovation theory was replaced by entrepreneur innovation theory. Entrepreneur innovation theory was thought to be more prominent than technology-economics

innovation theory alone in terms of innovation theory because it addressed a wider scope of companies. The entrepreneur innovation theory was grounded by innovation being explained in terms of individuals' qualities as the determining factors. However, viewing innovation in terms of an individual and a small, start-up organization did not take into consideration the larger conglomerates. This gap brought on the shift from entrepreneur innovation theory to a strategic focus on the organization as a whole, creating the strategic theory of innovation. Strategic theory of innovation suggests that innovation is seen as a part of the company's relationship with both the customer and the market. This is a dramatic shift from entrepreneur innovation theory where an individual was seen as the catalyst to growth. Suggesting that innovation can be induced at the corporate level with organizational creativity stemming from relationships internally and externally was a major change in the view of innovation theory overall. Empirical research from a strategic theory of innovation approach sparked growing interest in organizational innovation theory. Understanding the progression of Schumpeter's innovation theory of the economy to the current view of organizational innovation theory is significant to establish the need for this study using a 3PL context.

Concept of Organizational Innovation

Business leaders look to better understand the concept of organizational innovation in order to adapt quicker to the changing environment in which they operate and increase competitiveness. Organizational innovation can be defined, in general, as an approach or method used by organizations to adapt to changing conditions within their internal or external environment, competition, technology advances, by introducing newer products, techniques, and/or processes (Attarnezhad & Razavi, 2013). Moreover,

Nusair (2013) suggests that organizational innovation is the degree of support and encouragement an organization provides its employees to take initiative and explore innovative approaches predicted to influence the degree of actual innovation in the organization. Organizational innovation can also be defined as the ability of a firm to renovate ideas and knowledge into new products and services for the benefit of stakeholders (Attarnezhad & Razavi, 2013). Since 3PLs struggle to generate innovation that shipper's desire, an understanding of the literature surrounding the concept of organizational innovation will be helpful to this research (Langley, 2012). This section of the literature review presented past literature on the concept of organizational innovation as well as considerations about innovations.

To assist in developing the argument around organizational innovation, a distinction between an individual's creativity and organizational innovation will be helpful. Individual creativity can be defined as a new idea presented by a single employee within a company (Attarnezhad & Razavi, 2013). Organizational innovation is realized when the creativity of an individual is then shared and transferred throughout the organization to improve a product or service. Shalley and Gibson (2004) claimed that although individual creativity is a great asset to an organization's ability to innovate, organizational innovation can only be realized when the creativity is shared within and throughout the organization. As 3PLs search to close the gap and become more innovative, the past research suggesting that both individual creativity and a transfer of that knowledge to use as a springboard to generate organizational innovation are critical.

A critical review of organizational innovation requires two considerations regarding innovation over time. The first consideration is that the interpretation of

innovation has changed over the past decades. In the 1970's the primary focus of innovation was in incremental change, a series of small-scale changes, that allowed an organization to advance in the way of many, many of these small improvements to products and services (Nusair, 2013). In the 1980's and 1990's the focus switched to larger-scale innovations, radical changes, to where an organization would introduce a brand new product, service offering, or technological advancement. Current innovation is now focusing on meso and micro organizational attributes as well as inter-organizational innovation (Sundbo, 2003). Ekvall (1996) and Isaksen and Ekvall (2010) studied the link between organizational innovation theory and climate for creativity within an organization. Imran (2011) and Ussahawanitchakit (2011) studied organizational learning and leadership in relation to organizational innovation theory. These studies are an example of the scholarly focus given to organizational innovation in the recent past. This study that examined the relationship between collaborative relationships and organizational innovation within the 3PL sector is merely an extension of the current trend within the area of innovation.

The second consideration is that the conceptual progression of innovation has also changed over time leading to three distinct approaches; organizational design; organizational cognition and learning; and organizational change and adaption (Lam, 2004). Scholarly interest in organizational design dates back to the late 1970's when Mintzberg, (1979) studied the effects of organizational structural variables on product and process innovation. Nonaka and Takeuchi (1995) studied organizational learning and knowledge creation process by investigating a firms' capacity to create and exploit new knowledge targeting innovation from an organizational cognition and learning viewpoint,

which was the empirical research focus at that time. Organizational change and adaption defined innovation as an outcome of the creation of new organizational structures (Attarnezhad & Razavi, 2013). Child (1997) studied innovation in terms of technological and radical environmental changes stating that adaption is critical to an organization's success.

The early empirical work by Mintzberg (1979) exploring the effects of organizational structural variables on process and product innovation paved the way for future organizational innovation research. Nonaka and Takeuchi (1995) targeted organizational learning, Child (1997) examined technological and radical environmental changes related to organizational innovation, and later Lam (2004) studied organizational change and adaption. A synthesis of early empirical research on organizational innovation leading to more current research focusing on more specific organizational attributes related to organizational innovation provides solid foundational work on the link of key organizational climate and learning factors to successful organizational innovation. As the need for 3PLs to build collaborative relationships leading to innovation in order to remain solvent and competitive increases, the urgency for empirical evidence examining this relationship also escalates. Understanding the conceptual progression and past empirical studies surrounding innovation and organizational innovation will assist in adding relevancy to this study and extending what is known within the 3PL sector.

Organizational Innovation

More and more scholars are studying different organizational innovation constructs under varying contexts. There have been many studies presented surrounding

organizational innovation, specifically focused on climate for innovation and innovative work behavior. The relationship between organizational climate and innovative work behavior was first conceptualized by Solomon, Winslow, and Tarabishy (2004). However, prior empirical research on the relationship of organizational climate with innovation provided mixed results (Isaksen & Aerts, 2011). Any empirical evidence advancing knowledge on organizational innovation and climate for innovation can assist companies in the future and extend what is known on organizational innovation theory. This section of the literature review evaluated and synthesized select research on organizational innovation and discussed any implications on this research study.

Organizational innovation promotes a company's ability to be competitive in the marketplace. Innovation capability is one of the most important determinants of firm performance (Crossan & Apaydin, 2010). More and more scholars and practitioners are increasingly recognizing the need for managing creativity as well as the demand for organizational innovation to remain competitive (Isaksen & Aerts, 2011). Organizational innovation depends on a climate for creativity that supports innovation. Climate for innovation plays a vital role in helping companies to differentiate themselves from competitors and allow for the growth of market share (Panuwatwanich et al., 2007). Although a significant portion of employee innovation is derived from an individual's creativity, there are current studies that highlight the importance of organizational environment as a key contributor to organizational innovation and being competitive (Imran, 2011; and Ussahawanitschakit, 2011). Since shippers are consolidating their use of 3PLs and market share has become more difficult to obtain, it is important that 3PLs

have empirical evidence to help develop a companywide approach to enhancing organizational innovation (Lieb & Lieb, 2011).

Innovation is widely recognized as a crucial element of competitive advantage in all business environments, specifically those that change frequently and dramatically (Crossan & Apaydin, 2010). However, managing for organizational innovation can be challenging. There are very few widely accepted practical business measurements for organizational innovation and creativity. Crossan and Apaydin presented a multi-dimensional framework for determining and addressing innovation in the workplace. Desouza, Dombrowski, Awazu, Baloh, Papagari, Jha and Kim (2009) presented a method to encourage organizational innovation following an outlined process. Both studies offer systematic approaches to enhancing organizational innovation and a process to adhere to when embracing this critical competitive advantage.

Determinants of innovation can be at several levels; senior leadership, managerial, and process levels (Crossan & Apaydin, 2010). The determinants of how innovative an organization is can be associated with levers such as strategic direction, goals, and work processes. Moreover, organizational innovation can be viewed as a process itself or an outcome of another factor altogether. Innovation as a process has a clear flow including a trigger, outlined process steps, goals, and eventual business owner for the intended creativity. Innovation as an outcome is more reactionary where the resulting innovative solution is not always planned. Organizations that are considered innovative are able to use both methods to create innovative products and services following an outlined process, as well as draw upon environments, internal and external, to identify, scope and create new solutions. Desouza et al. (2009) convey the innovation process in the

following stages; generation and mobilization, advocacy and screening, experimentation, commercialization, and diffusion and implementation. Each stage is interlinked to a different stage, but required in order to complete and control the innovation process. Today, 3PLs struggle to identify and develop innovative solutions for their customers. 3PLs do very well on a transactional basis, but find it difficult to build collaborative relationships with shippers that lead to innovation. Part of the reason is that there is no set innovation process to develop innovative solutions and measure the success of innovation within 3PLs today. As 3PLs look to create supply chain innovation for their shippers to use, either aforementioned innovation process approach could be of benefit.

Past organizational innovation research has focused on settings and contexts outside the 3PL sector. Imran (2011) and Ussahawanitchakit (2011) studied organizational innovation and climate under varying contexts. Imran performed a cross-sectional quantitative research study on the mediating effect of organizational climate between transformational leadership and innovative work behavior. The purpose of this research was to provide further insight into the relationship between organizational climate and innovative work behavior within Fast Moving Consumer Goods organizations in Pakistan. Ussahawanitchakit studied the moderating effects of environment on strategic leadership, organizational learning, innovation, and performance relationships using a cross-sectional quantitative research approach. Ussahawanitchakit's study included 398 electronics businesses in Thailand randomly selected from a list retrieved through the Department of Business Development, Ministry of Commerce, Thailand. Imran and Ussahawanitchakit focused on extending organizational innovation and climate theory in Pakistan and Thailand under the context

of Fast Moving Consumer Goods and electronics. While prior research helped to establish a foundation of organizational innovation theory for this study, there was an evident gap in literature that was addressed by studying the relationship between collaborative relationships and organizational innovation within the 3PL sector.

Current organizational innovation research presented a link between innovation, climate for creativity, and an organization's competitiveness. Organizational innovation is an acknowledged critical driver to growth, profitability, and competitive advantage in the 3PL sector (Langley, 2012). However, as the 3PL industry becomes more global and complex, innovation is proving to be elusive. Imran (2011) presented a positive relationship between transformational leadership and innovative work behavior given the study constructs. Ussahawanitchakit (2011) concluded that firms with greater strategic leadership tend to provide more innovative activities and gain superior business performance and a competitive advantage. Moreover, the findings showed that organizational learning had a significant positive impact on organizational innovation. Since 3PLs are struggling to create innovative solutions for shippers, there is a need to better understand the relationship between collaborative relationships and organizational innovation within the third-party logistics industry. Imran's study highlights the current relevance of organizational innovation and innovation theory overall. Imran lends support to the proposed study area of organizational innovation and Ussahawanitchakit's study provides an empirical roadmap for the proposed study. This research used the empirical evidence gathered through the literature review to extend the findings using organizational innovation as a variable under the 3PL sector context.

Organizational Innovation Theory

Scholarly interest in organizational innovation theory has increased in the past two decades as business executives search for more innovative strategies and solutions to apply at the organizational level (Sundbo, 2003). One reason organizational innovation theory has grown in popularity amongst scholars and business gurus is because there is an opportunity to not only study innovation conceptually at the meso company level, but to also expand the theory to encompass micro-level organizational attributes such as creativity, learning, and work behavior. As a result of recent organizational innovation theory research focusing on specific organizational behavior factors, industry gurus and senior leaders have been able to use the research findings practically. There are several relevant examples of organizational innovation theory being studied using specific organizational behavior variables.

Ekvall (1996) and Isaksen and Ekvall (2010) studied the link between organizational innovation theory and climate for creativity within an organization. Respondents completed a situational outlook questionnaire examining the degree of climate for innovation. The findings supported the hypothesized relationship that there are two distinct faces of tension when considering the climate for innovation and creativity. Future research is suggested to examine the moderating or mediating effects of other climate variable such as trust between both forms of tension. Imran (2011) and Ussahawanitchakit (2011) studied organizational learning and leadership in relation to organizational innovation theory. These studies were important to the advancement of organizational innovation theory because they addressed specific organizational attributes and enhanced scholarly knowledge that could also be used by industry gurus and

practitioners. Although there have been several recent empirical studies surrounding organizational innovation theory, there was still a gap in understanding how the theory relates to other specific organizational behavior constructs such as collaborative relationships and under specific contexts. Hence, this research intended to contribute to the development of organizational innovation theory by examining the relationship between collaborative relationships and organizational innovation within 3PLs in the United States. By understanding the theoretical progression of innovation and the evolution into organizational innovation theory, a compelling case was made as to why this research was warranted. Moreover, the need for empirical evidence on specific organizational behavior attributes links well with this research to extend scholarly knowledge on organizational innovation theory using collaborative relationships as a variable under a 3PL context.

Network Theory of Competitive Advantage

There is a growing need for organizations to better understand and finds way to implement inter-organizational collaboration and strategic network alliances into their businesses practices to use as a competitive advantage (Capaldo, 2007). The network theory of competitive advantage is important to organizational growth in terms of market share and profitability. The network theory of competitive advantage was developed in conjunction with empirical studies focusing on inter-organizational collaboration and strategic network alliances (Powell, et al., 1996). Recent empirical research presented strategic network alliances as a competitive advantage for organizations (Gulait et al., 2000). Moreover, prior research has linked inter-organizational knowledge transfers to an increase in innovation (Inkpen & Tsang, 2005). The network theory of competitive

advantage is relevant to this study as it suggests that strategic network alliances and inter-organizational collaboration can lead to increased innovation thereby creating a competitive advantage. Because it takes truly collaborative relationships among all business partners to develop and deliver the types of inter-organizational innovation needed to solve the vexing challenges facing today's supply chains (Langley, 2012), an understanding of the network theory of competitive advantage in relation to this study was critical.

In the recent past, there has been a significant increase in the interest given to inter-organizational collaboration and strategic network alliances (Capaldo, 2007). One reason for this is that inter-organizational collaboration or strategic network partnerships can act as a locus to innovation because knowledge is shared across organizations in a timely manner leading to more strategic, innovative solutions, and ultimately a competitive advantage (Powell et al., 1996). As 3PLs struggle to develop innovative solutions that shippers desperately desire and market share has become more difficult to obtain due to shipper consolidation within the 3PL industry (Lieb & Lieb, 2011), there was a need to examine the relationship between collaborative inter-organizational relationships and organizational innovation within a 3PL context using prior empirical evidence pertaining to the network theory of competitive advantage to help guide the study.

There are several recent empirical studies that can be used as a starting point and lend credibility to the network theory of competitive advantage. Capaldo (2007) investigated why and how strong dyadic inter-firm ties and two alternate network architectures impact innovative capability of the lead firm in an alliance network. Three

cross-level research questions were answered by examining how three design-intensive furnishings manufacturers managed their networks of joint-design alliances over the course of 30 years. Capaldo concluded that in order to exploit the potential for competitive advantage embraced through inter-organizational ties; lead firms should manage the structure of their networks carefully. Inkpen and Tsang (2005) examined how social capital dimensions of networks affect the transfer of knowledge between network members. The results presented suggest that structural approaches to networks that ignore social qualities inadequately specify how networks work. By linking the social dimensions between the networks, it is apparent that each network requires a different level of facilitation. The facilitation can then lead to the best level of knowledge transfer in order to increase collaboration and results. Powell et al. (1996) used a network approach to perform a longitudinal study attempting to link research and development alliances, experience with managing inter-firm relationships, network position, rates of growth, and portfolios of collaborative activities. The overall results show that in rapidly evolving industries such as high-tech, innovation can increase and also evolve within networks of inter-organizational relationships that sustain a fluid community. Lastly, Langley (2012) performed a study evaluating the current state of the 3PL market. Two opportunities for improvement are supply chain innovation, and competitiveness. The study also indicated that there is opportunity in sharing information leading to collaborative relationships in areas other than big data. The prior empirical research by Powell et al., Gulait et al., Inkpen and Tsang, Capaldo, and Langley helped to define the network theory of competitive advantage and provide a solid scholarly foundation under varying contexts that can now be used in future research. The proposed

study will use the past research and attempt to contribute to what is known about the network theory of competitive advantage by examining the theory under a 3PL context. The desired outcome from this research is that 3PLs will be better positioned to become more innovative, increase inter-organizational collaboration in order to solve the vexing challenges facing the 3PL industry, and be viewed as a competitive advantage by shippers.

Summary

The goal of this literature review was to present a convergence of relevant, current research on collaborative relationships, and organizational innovation. A literature review search strategy was developed and employed to find empirical research and other supporting documentation related to this study. The search topics included collaborative relationships, general innovation, creativity and innovation, innovation theory, organizational innovation, organizational innovation theory, network theory of competitive advantage, third-party logistics, and supply chains. This approach created an opportunity for a thorough synthesis of available literature related to the study topics and themes as well as research gaps to be exposed. The exposed gaps discussed in this literature review were (a) lack of scholarly knowledge regarding collaborative 3PL-shipper relationships, (b) and lack of empirical evidence on collaborative relationships related to organizational innovation within the 3PL industry.

This chapter contained a review of prior empirical research related to the proposed research variables; organizational innovation and collaborative relationships. The prior empirical research and evidence was used to expose any gaps in research and highlight the differences and similarities to the proposed research addressing shipper

concerns and the absence of 3PL organizational innovation (Langley, 2012) by answering the following research questions: (a) what is the relationship, if any, between collaborative relationships and organizational innovation within third-party logistics companies, and (b) to what extent do the demographic variables (age, gender, work classification, and years of service) explain variance in 3PL organizational innovation over and above that which is explained by collaborative relationships? Since 3PLs struggle to foster collaborative business relationships needed to deliver the types of inter-organizational innovation required to solve the difficult challenges currently facing global supply chains (Langley, 2012), the evaluation and synthesis presented within the literature assisted in developing this study and addressing this critical struggle. As this research aimed to examine the relationship between collaborative relationships and organizational innovation within the 3PL industry, it was also expected that this research will add to scholarly knowledge within the topic areas studied and assist future research by expanding innovation, organizational innovation, and the network theory of competitive advantage.

Chapter 3: Research Method

It takes truly collaborative relationships among all business partners to develop and deliver the types of inter-organizational innovation needed to solve the vexing challenges facing today's supply chains (Langley, 2012). However, the relationship between shippers and their 3PLs has always been complicated and it is not uncommon for shippers to complain that their 3PLs are not meeting their sophisticated needs and providing innovation (Davies, 2012). This is attributed to shippers not believing that 3PL's are able to provide innovation. 3PLs struggle to foster collaborative business relationships needed to deliver innovation (Lieb & Lieb, 2011). 3PL-shipper relationships are not currently structured to support innovation because they are mostly tactical and uncollaborative.

The deficiency of collaborative relationships leading to innovation within the 3PL industry can also be linked to an absent culture of continuous improvement promoting organizational innovation (Langley, 2012). If this trend continues, 3PLs could lose additional market share, and eventually face declines in revenues and profits (Howland et al., 2013). A broader consequence of 3PL's not building collaborative relationships leading to innovation is the increased likeliness of commoditization and stagnancy within the shipping industry. It was not known if collaborative 3PL-shipper relationships would have an effect on organizational innovation within the 3PL industry in the United States. Since there was no practical industry knowledge and limited empirical evidence to address this problem, this study was critically needed within the 3PL sector. The purpose of this quantitative, correlational research design was to examine collaborative relationships and how the relationships affect organizational innovation within 3PLs.

Awareness of the relationship between collaborative relationships and organizational innovation may assist 3PL's in building collaborative relationships with shippers leading to innovative solutions and gain market share, profitability, and sustainability. Data was gathered through questionnaires sent to employees on all major variables; collaborative relationships, and organizational innovation. This chapter will review the study research question and hypothesis, as well as the proposed research method and design, operational variables, measurement instruments, and analysis.

The following research questions examined the relationship between collaborative relationships and organizational innovation within the 3PL industry in the United States. Specifically, the collaborative relationships between 3PLs and shipper-partners that enable 3PLs to provide more innovative solutions to assist with the vexing challenges facing supply chains today. There were two research questions and related hypotheses for the study:

Q1. What is the relationship, if any, between collaborative relationships and organizational innovation within third-party logistics companies in the United States?

Q2. To what extent do the demographic variables (age and gender) explain variance in 3PL organizational innovation over and above that which is explained by collaborative relationships?

The hypotheses tested associations between collaborative relationships and organizational innovation within third-party logistics companies in the United States as well as to what extent employee demographics (age and gender) could account for variance in the outcome variable beyond what can be explained by collaborative relationships. Collaborative relationships stress an exchange of information, knowledge,

complementary resources and capabilities, and relational asset specific investments (Klein & Rai, 2009). Increasingly, firms are attempting to build collaborative relationships with their supply chain partners in order to achieve efficiencies and stimulate innovation (Lynch et al., 2010). Collaborative relationships adopt a long-term approach with joint efforts by each partner to create value (Corsten & Kumar, 2005). Although there is a lack of empirical evidence on the effects of collaborative relationships, basic collaborative relationship research between business-partners positively supports companies sharing knowledge. Thus, a relationship between collaborative relationships and organizational innovation was anticipated.

$H1_0$. There is no relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States.

$H1_a$. There is a relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States.

$H2_0$. Demographics (age and gender) do not explain a significant amount of the variance in 3PL organizational innovation over and above that which is explained by collaborative relationships.

$H2_a$. Demographics (age and gender) explain a significant amount of the variance in 3PL organizational innovation over and above that which is explained by collaborative relationships.

Research Methods and Design

A quantitative, correlational research design collecting cross-sectional data was used for this study. A quantitative method was preferred for this study because numerical data was collected via questionnaires to answer the research questions (Cozby, 2012).

Moreover, the use of a quantitative method provided for statistical analysis of the questionnaire results using proven empirically tested measurements such as correlation and variation (Trochim & Donnelly, 2008). A qualitative method was not recommended because, although this method would potentially add to the body of knowledge, it would be too time-consuming and difficult to measure the selected variables due to the open-ended questions associated to interviews and qualitative surveying.

A correlational design was appropriate because the study examined the relationships between the predictor and outcome variables (Trochim & Donnelly, 2008). Correlational research does not attempt to identify a cause-effect relationship between variables but rather linkage between the variable relationships, which makes a correlational design ideal for the scope of this research. A cross-sectional approach was preferred because the study purpose did not require an in-depth analysis detailing trends over months or years with multiple data points, but rather one dataset at a snapshot in time provided sufficient information in an efficient manner for this study (Creswell, 2009). Cross-sectional studies are used to collect information from a sample audience at one point in time to reflect on their behavior at that point. A survey design is an optimal method to quantitatively provide descriptions of opinions, or trends related to a population by studying a subset of that population. The survey questions and scales used within the quantitative approach have been empirically tested in prior research and provided construct reliability and validity. Since prior research used a quantitative, correlational design with cross-sectional data gathered via survey to study employee creativity, and organizational vision, innovation, and performance, this approach was preferred for this study as well (Imran, 2011; Ussahawanitschakit, 2011).

Population

The population for the current study consisted of employees working for a 3PL in the United States. The data was gathered by randomly selecting third-party logistics' companies in the United States from Leonard's Guide, an online resource specializing in up-to-date and accurate information on the logistics' industry (Leonard's Guide, 2013). A list of 289 logistics' companies was identified in the master online list with an average of 100 employees per company for a total available population for this study of 28,900. The sampling strategy was to have a minimum of 10 logistics' companies agree to participate in the study and at least 100 employees from each 3PL complete and return the online questionnaire. A 33% response rate is expected from the 1,000 online questionnaires returned by 3PL employees. With a 33% usable questionnaire response rate, the predetermined G*Power sample size of 222 participant responses will be exceeded and provide the ability to detect smaller effect sizes.

Sampling. Purposive sampling is a non-probability sampling technique where researchers select sampling units from a general population based on specific criteria (Guarte & Barrios, 2006). Quantitative and qualitative research uses purposive sampling to produce a sample appropriate for the intent of the study. To ensure that the sample for the study was appropriate, criteria for the purposive sampling must be clearly defined. The sample criterion for this study was active employees working for a 3PL in the United States. Defining the criteria for the intended sample both limits the possibility of participants not in the sample responding to the survey and provides a mechanism to collect the needed responses in order to address the research problem and question.

Power analysis. G*Power statistical software was used to determine the required sample size for this study and the corresponding actual statistical power. Within G*Power a two-tailed t test using two groups was computed and an a priori analysis completed to determine the required sample size. The criteria for the t test included an effect size d of .5, alpha level of .05, and beta level of .98. The G*Power output suggests a sample size of 222 participants that will yield an actual power of .9598. An actual power of .9598 is sufficient to claim reliability of the collected data.

Materials/Instruments

The current study used two separate instruments to measure the predictor variable of collaborative relationships and outcome variable of organizational innovation. The first instrument was a collaborative relationship assessment (Lynch et al., 2010). There were 28 survey items within eight construct dimensions in the collaborative relationship assessment used for this study. The second survey instrument was a situational outlook questionnaire (SOQ) used to assess organizational creativity and innovation (Isaksen & Aerts, 2011). The SOQ consisted of 53 quantitative questions scored on a 4-point Likert scale. To avoid common method bias, the term *I and My* was included at the beginning of the scale items as a procedural remedy where applicable. This was done to assure that the respondents presented their own opinions when answering the survey questions and not those of the company in which they were employed.

All the instrument scales used in the study have been empirically tested with proven construct validity and reliability. The collaborative relationship instrument was validated thru prior similar collaborative behavioral studies (Lynch et al., 2010). The SOQ is a validated and standardized measurement for assessing nine independent

dimensions of the climate for organizational creativity and innovation (Hunter, Bedell, and Mumford, 2007; Isksen & Aerts, 2011). Permission for the use of the SOQ for this study was obtained from Dr. Isaksen of the Creative Problem Solving Group, Inc. via permission agreement as presented in Appendix D.

Collaborative relationships. A collaborative relationship survey instrument was used to measure the collaborative relationship predictor variable. Collaboration is defined as occurring when two or more independent companies work jointly to plan and execute operations with greater success than when acting in isolation (Lynch et al., 2010). Collaborative relationships stress an exchange of information, knowledge, complementary resources and capabilities, and relational asset specific investments (Klein & Rai, 2009). Collaboration among supply chain partners may result in greater economic benefits compared to traditional methods of transactional relationships (Lynch et al., 2010). Yet, collaborative results are rarely achieved with transactional relationships alone and often require an investment in areas such as knowledge sharing, technology, and human resources (Lynch et al., 2010). Lynch et al. revised the collaborative relationship assessment to include collaborative activity constructs of information sharing, joint relationship effort, and dedicated investment, which were not part of the original survey instrument.

The survey measurement items within the eight dimensions were adapted from past studies based on relevant literature. Each study empirically tested the measurement items prior to being used (Lynch et al., 2010). The eight dimensions within the collaborative relationship questionnaire are: information sharing (Monczka, 1998); joint relationship effort (Ellinger, 2000); dedicated investments (Rinehart et al., 2004);

commitment (Moberg and Speh, 2003); trust (Doney and Cannon, 1997); satisfaction with relationship and with results (Kauser and Shaw, 2004), and performance (Knemeyer, 2003). The collaborative relationship questionnaire comprised of 28 items measured using a 7-point Likert scale (Appendix B).

Lynch et al. (2010) extended the prior empirical work on collaborative relationships and further validated the eight dimensions of the collaborative relationship assessment while examining supply chain relationships between buyers and suppliers. Lynch et al. used a pre-test to validate the validity and reliability of the collaborative relationship assessment. The collaborative relationship survey instrument was pre-tested by industry representatives and academics familiar with collaborative relationships. The pre-test was used to ensure the questionnaire was clear and concise, as well as provided face validity for the constructs tested. Based on the results of the pre-test, minor changes were made to the instrument and converted into an online format. Due to low factor loadings from an initial factor analysis, several items were dropped from the original collaborative relationship instrument. The remaining survey items had high factor loadings and strong reliability (Lynch et al., 2010).

To further assess reliability and validity, Lynch et al., (2010) performed several computations for each dimension. Reliability was tested by computing coefficient alpha values. The values exceeded the recommended .70 value, thus establishing reliability. All factor loadings were significant demonstrating convergent validity. To assess discriminant validity, the average variance extracted was compared to its shared variance. The average variance was greater than the squared inter-correlations thereby establishing discriminant validity. The prior empirical work performed by Doney & Cannon, 1997;

Monczka, 1998; Ellinger, 2000; Kauser and Shaw, 2004; Knemeyer, 2003; Moberg & Speh, 2003; Monczka, 1998; and Rinehart et al., 2004 to establish measurement validity and reliability for the collaborative relationship assessment under their empirical study context provides a solid foundation for this assessment. The additional validity and reliability testing by Lynch et al. on the collaborative relationship assessment adequately shows evidence for the use of this instrument in the current study. Hence, the 28 survey items in eight dimensions within the collaborative relationship assessment were used for this study.

Organizational innovation. A situational outlook questionnaire was the survey instrument used to measure organizational innovation within the study. The degree of support and encouragement an organization provides its employees to take initiative and explore innovative approaches predicted to influence the degree of actual innovation in the organization (Nusair, 2013). The SOQ is comprised of nine dimensions measuring organizational creativity and innovation. The nine dimensions of the SOQ are: challenge/involvement; freedom; trust/openness; idea-time; playfulness/humor; conflict; idea-support; debate; and risk-taking (Appendix C). Eight of the nine scales within the SOQ describe dimensions that have a positive relationship to creativity and change. The conflict dimension is the only one that is interpreted as having a negative impact on creativity and change if the data result is high.

The SOQ is the result of over 50 years of research and development started by Goran Ekvall in the 1950's. The SOQ examines psychological aspects of the work environment, the organizational climate, and its influence on an organization's ability to innovate successfully. The benefit of using the SOQ and the dimensions it measures as a

reliable research instrument is that it has been validated against business innovation in the past. Ekvall and his colleagues were able to distinguish between innovative, average, and stagnated organizations using the SOQ. In 2001, after nine versions of the assessment, the Situational Outlook Questionnaire version 6 was developed that has more than adequate evidence of reliability and validity (Isaksen & Ekvall, 2007).

The situational outlook questionnaire has been used in prior empirical studies to assess organizational creativity and innovation (Isaksen & Aerts, 2011). Hunter, Bedell, and Mumford (2007) identified the SOQ as a validated and standardized measurement for assessing nine independent dimensions of the climate for organizational creativity and innovation. The SOQ has been utilized in organizational, team and work-group contexts, and has been validated through extensive research in each setting (Isaksen, Lauer, Ekvall & Britz, 2001; Isaksen & Ekvall, 2010). A study by Lauer (1994) provided evidence of the conceptual validity of the SOQ. Isaksen and Lauer (2001) performed a study on the validity and reliability of the dimensions within the SOQ. The reliability and construct validity of the SOQ were tested using a sample of 1,111 subjects. Cronbach alpha and exploratory factor analysis supported reliability and construct validity for the nine dimensions in the SOQ. Based on the established validity and reliability of the SOQ, as well as the many empirical studies that have used this instrument to measure creativity and organizational innovation in the past, the SOQ was appropriate for this research because organizational innovation was the outcome variable and this instrument provided the responses needed to address the research question.

Operational Definition of Variables and Measurements

A concept needs to be accurately articulated so that it can be clearly defined within the context of the study in order to be measured appropriately (Wacker, 2008). To understand the relationship between the studies constructs, each were evaluated using dimensions and items that have been empirically tested in prior research (Trochim & Donnelly, 2008). The predictor variable in this study was collaborative relationships. The outcome variable was organizational innovation. For this study, 3PL employee demographics (age and gender) were viewed as uncontrolled variables which could have an adverse effect on the relationship between the predictor and outcome variables (Hill & Lewicki, 2007; Johnson & Christensen, 2007). As such, age and gender were monitored as potential confounding variables and used for regression analysis. Confounding variables are demographics for individual differences that will assist with eliminating alternative explanations for significant relationships (Chiaburu & Bryne, 2009). Although it is impossible for a researcher to control for every possible confounding variable, controlling for variables that might be relevant to the study outcome is a preferred approach (Hosein, 2005). Age and gender were selected as potential confounding variables because they are considered to be susceptible to influence on the study variables of collaborative relationships and organizational innovation (Langley, 2012). The shipping industry's employee base is generally mature and predominantly male (Howland et al., 2013). The age and gender control variables helped to explain if a relationship between collaborative relationships and organizational innovation is observed, whether it is influenced by the participant's age or gender. Understanding if age and gender influenced the main study constructs was critical to reliability and

generalization. Using age and gender as potential confounding variables will give 3PL leadership an added element of empirical research that can be used to further shape best practices and policy as well strengthen the study results and recommendations.

The operational definitions of the variables played an important role in understanding the numerical values associated with the survey results. A standardized questionnaire written in the English language with variable specific questions measured on a 7-point and 4-point Likert scale will be used for this study. The questionnaire was sent via email as an online survey to employees in third-party logistics' companies in the United States (Leonard's Guide, 2013). The data results were tested using SPSS statistical software. The major statistical computations assessing relationships in this study included (a) bivariate correlations, and (b) multiple regression analysis. Descriptive statistics will be computed for all analysis.

Age. Age was considered a potential confounding variable and was used for regression analysis assessed on a nominal scale operationally defined as the choice selected by the respondent given the following choices; 35 or younger, and 36 or older.

Gender. Gender was considered a potential confounding variable and was used for regression analysis assessed on a nominal scale operationally defined as the choice selected by the respondent given the following choices; male or female.

Collaborative relationships. Collaborative relationships was considered a predictor variable. Collaboration is a process in which autonomous actors interact through formal and informal negotiation, jointing creating rules and structures governing their relationships (Miller et al., 2007). Ordinal data was collected using questions from a collaborative relationship questionnaire. The collaborative relationship questionnaire

comprised of 28 items measured using a 7-point Likert scale (Appendix B). The 28 collaborative relationship survey questions are categorized by dimension in Table 2.

Table 2

Collaborative Relationship Questionnaire by Dimension and Questions

Dimension	Question Number
Information sharing	Q1-Q3
Joint relationship effort	Q4-Q6
Dedicated investments	Q7-Q9
Commitment	Q10-Q13
Trust	Q14-Q16
Satisfaction with relationship	Q17-Q21
Satisfaction with results	Q22-Q24
Performance	Q25-Q28

The eight dimensions used to operationalize the collaborative relationship questionnaire for this study were: information sharing (Monczka, 1998); joint relationship effort (Ellinger, 2000); dedicated investments (Rinehart et al., 2004); commitment (Moberg & Speh, 2003); trust (Doney & Cannon, 1997); satisfaction with relationship and with results (Kauser & Shaw, 2004), and performance (Knemeyer, 2003).

Information sharing refers to the extent that critical information is conveyed to a party's relationship partner (Lynch et al., 2010). This may include involving parties in the early stages of product or service design, opening financials for review, discussing future plans, and sharing supply and demand forecasts. Information sharing is an important part of partners being collaborative. Moreover, inter-firm collaboration is critical to communication and trust building. The sharing of confidential information between partners is a signal that the party sharing the information is trusting of the partner which, in turn, can lead to more productive information sharing collaborative

relationship. Information sharing is a dimension within the predictor variable of collaborative relationships. This dimension was measured on an ordinal 7-point Likert scale with 1 = strongly disagree and 7 = strongly agree. Questions 1-3 within the collaborative relationship assessment asked the participant about information sharing.

Joint relationship effort can be described as when two partners work together to plan and coordinate activities as well as resolve issues (Lynch et al., 2010). The joint effort between partners can involve planning, goal setting, performance measurement, and problem solving. This relationship is critical to collaboration, much like information sharing. Joint relationship effort is a dimension within the predictor variable of collaborative relationships. This dimension was measured on an ordinal 7-point Likert scale with 1 = strongly disagree and 7 = strongly agree. Questions 4-6 within the collaborative relationship assessment asked the participant about joint relationship effort.

Dedicated investments refer to investments made by either a 3PL or shipper that is dedicated to the relationship. Such investments by a 3PL or shipper are seen commitments to the success and collaboration of the partnership. Critical resources or assets can be shared by organizations that not only further the relationship, but can also lead to a competitive advantage. Dedicated investments offer tangible evidence that a partner cares for the relationship, is willing to make sacrifices, and can be trusted. Dedicated investments are a dimension within the predictor variable of collaborative relationships. This dimension was measured on an ordinal 7-point Likert scale with 1 = strongly disagree and 7 = strongly agree. Questions 7-9 within the collaborative relationship assessment asked the participant about dedicated investments.

Commitment refers to an exchange that a partner truly believes that an ongoing relationship with another partner is so important that it warrants maximum effort to maintain it (Lynch et al., 2010). Commitment can result in mutual gain for both partners. Long-term commitments can result in performance gain and relationships that positively impact innovation. Commitment is a dimension within the predictor variable of collaborative relationships. This dimension was measured on an ordinal 7-point Likert scale with 1 = strongly disagree and 7 = strongly agree. Questions 10-13 within the collaborative relationship assessment asked the participant about commitment.

Trust refers to the extent to which relationship partners perceive each other as credible (Lynch et al., 2010). Trust can be broken down to the extent to which a firm in a relationship believes the other party has the required expertise for the partnership as well as the right intentions and motives that will benefit the relationship. Trust can result in greater openness between partners, thus leading to better information sharing and collaboration. Trust is a dimension within the predictor variable of collaborative relationships. This dimension was measured on an ordinal 7-point Likert scale with 1 = strongly disagree and 7 = strongly agree. Questions 14-16 within the collaborative relationship assessment asked the participant about trust.

Satisfaction with the Relationship can be defined as an overall positive or negative evaluation as perceived by a partner of the relationship. Satisfaction with the relationship is a dimension within the predictor variable of collaborative relationships. This dimension was measured on an ordinal 7-point Likert scale with 1 = strongly disagree and 7 = strongly agree. Questions 17-21 within the collaborative relationship

assessment asked the participant about their satisfaction with the relationship with the shipper.

Satisfaction with Results can be defined as an overall positive or negative evaluation as perceived by a partner of the results of the relationship. Satisfaction with results can be measured both in economic terms and non-economic terms. Economic rewards occur when the partnership creates increased sales volume and profits. Non-economic benefits occur when the partnership increases employee satisfaction and a desire to work with the partner and make a difference within both organizations. Satisfaction with results is a dimension within the predictor variable of collaborative relationships. This dimension was measured on an ordinal 7-point Likert scale with 1 = strongly disagree and 7 = strongly agree. Questions 22-24 within the collaborative relationship assessment asked the participant about their satisfaction with results with the shipper.

Performance can be viewed in terms of operational measures that improve for each partner as a result of the participation in the relationship (Lynch et al., 2010). Performance improvements between partners in a collaborative relationship directly impact each organization. Past studies have shown a correlation between operational performance in a collaborative relationship and lower costs, reduced inventory, and higher fill rates (Lynch et al., 2010). Performance is a dimension within the predictor variable of collaborative relationships. This dimension was measured on an ordinal 7-point Likert scale with 1 = strongly disagree and 7 = strongly agree. Questions 25-28 within the collaborative relationship assessment asked the participant about performance.

Organizational innovation. Organizational innovation was considered an outcome variable. The SOQ consisted of 53 quantitative questions scored on a 4-point Likert scale. Respondents answer the items on the 4-point scale where 0 = Not at all applicable; 1 = Applicable to some extent; 2 = Fairly applicable; 3 = Applicable to a high extent. Each of the nine dimensions has three to seven items. Each respondent's score represents their perception of the extent to which the behaviors described by the dimensions are present in the organizational climate. These perceptions are compared to measures of innovation and productivity at the organizational level. The scale ranges from 0-300. An aggregate of all the dimensions scores will be analyzed utilizing basic descriptive statistics. The aggregate will also be used for the correlational testing to determine the relationship with collaborative relationships.

The nine dimensions of the SOQ that were used to operationalize the study are: challenge/involvement; freedom; trust/openness; idea-time; playfulness/humor; conflict; idea-support; debate; and risk-taking (Appendix C). Table 3 provides a summary of the SOQ dimension and brief description (Isaksen & Aerts, 2011). Eight of the nine scales within the SOQ describe dimensions that have a positive relationship to creativity and change. The conflict dimension is the only one that is interpreted as having a negative impact on creativity and change if the data result is high. Appendix H shows the permission agreement for the use of the Situational Outlook Questionnaire for this study, which was accepted by Dr. Isaksen of the Creative Problem Solving Group, Inc.

Table 3

Nine Dimensions of the SOQ Survey Instrument

SOQ Dimensions	High Level Definition
Challenge/Involvement	The degree to which people are involved in daily operations, long-term goals, and visions. High Challenge/Involvement implies better levels of engagement, commitment, and motivation.
Freedom	The degree of independence shown by the people in the organization. High levels of Freedom imply more perceived autonomy and ability for individual discretion.
Trust/Openness	The emotional safety in relationships. In high Trust/Openness situations people feel more comfortable sharing ideas and being frank and honest with each other.
Idea-Time	the amount of time people can, and do, use for elaborating new ideas. When Idea-Time is high people can explore and develop new ideas that may not have been included in the original task.
Playfulness/Humor	The spontaneity and ease displayed within the workplace. Good-natured joking and laughter and a relaxed atmosphere (lower stress) are indicators of higher levels of Playfulness and Humor.
Conflict	The presence of personal and emotional tensions (a negative dimension - in contrast to the debate dimension). When Conflict is high people engage in interpersonal warfare, slander and gossip, and even plot against each other.
Idea-Support	The way new ideas are treated. In a high Idea-Support situation people receive ideas and suggestions in an attentive and professional manner. People listen generously to each other.
Debate	The occurrence and open disagreement between viewpoints, ideas, experiences, and knowledge. In the Debating situation many different voices and points of view are exchanged and encouraged.
Risk-Taking	The tolerance of uncertainty and ambiguity. In a high Risk-Taking climate people can make decisions even when they do not have certainty and all the information desired. People can and do "go out on a limb" to put new ideas forward.

Data Collection, Processing, and Analysis

Data collection. For the purpose of the study, two survey instruments pertaining to collaborative relationships and organizational innovation were used to collect data. The quantitative cross-sectional survey approach was preferred because the information collected from the sample group was quantifiable and in a format that could be analyzed

using SPSS statistical software (Creswell, 2009). A list of 289 logistics' companies was identified in the master online list with an average of 100 employees per company for a total available population for this study of 28,900. Because of the cross-sectional survey approach, participants available during the collection period were emailed a questionnaire pertaining to the major variables using SurveyMonkey. G*Power statistical software was used to determine the required sample size for this study and the corresponding actual statistical power. The G*Power output suggests a sample size of 222 participants that will yield an actual power of .9598.

The internal validity threats considered as they relate to this study are maturation, regression, and selection (Creswell, 2009). The validity threat of maturation was minimized because a cross-sectional approach was used which sampled participants at one point in time. To reduce the threat of selection, companies were randomly selected from a list of logistics' companies in the United States (Leonard's Guide, 2013). The external validity threats to this study were interaction of selection and treatment, and interaction of setting and treatment (Jackson, 2012). To reduce the threat of selection, employees at all levels were randomly selected as a part of the participant sample group. To reduce the threat of setting, randomly selected logistics' companies around the United States were used for the study.

Processing and analysis. The major statistical computations assessing relationships in this study included (a) bivariate correlations, and (b) multiple regression analysis. Descriptive statistics were computed for all analysis. Bivariate analysis is a preferred statistical method to use when analyzing quantitative data for the purpose of determining an empirical relationship or correlation between two variables (Trochim &

Donnelly, 2008). Specifically, the Pearson product-moment correlation co-efficient was used to measure the linear correlation between collaborative relationships and organizational innovation within a 3PL text (Jackson, 2012). Mitus (2006) successfully used a bivariate Pearson product-moment correlation analysis to test the relationship of organizational behavior variables in the study. Age and gender was monitored as potential confounding variables. Multiple variable regression was used to assess the confounding variables (Hill & Lewicki, 2007; Johnson & Christensen, 2007). Multiple regression analysis was used to determine to what extent employee demographics (age and gender) could account for variance in the outcome variable beyond what could be explained by collaborative relationships. Johnson and Christensen, (2007) successfully used a multiple regression analysis to better understand if subordinates' demographics (gender, age, and military rank) influenced or were uncontrolled factors between subordinates' perceptions of the emotional intelligence of managers and organizational commitment in the Army. Since no strong prior prediction was claimed to suggest a positive or negative relationship between the variables, a two-tailed significance test was performed to assist in deciding if there is correlation between the variables. The aforementioned statistical tests provided the results needed to answer the hypotheses; (a) there is no relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States, and (b) demographics do not explain a significant amount of the variance in 3PL organizational innovation over and above that which is explained by collaborative relationships.

To measure the major variables of the study, items were selected from standardized questionnaires. Collaborative relationships were measured using a 28-item

collaboration behavioral questionnaire. Organizational innovation was measured using a 53-item situational outlook questionnaire. The participants of the survey responded by indicating their choices using a 7-point Likert scale and 4-point Likert-type scale. The data results will be tested using SPSS statistical software.

Collaborative relationships was a predictor variable. The questions on the survey related to collaborative relationships was measured using a 7-point Likert scale where 1 = strongly disagree and 7 = strongly agree. The range of one participant survey response for collaborative relationships was between 28 and 196. An aggregate of all the survey items from each dimension was used in statistical testing to determine if correlation exist between collaborative relationships and organizational innovation under a 3PL context. The higher the number from the usable survey responses, the more collaborative the relationship was perceived to be. The general scale for one participant response to determine the level of collaboration is presented in Table 4:

Table 4

One Respondent General Scale for the Collaborative Relationship Questionnaire

Respondent Score	Result
Less than 56	Very Low 3PL-Shipper collaboration
57-111	Low-Moderate 3PL-Shipper collaboration
112-167	Moderate-High 3PL-Shipper collaboration
168 or higher	Very High 3PL-Shipper collaboration

The data results were analyzed using descriptive statistics and averages for the collaborative relationships variable were calculated. Additionally, the collaborative relationships survey responses were used to correlate against the results from the organizational innovation responses using the Pearson product-moment correlation co-efficient. The aggregate and descriptive scores from the collaborative relationship section of the survey assisted in addressing the research questions.

Organizational Innovation was an outcome variable. The questions on the survey related to organizational innovation was measured using a 4-point scale where 0 = Not at all applicable; 1 = Applicable to some extent; 2 = Fairly applicable; 3 = Applicable to a high extent. The overall score for each dimension was calculated by taking the average of the respondent's scores for each dimension, and calculating the score by 100. This procedure allows for ease of comparison across dimensions. The scale ranges from 0-300. A significant or important difference between scores within a dimension is 25 points. The scores below in Table 5 present the averages within each of the nine dimensions for innovative, average, and stagnant organizations. The closer the average score to 300 for all dimensions except for conflict, the more innovative the organization is perceived to be. Conflict is perceived opposite the other dimensions meaning that a score closer to 0 is actually preferred because there is less organizational conflict.

Table 5

SOQ Comparison by Dimension Score of Innovative, Average and Stagnated Organizations

Dimension	Innovative	Average	Stagnated
Challege/Involvement	238	190	163
Freedom	210	174	153
Trust/Openness	178	160	128
Idea Time	148	111	97
Playfulness/Humor	230	169	140
Conflicts	78	88	140
Idea Support	183	164	108
Debates	158	128	105
Risk-Taking	195	112	53

These data demonstrate how people in innovative organizations differ in their perception of the working environment from those people in stagnated organizations. History shows that of the organizations examined in the 1980's using an earlier version of the SOQ, all but one of the companies that scored as innovative is still in business

(Ziegler & Buehner, 2009). Of the companies that scored stagnated during the same time period, four out of five ceased operations within a few years and the remaining only survived through government assistance (Ziegler & Buehner, 2009). This evidence supports the critical need for 3PLs to become more innovative and deliver the types of inter-organizational innovation needed to solve the vexing challenges facing today's supply chains (Langley, 2012). The deficiency of collaborative relationships leading to innovation within the 3PL industry can also be linked to an absent culture of continuous improvement promoting organizational innovation; the 3PL sector is currently uncollaborative and business relationships are not structured to provide innovation. If this trend continues, 3PLs could lose additional market share, and eventually face the increased likeliness of commoditization and stagnancy within the shipping industry.

Methodological Assumptions, Limitations, and Delimitations

The relevancy of this study's outcomes is based on methodological assumptions, limitations, and delimitations that have been taken into consideration for this study. This research was conducted with several assumptions. First, all participants understood the privacy and anonymity instructions provided within the online questionnaire. As noted by Vogt (2007), privacy and anonymity assurance can improve the integrity of participants' responses. The review and acceptance of the privacy and anonymity instructions by the NCU Institutional Research Board has assisted in providing clarity for participants. Second, participants responded responsibly and truthfully to the assessment questions within the online survey. Truthfulness is a reasonable expectation when a sample population is well defined in purposive sampling (Teddlie & Yu, 2007). Third, only employees working for a 3PL in the United States responded to the survey. The

online survey contained self-identifying data requesting job function and industry information. The self-identifying information will be validated for completeness in the data analysis portion of the study.

The sample selection was from a population that has experiences to support this study. Therefore, the sample selection for this study was assumed to be a representation sample to generalize about the larger population. The researcher assumed that a sufficient number of responses could be obtained from the sample to achieve the statistical power needed for this study. This study used a cross-sectional data collection method as opposed to a longitudinal design. Although a longitudinal design may have greater generalization and reduced chances for inaccurate Type I and Type II errors, a cross-sectional data collection approach was assumed to be the preferred design method for this study because it has proven to result in stronger correlations when compared to a longitudinal design (Bauer & Elder, 2006).

Limitations. There were several limitations associated with this study. The first limitation was the inherent limitation when using a Likert-type scale. Likert-type scales have known limitations (Vogt, 2007). Using established, empirically tested assessments can minimize the limitation of using a Likert-type scale. The scale was graphically represented to encourage precision in choice selection. Graphic presentation of scales is an acceptable method in reducing imprecision of survey results (Creswell, 2009).

The second limitation was the risk of using a self-report online questionnaire. Understandably, self-report questionnaires are very convenient and an inexpensive way to collect data. When using self-report questionnaires to collect cross-sectional data, the results are subject to common method bias with erroneous identification of relationships

between variables (Bodoh, 2012). However, the nature of this study warranted the use of an online self-report questionnaire to be collected at a point in time. In order to alleviate the threat of common method bias, the term *I* will be added to the beginning of each assessment question and stratify the results.

To reduce the study limitations the online survey presented the assessment scale clearly to the participants. Moreover, the assessment questions used the term *I* to address a potential common method bias from erroneous identification of relationships between the variables. Lastly, empirically tested and reliable survey instruments were used to collect information for the study variables. Hunter et al., (2007) identified the SOQ as a validated and standardized measurement for assessing nine independent dimensions of the climate for organizational creativity and innovation. The SOQ has been utilized in organizational, team and work-group contexts, and has been validated through extensive research in each setting (Isaksen, Lauer, Ekvall & Britz, 2001; Isaksen & Ekvall, 2010). The collaborative relationship instrument that was used for this study was validated thru prior similar collaborative behavioral studies (Lynch et al., 2010). Due to low factor loadings from the aforementioned studies, several items were dropped from the original collaborative relationship instrument resulting in twenty-eight survey items within eight construct dimensions used for this study. The remaining survey items had high factor loadings and strong reliability (Lynch et al., 2010).

The third limitation pertained to the selected statistical analysis, multiple hierarchal regression. Researchers have documented two limitations to multiple hierarchal regression (Vogt, 2005). First, regression techniques are only able to ascertain relationships, but not causes (Vogt, 2005). Second, multiple hierarchy regression is open

to unusual data points of outliers. The limitations of using this statistical approach were minimized by employing research principles emphasizing investigation of correlation and not causation.

Delimitations. The current study was delimited in several ways. First, the study focus was narrowed to examine the relationship between collaborative relationships and organizational innovation within 3PLs, thus suggesting that the study results may only apply to the 3PL industry. The study findings may not be transferable or generalized and applied to other industries. However, based on the study variables and selected criteria, participants from other fields and industries were not included. This approach seemed reasonable given the purpose of the study.

Second, the study focus was on collaborative relationships between employees working for a 3PL and the shippers in which they provide services to. The decision to only include employees working for a 3PL was made to address the study variables. Due to the study topic and variables, only employees working within the 3PL industry would have relevant knowledge of the collaborative relationship with shippers. Narrowing the scope of the project to only include employees working within the 3PL industry made it difficult to generalize the findings.

Third, the study used a cross-sectional data collection design, hence the data results were limited to only employees working on the day in which the survey was distributed. This may cause the survey responses to be lower than expected. If the response rate is far less than the anticipated 33% return rate, the survey may need to be redistributed within the organization. To mitigate this possible risk, the response rate was

monitored during the data collection period and a proactive approach was taken if the required number of responses needed for the study was in jeopardy.

Ethical Assurances

As a part of The Belmont Report written in 1974, the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research identified three basic ethical principles to use as a guideline in research: (a) respect for persons; (b) beneficence; and (c) justice (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research [NCPHSBBR], 1979). The three basic ethical principles of respect for others, beneficence, and justice was injected within the research design and data collection for this study. There are four other ethical research principles that also acted as a guide for this study; protection from harm, informed consent, right to privacy, and honesty with professional colleagues. This study strictly observed the guidelines set forth by the NorthCentral University Institutional Review Board (IRB). Prior to collecting any data, approval was obtained from the NorthCentral IRB.

The current study examined the relationship between collaborative relationships and organizational innovation within 3PLs in the United States. To that end, the research involved with this study involved employees who currently work for a 3PL. To exceed standards for the three aforementioned ethical principles, the following steps were specifically taken: (a) respect for persons were addressed by treating all participants fairly and with autonomy when surveys were sent out randomly, which should not be an issue because the sample group consisted of office employees; (b) beneficence was employed by treating the survey participants with respect and maximizing the benefits of the study results to the industry overall; and (c) justice will be addressed by sharing the study

results through publication for the industry and individual companies to practically apply equally. The steps taken to respectfully survey participants, protect participants from harm, and share the study results equally guided the study to a high ethical standard.

Since the specific research that was performed involved people who are currently employed and attempted to better understand the relationship between collaborative relationships and organizational innovation, the target audience for this research was limited to the randomly selected 3PLs and employees who work there. The respect for person's ethical principle outlines two moral requirements: (a) to acknowledge autonomy; and (b) to protect people with diminished autonomy. Specifically, to address the respect for person's ethical principle, the sample participant group was randomly selected and employee autonomy was discussed prior to the distribution of the study questionnaire.

The next ethical principle of beneficence speaks to making sure human subjects are not harmed and a researcher gets the maximum possible benefits out of the research with the least possible harm to the subjects involved. In other words, when completing this study extra caution was exercised to assure the subjects involved with this research study are not put in harm's way for the sake of the study alone. Since the setting is an office environment and the survey will be distributed through email, employee harm should be minimal. Additionally, the benefits of the study and society as a whole will be maximized through the publication of the study findings.

The last ethical principle is justice, which speaks to who should receive the benefits of a research study and who should bear the burden. As related to this study, the research findings will be shared universally through publication and new knowledge for

the industry and companies to use practically. The benefit of the research findings will specifically be new empirical evidence that can be used by organizations to shape policy and potentially improve performance. The burden of the research was on the employees who complete the distributed online questionnaire and was minimal because it took less than an hour to complete in the comfort of their work space. There will be very little financial burden to participants, companies and society as a whole to conduct this study.

Lindorf (2010) also presented four principles of ethical issues related to research and professional colleagues; harm, informed consent, right to privacy, and honesty Protection from harm is the first ethical research principle (Lindorff, 2010). Risk associated to participants was minimal for this study. Participants were not selected from vulnerable or high-risk circumstances or be individuals such as the elderly or children. Participation in this study was voluntary and no deceptive statements or questions were included in the assessments. It was made clear to the participant group that there would be no penalty for participation or non-participation. For the aforementioned reasons, no problems were encountered related to the protection from harm principle for this study.

Informed consent is the second ethical research principle (Lindorff, 2010). Informed consent was obtained prior to conducting this study. Prospective participants were provided with a cover letter informing them of their study rights and protections. Prospective participants were informed that their participation must be voluntary and no obligation exists. The purpose and nature of this study was clearly articulated and fully presented to the participants. The stated approach fulfilled the informed consent requirement (Creswell, 2009).

Right to privacy is the third ethical research principle (Lindorff, 2010). Avoiding personal questions and limiting identifying information helped to ensure the privacy of the participants. The study did not involve collecting address, marital status, and related personally identifying information. Identifying information was limited to information required for purposive sampling. No substantive identifying information will be collected. To protect the research information, data was stored on a password protected, encrypted computer system with active firewall and antivirus features. No right to privacy issues were encountered during this study given the precautions and measures stated.

Factual representation and honesty is the fourth ethical research principle (Lindorff, 2010). Ethical research requires factual representation of the data in an objective manner (Creswell, 2009). The study presented clear documentation of all materials and references. Data results were properly represented and presented accurately. Appropriate credit was given when using another person's ideas, processes, results, or words. This research strictly adhered to the requirement of providing original research writing and material. No issues with factual representation and honesty were encountered during this study.

Summary

By conducting a quantitative, correlational research design based study there was an opportunity to gain an understanding of the relationship between collaborative relationships and organizational innovation within 3PLs in the United States. It was not known if collaborative 3PL-shipper relationships would have an effect on organizational innovation within the 3PL industry in the United States. Since there was no practical

industry knowledge and limited empirical evidence to address this problem, this study was critically needed within the 3PL sector. Data was gathered through a questionnaire sent to 3PL employees on all major variables; collaborative relationships, and organizational innovation. The results from the collected online surveys were analyzed to address the interrelationship between collaborative relationships and organizational innovation within the 3PL sector. The applied contribution of this study is an evidence base to assist senior leadership and industry experts in the development of best practices, industry standards, and corporate policy concerning collaborative relationships as related to organizational innovation. Additionally, 3PL organizations have new information that can be leveraged to empower their workforce to create more innovative solutions needed to solve the vexing challenges of today's supply chains.

Chapter 4: Findings

It takes truly collaborative relationships among all business partners to develop and deliver the types of inter-organizational innovation needed to solve the vexing challenges facing today's supply chains (Langley, 2012). The problem that was examined in the current study was the deficiency of collaborative relationships between 3PLs and their shipper-partners leading to organizational innovation within the 3PL industry today. The purpose of this quantitative, correlational research design was to examine collaborative relationships and how the relationships affect organizational innovation within 3PLs. Awareness of the relationship between collaborative relationships and organizational innovation may assist 3PL's in building collaborative relationships with shippers leading to innovative solutions and gain market share, profitability, and sustainability.

The current study used two separate survey instruments to measure the predictor variable of collaborative relationships and outcome variable of organizational innovation. The first instrument was a collaborative relationship assessment (Lynch et al., 2010). The second survey instrument was a situational outlook questionnaire (SOQ) used to assess organizational creativity and innovation (Isaksen & Aerts, 2011). The criteria for the t test included an effect size d of .5, alpha level of .05, and beta level of .98. The G*Power output suggests a sample size of 222 participants that will yield an actual power of .9598. Therefore, a total of 222 participant responses were used to statistically analyze, address the research questions, and provide sufficient power to claim reliability of the collected data. Descriptive statistics were calculated for research questions one and two. A Pearson product-moment bivariate correlation test was the appropriate model

to use for research question 1. A multiple linear regression analysis was appropriate to use to control for age and gender for research question 2.

There were two specific research questions and related hypotheses guiding this study:

RQ1. What is the relationship, if any, between collaborative relationships and organizational innovation within third-party logistics companies in the United States?

RQ2. To what extent do the demographic variables (age and gender) explain variance in 3PL organizational innovation over and above that which is explained by collaborative relationships?

The hypotheses tested associations between collaborative relationships and organizational innovation within third-party logistics companies in the United States as well as to what extent employee demographics (age and gender) could account for variance in the outcome variable beyond what can be explained by collaborative relationships.

$H1_0$. There is no relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States.

$H1_a$. There is a relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States.

$H2_0$. Demographics (age and gender) do not explain a significant amount of the variance in 3PL organizational innovation over and above that which is explained by collaborative relationships.

$H2_a$. Demographics (age and gender) explain a significant amount of the variance in 3PL organizational innovation over and above that which is explained by collaborative relationships.

The purpose of this chapter is to present the results of the analyses performed to answer the two study research questions. The results section contains sample participant characteristics, descriptive statistics, outliers and missing data, research questions, and correlation and regression analyses. The evaluation of findings section contains the evaluation results of the study. The conclusion of this chapter will provide a summary of the findings.

Results

The results section begins with a description of the study participant characteristics. Details on the demographics of the participant group are provided. Descriptive results follow for the study variables. The research questions are stated and the statistical results are presented.

Sample characteristics. The population for the current study consisted of employees working for a 3PL in the United States. Using a purposive sampling approach, data was gathered by randomly selecting third-party logistics' companies in the United States from Leonard's Guide, an online resource specializing in up-to-date and accurate information on the logistics' industry (Leonard's Guide, 2013). The sample size was 222 participants, which exceeded the number required to provide statistical power and detect smaller effect sizes.

Demographics. In order to address research question 2, this study gathered participant responses on age and gender demographics. The frequency of participants

demographics (age and gender) are presented in Table 6. The table indicated that 105 (47.3%) females and 117 (52.7%) males participated in the research. A larger number of participants, 119 (53.6%), were 36 or older, and 103 (46.4%) of the participants were 35 or younger. The age and gender control variables were used to help explain if a relationship between collaborative relationships and organizational innovation is observed, whether it is even further influenced by the participant's age or gender.

Table 6

Frequency Table for Participants' Demographics

Range	Frequency	Percent	Cumulative Percent
	Gender		
Male	117	52.7	52.7
Female	105	47.3	100
	Age		
35 or Younger	103	46.4	46.4
36 or Older	119	53.6	100

Descriptive statistics. Descriptive statistics were calculated for the predictor variable, collaborative relationships, and the outcome variable, organizational innovation. Table 7 exhibits the minimum and maximum values, mean, standard deviation, median, and the skewness and kurtosis.

The collaborative relationship predictor variable score ranged from 72 to 173 with a mean of 119.84 (*SD = 18.83*). The organizational innovation outcome variable score, as measured by the SOQ survey instrument, ranged from 412 to 2360 with a mean of 1454 (*SD = 397.17*). Both variables were found to be normally distributed with skewness and kurtosis values between -1 and +1. The skewness and kurtosis for

collaborative relationships were .12 and -.41, and for organizational innovation were -.23 and -.27.

Table 7

Descriptive Statistics for Predictor and Outcome Variables (N = 222)

Measure	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Collaborative Relationships	72	173	119.84	18.95	0.12	-0.41
Organizational Innovation	412	2360	1454	397.17	-0.23	-0.27

Outliers, missing data, and normality. The dataset was investigated to ensure that it satisfied the assumptions of the multiple linear regression analyses. The assumptions included (a) absence of outliers, (b) absence of data, and (c) normality.

Outliers in a dataset have the potential to distort results (Tabachnick & Fidell, 2007). A scatterplot for the collaborative relationships and organizational innovation variables was created to assess for outliers. No outliers were identified using this method. Cases for missing data were detected by running frequency counts. No missing data was observed in the sample. Therefore, the final sample available for testing the study hypotheses consisted of 222 individuals.

A Shapiro-Wilks test for normality was conducted to confirm that the scores of the collaborative relationships and organizational innovation surveys were normally distributed. Figures 1 and 2 demonstrate normality for both variables with $p = .03$ for collaborative relationships, and $p < .01$ for organizational innovation. The normal distribution of the variables allowed for the regression analysis tests to be performed with

more reliability.

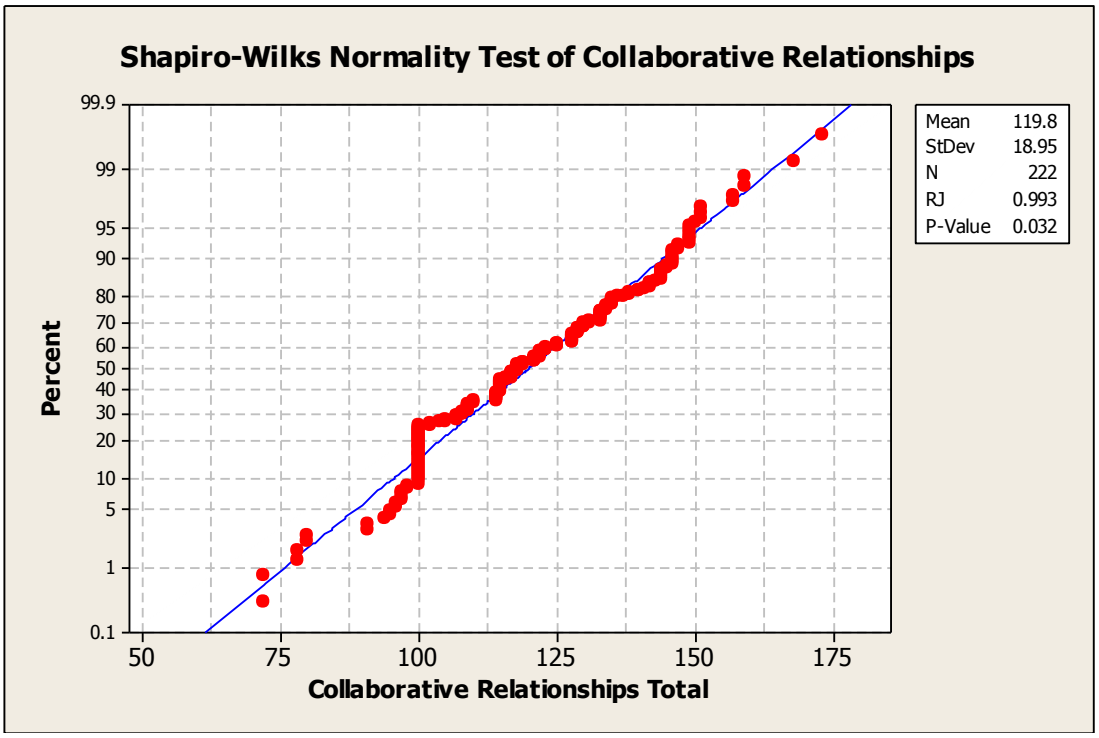

Figure 1. Shapiro-Wilks Normality Test of Collaborative Relationships scores.

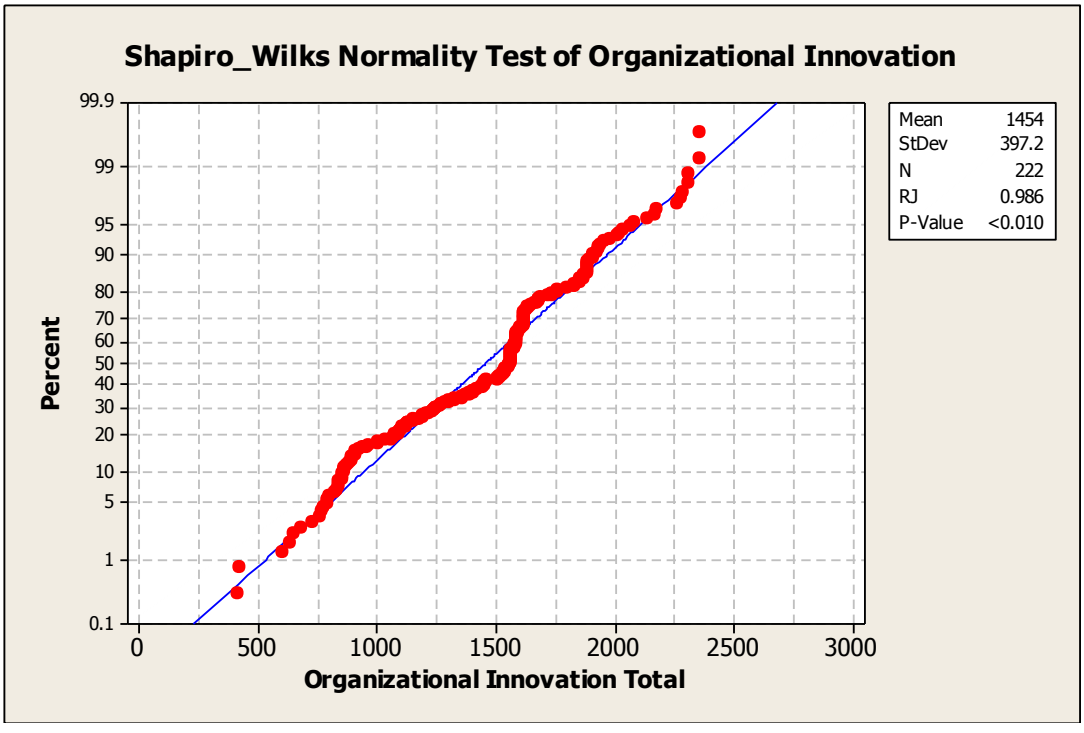

Figure 2. Shapiro-Wilks Normality Test of Organizational Innovation scores.

Correlation and multiple regression analysis. The data were analyzed using a Pearson product-moment correlation test to measure the direction and strength of the relationship between the predictor variable, collaborative relationships, and outcome variable, organizational innovation. Additionally, a multiple linear regression analysis was performed to test the potential confounding effect of the age and gender demographic variables. The multiple linear regression analysis sought to understand to what extent could age and gender account for the variance in the outcome variable above and beyond what could be explained by the predictor variable.

Table 8 presents the results of the Pearson product-moment correlation test between the predictor and outcome variables. Pearson product-moment correlation results between .1 < .3 are considered to be small correlations, results between .3 < .5 are considered moderately correlated, and results between > .5 have strong correlations. The statistical bivariate correlation results between the predictor variable and the outcome variable was moderately positive with r = .36. The table output also shows that the results are statistically significant with a p-value < .0005.

Table 8

Correlations among Predictor Variables and Outcome Variable (N = 222)

Variables	Collaborative Relationships	Organizational Innovation	Gender	Age
Collaborative Relationships	1.00	0.36 **	-0.006	-0.050
Organizational Innovation	0.36 **	1.00	-0.237	0.058
Gender	-0.006	-0.237	1.00	-0.027
Age	-0.050	0.058	-0.027	1.00

Statistical Significance
* $p < .05$, ** $p < .01$

The results of the multiple linear regression analysis are shown in Table 9. The multiple linear regression model was significant, R^2 = .136, adjusted R^2 = .124, F(3, 218) = 11.45, p = .0005. The R^2 of .136 indicated 13.6% of the variance in collaborative relationships was explained by organizational innovation, gender, and age. The p-value between collaborative relationships and organizational innovation was statistically significant with p = .00. Conversely, the p-value between the demographic variables (age and gender) and collaborative relationships were not significant with p = .42 and p = .31, respectively.

Table 9

Results from Multiple Linear Regression Analysis (N = 222)

Variables	B	Std. Error B	Beta	t	p
Collaborative Relationships	92.92	8.190		11.345	0.00
Organizational Innovation	0.018	0.003	0.376	5.797	0.00
Gender	2.594	2.542	0.068	1.021	0.31
Age	-2.030	2.477	-0.054	-0.820	0.42

Notes. R^2 = .136, adjusted R^2 = .124, F(3, 218) = 11.45, p = .0005

Research question 1. The first research question focused on the relationship between collaborative relationships and organizational innovation within the third-party logistics industry in the United States. One null hypothesis was tested: There is no relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States.

As shown in Table 8, collaborative relationships are a statistically significant predictor of organizational innovation with a moderately positive correlation of r = .36. The table output also shows that the results are statistically significant with a p-value <

.0005. The null hypothesis for the first research question was rejected. Results indicated that increased collaboration between 3PLs and shipper-partners can result in greater organizational innovation within the third-party logistics industry in the United States.

Research question 2. The second research question focused on to what extent, if any, do demographic variables (age and gender) explain variance in organizational innovation over and above what is explained by collaborative relationships. One null hypothesis was tested: Demographics do not explain a significant amount of the variance in 3PL organizational innovation over and above that which is explained by collaborative relationships.

As presented in Table 9, results indicated that there is not sufficient statistical evidence to infer that demographic variables (age and gender) are predictive of organizational innovation over and above what was explained by collaborative relationships within the third-party logistics industry in the United States. The multiple linear regression model was significant, $R^2 = .136$, adjusted $R^2 = .124$, $F(3, 218) = 11.45$, $p = .0005$. The p-value between collaborative relationships and organizational innovation was statistically significant with p = .00. Conversely, the p-value between the demographic variables (age and gender) and collaborative relationships were not significant with p = .42 and p = .31, respectively. There was not sufficient statistical evidence to reject the null hypothesis.

Evaluation of Findings

The study used a quantitative, correlational research design to examine the relationship between collaborative relationships and organizational innovation within the third-party logistics industry in the United States. An explanation of the findings is

presented in this section. Descriptive statistics, correlation, and multiple regression analyses were the appropriate quantitative methodologies to explain the findings in this study, as these methods provided a basis to compare the variables and address the research questions (Johnson & Christensen, 2007). Descriptive statistics were used for RQ1 and RQ2. A Pearson product-moment correlational test was used to answer RQ1, and multiple linear regression analyses were used to answer RQ2.

Research question one was: what is the relationship, if any, between collaborative relationships and organizational innovation within third-party logistics companies in the United States? RQ1 addressed the collaborative relationships between 3PLs and shipper-partners that can enable 3PLs to provide greater organizational innovation. The major statistical test used to measure the linear correlation between collaborative relationships and organizational innovation within a 3PL context and to assess this research question was a bivariate Pearson product-moment correlation co-efficient (Jackson, 2012). The null hypothesis for this research question states: There is no relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States.

The results indicated that an increase in collaborative relationships between 3PLs and shipper-partners did lead to enhanced organizational innovation within third-party logistics companies in the United States. As shown in Table 8, the Pearson product-moment correlation between collaborative relationships and organizational innovation was $r = .36$ indicating a statistically significant and moderate relationship between the predictor and outcome variables. Therefore, the null hypothesis for the first research question was rejected.

The findings for RQ1 are consistent with prior empirical research surrounding organizational innovation and collaborative relationships independently. Past organizational innovation research has focused on settings and contexts outside the 3PL sector. In order to fill the identified research gap, this study focused on organizational innovation from a climate view and how employees working for a 3PL felt about the innovative nature of the organization.

Imran (2011), Nasair (2013), and Ussahawanitchakit (2011) studied organizational innovation and climate under varying contexts. Imran studied the mediating effect of organizational climate between transformational leadership and innovative work behavior. Imran found a positive relationship using organizational climate as a mediating variable. Nasair studied the role of climate for innovation in job performance in Jordan. The main finding of the study indicated that the climate for innovation is perceived to be of a high level and is positively affecting job performance. Ussahawanitchakit studied the moderating effects of environment on the strategic leadership, organizational learning, innovation, and performance relationships. Ussahawanitchakit presented that strategic leadership is positively related to organizational innovation and firm performance. Empirical research from a strategic theory of innovation approach sparked growing interest in organizational innovation theory (Schumpeter, 1934; Sundbo, 2003). Prior research has linked inter-organizational knowledge transfers to an increase in innovation (Inkpen & Tsang, 2005). As presented, there has been plenty of empirical research surrounding organizational innovation theory, climate, competitive advantage, inter-organizational knowledge transfers, and innovation

connected to problem-solving, but not specifically addressing the relationship between collaborative relationships and organizational innovation within a 3PL context.

Past collaboration and relationship research mostly addressed information-sharing on orders, inventory, or customer demographics between business-partners (Klein & Rai, 2009; Lynch, Nyaga, & Whipple, 2010; Miller, Perry, & Thompson, 2007). Klein and Rai performed a quantitative confirmatory study using a survey instrument to validate findings during a qualitative exploratory phase that investigated strategic information flows in logistics supply chain relationships. Based on the statistical analysis performed, Klein and Rai found support in the hypotheses stating that strategic information flows positively and significantly impact relationship-specific performance for both the buyer and supplier. Lynch, Nyaga, and Whipple examined supply chain relationships and how buyers and suppliers perceived collaborative relationships. Study results showed that collaborative activities such as information sharing, joint relationship effort, and dedicated investments lead to trust and commitment. Trust and commitment then lead to improved satisfaction and performance. Miller, Perry and Thomson performed a quantitative correlational research study collecting cross-sectional data in order to measure and conceptualize collaboration. Overall, the findings from this study support the proposed structural equation model of collaboration. Prior research as outlined, reveals that basic knowledge sharing between business partners is helpful to enhance collaborative relationships, but does not take the relationship to the level of solving the vexing challenges facing supply chains and providing inter-organizational innovation, which is critically needed within the 3PL industry and addressed by RQ1 within this study.

Although prior empirical research provided a positive foundational link between knowledge sharing, collaboration, and innovation under varying contexts and settings, little research has specifically examined the relationship between collaborative relationships and organizational innovation within the third-party logistics industry in the United States. Since 3PLs are struggling to create innovative solutions for shipper-partners, there was a strong need to better understand this relationship. RQ1 aimed to address this critical problem. The results of RQ1 provides empirical evidence that supports an increase in collaborative relationships leading to enhanced organizational innovation within the third-party logistics industry in the United States and addresses the identified gap in prior research surrounding the link between collaborative relationships and organizational innovation under a 3PL context.

Research question two was: to what extent do the demographic variables (age and gender) explain variance in 3PL organizational innovation over and above that which is explained by collaborative relationships? Age and gender were monitored as potential confounding variables and used for regression analysis. Confounding variables are demographics for individual differences that assist with eliminating alternative explanations for significant relationships (Chiaburu & Bryne, 2009). The major statistical test used to measure the relationship between collaborative relationships and organizational innovation and potential confounding effect of demographic variables (age and gender) was multiple linear regression analysis. The null hypothesis for this research question states: Demographics do not explain a significant amount of the variance in 3PL organizational innovation over and above that which is explained by collaborative relationships.

Results indicated that there is not sufficient statistical evidence to infer that demographic variables (age and gender) are predictive of organizational innovation over and above what was explained by collaborative relationships within the third-party logistics industry in the United States. As shown in Table 9, demographic variables (age and gender) were not a significant amount of the variance in organizational innovation over and above what was explained by collaborative relationships with p-values of .42 and .31 respectively. There was not sufficient statistical evidence to reject the null hypothesis.

The findings for RQ2 are consistent with prior research using age and gender as potential confounding variables and with the expected outcome given the study setting and context. First, prior research using age and gender as potential confounding variables between a predictor and outcome variable did not find statistical evidence to support the uncontrolled effect of age and gender (Hill & Lewicki, 2007; Johnson & Christensen, 2007). Johnson and Christensen successfully used a multiple regression analysis to better understand if subordinates' demographics (gender, age, and military rank) influenced or were uncontrolled factors between subordinates' perceptions of the emotional intelligence of managers and organizational commitment in the Army. Johnson and Christensen found that there was not statistical evidence to support the uncontrolled effect of subordinates' demographics under the research context and setting.

Second, the target participant group for this study was primarily employees working in an office setting within a third-party logistics organization. According to the participant demographics as presented in Table 6, 52.7% of the responses were from males, and 47.3% from females. Moreover, 46.4% of the responses were from

employees 35 or younger and 53.6% were from employees 36 or older. Although it was noted in the literature review that overall the third-party logistics industry is aging and predominantly male, this reference point took into account all roles and responsibilities performed within the 3PL industry, not just within an office environment (Langley, 2012). This even split in demographics is not surprising since as the third-party logistics industry matures, employees of all ages representing both genders are needed in an office setting to address the vexing challenges faced by 3PL organizations today. As the p scores demonstrate, age and gender alone do not significantly affect the relationship between collaboration and organizational innovation within third-party logistics companies in the United States. There is not sufficient statistical evidence to infer that demographic variables (age and gender) are predictive of organizational innovation over and above what was explained by collaborative relationships.

Summary

The purpose of this quantitative, correlational research design was to examine the relationship between collaborative relationships and organizational innovation within the third-party logistics industry in the United States. Descriptive statistics were used for research questions one and two. A Pearson product-moment bivariate correlation test was the appropriate model to use for RQ1. A hierarchal multiple regression analysis was appropriate to use to control for age and gender for RQ2. A total of 222 participant responses were used to statistically analyze and address the research questions. The null hypothesis for research question one stating there is no relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States was rejected. Findings indicated that there was enough statistical evidence

to conclude that increased collaborative relationships between 3PLs and shipper-partners lead to enhanced organizational innovation, which is critically needed in order for 3PLs to solve the vexing challenges facing today's supply chains. The second research question addressed the confounding effect of demographic variables (age and gender) on the relationship between collaborative relationships and organizational innovation. There was not sufficient statistical evidence to reject the null hypothesis. Results indicated that there is not sufficient statistical evidence to infer that demographic variables (age and gender) are predictive of organizational innovation over and above what was explained by collaborative relationships within third-party logistics companies in the United States. Chapter 5 will present an analysis of the results as well as implications of the findings as related to the literature review and further research.

Chapter 5: Implications, Recommendations, and Conclusions

It takes truly collaborative relationships among all business partners to develop and deliver the types of inter-organizational innovation needed to solve the vexing challenges facing today's supply chains (Langley, 2012). The problem that was examined in the current study was the deficiency of collaborative relationships between 3PLs and their shipper-partners leading to organizational innovation within the 3PL industry today. The purpose of this study was to examine collaborative relationships and how the relationships affect organizational innovation within 3PLs. Awareness of the relationship between collaborative relationships and organizational innovation may assist 3PL's in building collaborative relationships with shippers leading to innovative solutions and gain market share, profitability, and sustainability.

A quantitative, correlational research design collecting cross-sectional data was used for this study. A quantitative method was preferred for this study because numerical data was collected via questionnaires to answer the research questions (Cozby, 2012). Moreover, the use of a quantitative method provided for statistical analysis of the questionnaire results using proven empirically tested measurements such as correlation and variation (Trochim & Donnelly, 2008). The current study used two separate survey instruments to measure the predictor variable of collaborative relationships and outcome variable of organizational innovation. The first instrument was a collaborative relationship assessment (Lynch et al., 2010). The second survey instrument was a situational outlook questionnaire (SOQ) used to assess organizational creativity and innovation (Isaksen & Aerts, 2011).

There are several limitations associated with the current study. The first limitation is the inherent limitation when using a Likert-type scale. Likert-type scales have known limitations (Vogt, 2007). Using established, empirically tested assessments can minimize the limitation of using a Likert-type scale. The second limitation is the risk of using a self-report online questionnaire. Understandably, self-report questionnaires are very convenient and an inexpensive way to collect data. When using self-report questionnaires to collect cross-sectional data, the results are subject to common method bias with erroneous identification of relationships between variables (Bodoh, 2012). However, the nature of this study warranted the use of an online self-report questionnaire to be collected at a point in time. To reduce the study limitations the online survey will present the assessment scale clearly to the participants. Moreover, the assessment questions will use the term *I* to address a potential common method bias from erroneous identification of relationships between the variables. Lastly, empirically tested and reliable survey instruments will be used to collect information for the study variables. Hunter et al., (2007) identified the SOQ as a validated and standardized measurement for assessing nine independent dimensions of the climate for organizational creativity and innovation. The SOQ has been utilized in organizational, team and work-group contexts, and has been validated through extensive research in each setting (Isaksen, Lauer, Ekvall & Britz, 2001; Isaksen & Ekvall, 2010). The third limitation pertains to the selected statistical analysis, multiple hierarchal regression. Researchers have documented two limitations to multiple hierarchal regression (Vogt, 2005). First, regression techniques are only able to ascertain relationships, but not causes (Vogt, 2005). Second, multiple hierarchy regression is open to unusual data points of outliers. The limitations of using

this statistical approach were minimized by employing research principles emphasizing investigation of correlation and not causation.

Approval from the Northcentral University Institutional Review Board (IRB) for the methodology and use of the survey instruments was obtained prior to any data collection for this study. Informed consent was received at the beginning of the survey from each participant. No known physical or psychological issues were reported during the data collection. All survey participants remained anonymous.

The remaining topics for this chapter are implications, recommendations, and conclusions. Results presented in this study were compared to prior research as discussed in the literature review section. The implications section contains the two research questions, related hypotheses, and logical conclusions of the study. The recommendations section contains recommendations for practical application of the study. The need for future research with a summary of the key points from the chapter is provided.

Implications

As the global economy increases, competition tightens, and shippers look to their 3PL partners for innovative solutions, 3PLs need empirical evidence and recommendations on how to produce the disruptive innovations that are desperately needed to move the third-party logistics industry forward (Murray, 2013). Fundamental changes are needed to improve the relationships between 3PLs and shippers and evolve to an advanced collaborative relationship (Murray, 2013). This gap in knowledge and critical problem facing 3PLs today led to the development of research questions one and two aimed at examining the relationship between collaborative relationships and

organizational innovation in the third-party logistics industry in the United States. The new empirical evidence can assist 3PLs in creating new corporate policies and best practices that can be applied practically.

The first research question focused on the relationship between collaborative relationships and organizational innovation within the third-party logistics industry in the United States. One null hypothesis was tested: There is no relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States. The second research question focused on to what extent, if any, do demographic variables (age and gender) explain variance in organizational innovation over and above what is explained by collaborative relationships. One null hypothesis was tested: Demographics do not explain a significant amount of the variance in 3PL organizational innovation over and above that which is explained by collaborative relationships. Descriptive statistics were used for RQ1 and RQ2. A Pearson product-moment correlational test was used to answer RQ1, and multiple linear regression analyses were used to answer RQ2.

Research Question One. The following is a restatement of the first research question and associated null and alternate hypotheses.

RQ1. What is the relationship, if any, between collaborative relationships and organizational innovation within third-party logistics companies in the United States?

$H1_0$. There is no relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States.

$H1_a$. There is a relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States.

As presented in the findings chapter, results indicated that increased collaboration between 3PLs and shipper-partners can result in greater organizational innovation within the third-party logistics industry in the United States. Table 8 highlighted that collaborative relationships are a statistically significant predictor of organizational innovation with a moderately positive correlation of r = .36. Descriptive statistics for the predictor variable, collaborative relationships, score ranged from 72 to 173 with a mean of 119.84 (*SD = 18.83*). The organizational innovation outcome variable score, as measured by the SOQ survey instrument, ranged from 412 to 2360 with a mean of 1454 (*SD = 397.17*). Both variables were found to be normally distributed with skewness and kurtosis values between -1 and +1. The skewness and kurtosis for collaborative relationships were .12 and -.41, and for organizational innovation were -.23 and -.27. Based on the presented statistical evidence, the null hypothesis for the first research question was rejected.

The implications of the findings for research question one is an extension of the prior research conducted around collaborative relationships and organizational innovation. Although scholarly research between collaborative relationships and the effect on organizational innovation has been limited, there has been past research on both variables separately. Prior collaborative relationship research between business-partners positively supports companies sharing information (Klein & Rai, 2009). Klein and Rai performed a quantitative confirmatory study using a survey instrument to validate findings during a qualitative exploratory phase that investigated strategic information flows in logistics supply chain relationships. Miller, Perry, and Thompson (2007) performed a quantitative correlational research study collecting cross-sectional data in

order to measure and conceptualize collaboration. Current organizational innovation research presented a link between innovation, climate for creativity, and an organization's competitiveness (Imran, 2011; Ussahawanitchakit, 2011). Imran presented a positive relationship between transformational leadership and innovative work behavior given the study constructs. Ussahawanitchakit concluded that firms with greater strategic leadership tend to provide more innovative activities and gain superior business performance and a competitive advantage. The aforementioned studies found support for collaboration and information sharing between business-partners, but did not examine knowledge sharing and collaboration to the point of producing disruptive innovative solutions or address this relationship within a 3PL context in the United States. The findings of this study indicated that there was enough statistical evidence to conclude that increased collaborative relationships between 3PLs and shipper-partners can lead to enhanced organizational innovation, which is critically needed in order for 3PLs to solve the vexing challenges facing today's supply chains.

Research Question Two. The following is a restatement of the second research question and associated null and alternate hypotheses.

RQ2. To what extent do the demographic variables (age and gender) explain variance in 3PL organizational innovation over and above that which is explained by collaborative relationships?

$H2_0$. Demographics do not explain a significant amount of the variance in 3PL organizational innovation over and above that which is explained by collaborative relationships.

$H2_a$. Demographics explain a significant amount of the variance in 3PL organizational innovation over and above that which is explained by collaborative relationships.

Results indicated that demographic variables (age and gender) are not predictive of organizational innovation over and above what was explained by collaborative relationships within the third-party logistics industry in the United States. As presented in Table 9, the p-value between collaborative relationships and organizational innovation was statistically significant with $p = 0.00$. Conversely, the p-value between the demographic variables (age and gender) and collaborative relationships were not significant with $p = .42$ and $p = .31$, respectively. There was not sufficient statistical evidence to reject the null hypothesis. Results indicated that there is not sufficient statistical evidence to infer that demographic variables (age and gender) are predictive of organizational innovation over and above what was explained by collaborative relationships within the third-party logistics industry in the United States.

The findings for RQ2 are consistent with the anticipated outcome for varying reasons. First, prior research using age and gender as potential confounding variables between a predictor and outcome variable did not find statistical evidence to support the uncontrolled effect of age and gender (Hill & Lewicki, 2007; Johnson & Christensen, 2007). Second, the target participant group for this study was primarily employees working in an office setting within a third-party logistics organization. Although it was noted in the literature review that the third-party logistics industry overall is older in years and predominantly male, this statement took into account roles outside the office environment (Langley, 2012). According to the participant demographics as presented in

Table 6, 52.7% of the responses were from males, and 47.3% from females. Moreover, 46.4% of the responses were from employees 35 or younger and 53.6% were from employees 36 or older. The fairly even split in age and gender could be explained by the fact that the participant audience were almost exclusively from employees of all levels working in an office environment, interacting with shipper-partners and customers on a daily basis. This even split in demographics is not surprising since as the third-party logistics industry matures and becomes more global, employees of all ages representing both genders are needed in an office setting to address the vexing challenges faced by 3PL organizations today. As shown in the p scores within the multiple linear regression analysis, there is not sufficient statistical evidence to infer that demographic variables (age and gender) are predictive of organizational innovation over and above what was explained by collaborative relationships.

One limitation, and opportunity, to the findings for the second research question is that the collaborative relationship and organizational innovation surveys were distributed via an email sent to participants. Based on the observed demographics of the participant audience, there was nearly an even split in responses younger and older than 35, as well as between males and females. As previously noted, this outcome is not a surprise given the majority of the participants worked in an office environment. The limitation that should be highlighted is that even in an office environment, younger employees out of college tend to be more computer savvy, thus more readily available to take a survey. For this reason, the participant response demographics noting an almost even split must be considered as not reflecting the general audience of employees working in the third-party logistics industry. The opportunity for practical improvements in design and

methodology associated with future research, which could have helped this study and research question specifically, is to include a survey distribution method in addition to an electronic form. Overall, the third-party logistics industry, as outlined in the literature review, is mature and gaining a true perspective of the industry involves studying different settings which will provide for views from varying age categories.

Recommendations

The problem addressed in the current study was the deficiency of collaborative relationships between 3PLs and their shipper-partners leading to organizational innovation within the 3PL industry today. Understanding the relationship of collaborative 3PL-shipper relationships on organizational innovation can assist the 3PL industry in solving the vexing challenges facing global supply chains today. Recommendations for practical application of the research findings as well as future research opportunities are provided.

3PLs struggle to foster collaborative business relationships needed to deliver the types of inter-organizational innovation required to solve the difficult challenges currently facing global supply chains (Langley, 2012). However, currently 3PL-shipper relationships are not structured to support innovation because they are mostly tactical and uncollaborative. Shippers claim there is a lack of an organizational culture that promotes innovation within 3PLs today. If this trend continues, 3PLs could lose additional market share, and eventually face declines in revenues and profits (Howland et al., 2013). A broader consequence of 3PL's not building collaborative relationships leading to innovation is the increased likeliness of commoditization and stagnancy within the shipping industry. As evidenced by shipper feedback, there is a critical need for 3PLs to

become more collaborative business partners with shippers in order to provide innovative ideas aimed at addressing complex industry challenges (Langley, 2012).

Prior to the current study, there had been limited empirical research on the effect of collaborative 3PL-shipper relationships on organizational innovation in the United States. Moreover, currently there is no corporate policy, best practice, training program, or qualitative industry knowledge designed to address this problem and guide this critical paradigm shift (Langley, 2012). Therefore, today it is not known if collaborative 3PL-shipper relationships will have an effect on organizational innovation within the 3PL industry in the United States. Since there is no practical industry knowledge and limited empirical evidence to address this problem, the current study was critically needed within the 3PL sector. Examining the relationship of collaborative 3PL-shipper relationships on organizational innovation will equip industry experts and executives with new information that can be used to solve the challenging problems facing global supply chains. 3PL's will be better positioned to gain market share, profitability, and be seen as a viable outsourcing option to their shipper-partners. As global supply chain revenues continue to increase and competition tightens as shippers consolidate, the long-term significance and practical application of this study will be empirical evidence and best practices for 3PL's to use when building collaborative relationships with shipper-partners that can lead to innovative solutions in which the entire industry can benefit.

Recommendations for practice. The purpose of this quantitative, correlational research design was to examine the relationship between collaborative relationships and organizational innovation within the third-party logistics industry in the United States. The first research question focused on the relationship between collaborative

relationships and organizational innovation within the third-party logistics industry in the United States. One null hypothesis was tested: There is no relationship between collaborative relationships and organizational innovation within third-party logistics companies in the United States. The second research question focused on to what extent, if any, do demographic variables (age and gender) explain variance in organizational innovation over and above what is explained by collaborative relationships. One null hypothesis was tested: Demographics do not explain a significant amount of the variance in 3PL organizational innovation over and above that which is explained by collaborative relationships.

The results for research question one indicated that increased collaboration between 3PLs and shipper-partners can result in greater organizational innovation within the third-party logistics industry in the United States. Table 8 highlighted that collaborative relationships are a statistically significant predictor of organizational innovation with a moderately positive correlation of $r = .36$. The results for research question 2 indicated that there is not sufficient statistical evidence to infer that demographic variables (age and gender) are predictive of organizational innovation over and above what was explained by collaborative relationships within the third-party logistics industry in the United States. As presented in Table 9, the p-value between collaborative relationships and organizational innovation was statistically significant with $p = .00$. Conversely, the p-value between the demographic variables (age and gender) and collaborative relationships were not significant with $p = .42$ and $p = .31$, respectively. The statistical results for research question two indicate that age and gender do not appear to have an effect on organizational innovation over and above what was statistically

proven by the predictor variable, collaborative relationships. The practical application of the empirical evidence as presented for research questions one and two can be significant for the 3PL industry in the United States in several ways.

First, there is strong empirical evidence to suggest that 3PL organizations can greatly benefit by embracing more collaboration and collaborative relationships with their shipper-partners. As previously noted, today 3PLs struggle to foster collaborative business relationships needed to deliver the types of inter-organizational innovation required to solve the difficult challenges currently facing global supply chains (Langley, 2012). One key reason for this disconnect is that 3PL-shipper relationships are not structured to support innovation because they are mostly tactical and uncollaborative. As statistically shown in this study, if 3PLs focus on enhancing their collaborative relationships with their shipper-partners, then organizational innovation can increase which will ultimately better equip 3PLs to address the challenges facing the industry today. Practically, senior leaders should strategically consider how an increase in collaborative relationships can become part of the organizational culture. This would involve a potential paradigm shift in corporate culture along with new policy, training programs, and a knowledge sharing intranet site hosting best practices. 3PLs may need to consult with outside organizations specializing in creating advanced collaboration within companies and sustaining the collaborative relationships over time. Moreover, better collaborative relationships between 3PLs and shipper-partners can lead to 3PLs being viewed as a viable outsourcing option and help to create more long-standing business relationships in which greater and greater vexing industry challenges can be collaboratively solved.

Next, in the past shippers claimed there was a lack of an organizational culture that promotes innovation within 3PLs. If this trend continues, 3PLs could lose additional market share, and eventually face declines in revenues and profits (Howland et al., 2013). As presented in this study, there is evidence that indicates that an increase in collaborative relationships will lead to an increase in organizational innovation. Thus, an increase in 3PL organizational innovation can help to solidify business relationships with shipper-partners, increase revenues and profits, and better position 3PLs to gain market share and solve the vexing challenges facing global supply chains. The empirical evidence presented provides industry experts and senior leadership with new information on the relationship between collaborative relationships and organizational innovation within the 3PL industry in the United States. Practically, senior leaders within 3PLs should consider methods previously used by other industries and corporations to increase organizational innovation. Some of these methods include Six Sigma problem-solving, Lean practices, and employee motivation and satisfaction training at all levels. Creating an innovative company environment where employees, regardless of age or gender, feel empowered to solve problems and suggest new incremental and disruptive innovative ideas can be a challenging paradigm shift for organizations. However, now 3PLs have empirical evidence that lends credibility to the investment in organizational innovation training programs, strategic goals around innovation, and an overall new approach to enhancing the organizational environment which is critically needed within the 3PL industry. As global supply chain revenues continue to increase and competition tightens as shippers consolidate, the long-term significance and practical application of this study is empirical evidence and best practices for 3PL's to use when building collaborative

relationships with shipper-partners that can lead to innovative solutions in which the entire industry can benefit.

Lastly, the results of this study indicated that demographic variables (age and gender) are not predictive of organizational innovation over and above what was explained by collaborative relationships within the third-party logistics industry in the United States. In practice, 3PL companies can use this finding when building their corporate strategy and platform around enhancing collaborative relationships and organizational innovation. Fair and equitable training with employees regardless of gender and age on building stronger collaborative relationships and organizational innovation should be the goal. Employees of both genders and all ages will be needed to solve the vexing problems facing the 3PL industry. The training programs, best practices, and new corporate policy should focus on the primary finding from this study that an increase in collaborative relationships between 3PLs and shipper-partners lead to greater organizational innovation. To realize maximum benefit and fully incorporate an organizational paradigm shift to greater collaboration and organizational innovation, 3PLs will need all employees to buy-in and participate in this transformation.

Recommendations for future research. The study provided results indicating that increased collaboration between 3PLs and shipper-partners can result in greater organizational innovation within the third-party logistics industry in the United States. Moreover, results also indicated that demographic variables (age and gender) are not predictive of organizational innovation over and above what was explained by collaborative relationships within the third-party logistics industry in the United States. As this research aimed to examine the relationship between collaborative relationships

and organizational innovation within the 3PL industry, the goal was to add to scholarly knowledge within the topic areas studied and assist future research by expanding innovation, organizational innovation, and the network theory of competitive advantage as a whole as well as provide empirical evidence under a 3PL context.

Prior to the current study, there had been limited empirical research on the effect of collaborative 3PL-shipper relationships on organizational innovation. Therefore, it was not known if collaborative 3PL-shipper relationships would have an effect on organizational innovation within the 3PL industry in the United States. Although prior empirical research provided a positive foundational link between knowledge sharing, collaboration, and innovation under varying contexts and settings, the research had not been extended to the 3PL industry. This study helped to close this identified applied research gap and provide a framework and empirical evidence that the 3PL industry can using to solve the vexing challenges facing today's global supply chains.

There are several recommendations for future research within the collaborative relationships, organizational innovation, and third-party logistics areas. First, the current study focused on the collaborative relationships between 3PLs and shipper-partners. Past research mostly addressed information-sharing on orders, inventory, or customer demographics between business-partners (Klein & Rai, 2009; Miller, Perry, Thompson, 2007). Basic knowledge sharing between business partners is helpful to enhance the collaborative relationships, but does not take the relationship to the level of solving the vexing challenges facing supply chains and providing inter-organizational innovation. Although, the current research assisted in filling the aforementioned research gap and addressed the relationship between collaboration and disruptive organizational

innovation, there is still an opportunity for future research to extend the research in this area even further. It is recommended that future research address collaborative relationships with other 3PL customers, vendors, and potentially cross-functionally within the organization. An understanding of collaborative relationships under these varying settings and contexts can provide additional valuable information for 3PL organizations.

Next, there are many facets of innovation that can be considered as outlined in the literature review. This study focused on organizational innovation from a climate view and how employees working for a 3PL felt about the innovative nature of the organization. Past organizational innovation research has focused on settings and contexts outside the 3PL sector. Imran (2011) and Ussahawanitchakit (2011) studied organizational innovation and climate under varying contexts. Empirical research from a strategic theory of innovation approach sparked growing interest in organizational innovation theory (Schumpeter, 1934; Sundbo, 2003). The network theory of competitive advantage was developed in conjunction with empirical studies focusing on inter-organizational collaboration and strategic network alliances (Powell, et al., 1996). Prior research has linked inter-organizational knowledge transfers to an increase in innovation (Inkpen & Tsang, 2005). As presented, there has been plenty of empirical research surrounding organizational innovation theory, climate, competitive advantage, inter-organizational knowledge transfers, and innovation connected to problem-solving. The current study furthered the knowledge of organizational innovation under a 3PL context. While the findings of this study will help guide senior leadership within 3PL organizations with the benefits of developing a more innovative corporate culture that

embraces empowerment and collaboration, there is still an opportunity for further research to understand how other areas of innovation may assist 3PLs in solving the vexing challenges facing 3PLs today. For example, future research could focus on employee creativity leading to greater organizational innovation. Moreover, future research could study the effect of problem-solving techniques within 3PL organizations. There is definitely ample opportunity to extend the understanding of employee and organizational innovation within 3PLs today and how this variable can lead to more sustainability, solvency, and greater market share and profits.

The target participant group for this study was primarily employees working in an office setting within a third-party logistics' organization. For this reason, the results of the study can be easily applied within a corporate, shared services, or general office setting within the 3PL industry. However, due to the complexity of the 3PL industry there is an opportunity for future research under more specific settings. For example, understanding the relationship between collaborative relationships and organizational innovation within shipping locations, or co-located environments could be beneficial to 3PLs. Moreover, expanding the participant group to include 3PL employees out in the field working directly with customers or in other capacities could provide a more expansive understanding of the relationship between the study variables.

Future research could also consider 3PL organizations that have a global presence. This study focused on 3PLs in the United States. Increasing the scope of the study to a global scale could provide more generalizability to the results. Future research might also consider using a qualitative approach to better understand the thoughts and viewpoints of 3PL employees. A mixed methods approach could also help to provide

both quantitative and qualitative research results. Lastly, future research design could also combine an online survey distribution strategy with a hard copy of the survey which will enable employees outside an office environment to participate in the research more easily. Overall, there is amble opportunity for future research to extend what has been addressed within this study using the collaborative relationships and organizational innovation variables and under a 3PL context which will provide valuable insight to 3PLs practically as well as to scholars academically.

Conclusions

It takes truly collaborative relationships among all business partners to develop and deliver the types of inter-organizational innovation needed to solve the vexing challenges facing today's supply chains (Langley, 2012). The problem that was examined in the current study was the deficiency of collaborative relationships between 3PLs and their shipper-partners leading to organizational innovation within the 3PL industry today. This study provides 3PL industry gurus and senior leadership with new empirical evidence on the relationship between collaborative relationships and organizational innovation with the 3PL industry in the United States that can be used to guide strategic direction, create appropriate training programs, define and share best practices, and develop new corporate policy that will help organizations to address and solve the vexing challenges facing global supply chains today.

A total of 222 participant responses were used to statistically analyze and address the research questions. Descriptive statistics were used for research questions one and two. A Pearson product-moment bivariate correlation test was the appropriate model to use for RQ1. A hierarchal multiple regression analysis was appropriate to use to control

for age and gender for RQ2. Findings for RQ1 indicated that there was enough statistical evidence to conclude that increased collaborative relationships between 3PLs and shipper-partners lead to enhanced organizational innovation. Results for RQ2 showed that there is not sufficient statistical evidence to infer that that age and gender demographics are predictive of organizational innovation over and above what was explained by collaborative relationships within third-party logistics companies in the United States.

Past organizational innovation research focused on settings and contexts outside the 3PL sector. Imran (2011), Nasair (2013), and Ussahawanitchakit (2011) studied organizational innovation and climate under varying contexts. Imran studied the mediating effect of organizational climate between transformational leadership and innovative work behavior. Nasair studied the role of climate for innovation in job performance in Jordan. Ussahawanitchakit studied the moderating effects of environment on the strategic leadership, organizational learning, innovation, and performance relationships. As highlighted, there has been plenty of empirical research surrounding organizational innovation theory, climate, competitive advantage, inter-organizational knowledge transfers, and innovation connected to problem-solving, but not specifically addressing the relationship between collaborative relationships and organizational innovation within a 3PL context. In order to fill the identified research gap, this study focused on organizational innovation from a climate view and how employees working for a 3PL felt about the innovative nature of the organization.

Past collaboration and relationship research mostly addressed information-sharing on orders, inventory, or customer demographics between business-partners (Klein & Rai,

2009; Lynch, Nyaga, & Whipple, 2010; Miller, Perry, & Thompson, 2007). Klein and Rai performed a quantitative confirmatory study using a survey instrument to validate findings during a qualitative exploratory phase that investigated strategic information flows in logistics supply chain relationships. Lynch, Nyaga, and Whipple examined supply chain relationships and how buyers and suppliers perceived collaborative relationships. Miller, Perry and Thomson performed a quantitative correlational research study collecting cross-sectional data in order to measure and conceptualize collaboration. Although prior scholarly research found support for collaboration and information sharing between business-partners, these studies did not examine knowledge sharing and collaboration to the point of producing disruptive innovative solutions or address the relationship between collaborative relationships and organizational innovation within a 3PL context in the United States. In order to address this research gap, this study concentrated on the relationship between collaborative relationships and organizational innovation between 3PLs and shipper-partners.

The findings of this study indicated that there was enough statistical evidence to conclude that increased collaborative relationships between 3PLs and shipper-partners can lead to enhanced organizational innovation, which is critically needed in order for 3PLs to solve the vexing challenges facing today's supply chains. Prior to the current study, there had been limited empirical research on the effect of collaborative 3PL-shipper relationships on organizational innovation in the United States. Moreover, there was no corporate policy, best practice, training program, or qualitative industry knowledge designed to address this problem and guide this critical paradigm shift (Langley, 2012). The findings for this study provides valuable insight into this research

gap that can be applied by 3PL industry gurus and senior leadership practically, as well as a basis for future scholarly research using collaborative relationships and organizational innovation as variables and under a 3PL context. The practical application of the empirical evidence for this research can be significant for the 3PL industry in the United States in several ways. First, senior 3PL leaders should strategically consider how an increase in collaborative relationships can become part of the organizational culture. This would involve a potential paradigm shift in corporate culture along with new policy, training programs, and a knowledge sharing intranet site hosting best practices. Next, senior leaders within 3PLs should consider methods previously used by other industries and corporations to increase organizational innovation. Some of these methods include Six Sigma problem-solving, Lean practices, and employee motivation and satisfaction training at all levels. Creating an innovative company environment where employees, regardless of age or gender, feel empowered to solve problems and suggest new incremental and disruptive innovative ideas can be a challenging paradigm shift for organizations. However, now 3PLs have empirical evidence that lends credibility to the investment in organizational innovation training programs, strategic goals around innovation, and an overall new approach to enhancing the organizational environment which is critically needed within the 3PL industry. Lastly, fair and equitable training with employees regardless of gender and age on building stronger collaborative relationships and organizational innovation should be the goal. Employees of both genders and all ages will be needed to solve the vexing problems facing the 3PL industry.

There are several recommendations for future research within the collaborative relationships, organizational innovation, and third-party logistics areas. First, it is

recommended that future research address collaborative relationships with other 3PL customers, vendors, and potentially cross-functionally within the organization. An understanding of collaborative relationships under these varying settings and contexts can provide additional valuable information for 3PL organizations. Next, there are many facets of innovation that can be considered as outlined in the literature review. While the findings of this study will help guide senior leadership within 3PL organizations with the benefits of developing a more innovative corporate culture that embraces empowerment and collaboration, there is still an opportunity for further research to understand how other areas of innovation may assist 3PLs in solving the vexing challenges facing 3PLs today. Lastly, future research should extend the scope of the current study to include 3PL employees outside an office environment, 3PL organizations that have a global presence, and expand the research methodology and survey approach to include mixed methods and a more comprehensive survey distribution strategy. Increasing the scope of the study could provide more generalizability to the results, and additional empirical insight within a 3PL context.

As the global economy increases, competition tightens, and shippers look to their 3PL partners for innovative solutions, 3PLs now have empirical evidence and recommendations on how to produce the disruptive innovations that are desperately needed to move the third-party logistics industry forward. Fundamental changes are needed to improve the relationships between 3PLs and shippers and evolve to an advanced collaborative relationship. The gap in knowledge and critical problem facing 3PLs today led to the development of this research aimed at examining the relationship between collaborative relationships and organizational innovation in the third-party

logistics industry in the United States. The new empirical evidence as presented in this study can assist 3PLs in creating new training programs, corporate policies, and best practices that can be applied practically within the 3PL industry in the United States as well as a foundation for future research.

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Appendixes

Appendix A

Annotated Bibliography

Collaborative Relationships

Cachon, G. & Feldman, P. (2011). Pricing services subject to congestion: Charge per-use fees or sell subscriptions. *Manufacturing & Service Operations Management*, *13*(2), 244-260.

Cachon and Feldman (2011) studied subscription based pricing versus a per use basis in the service industry. The study involved analyzing collaborative relationships in a service setting. The collaborative relationships between customers and vendors revolved around basic information sharing. The study also targeted online companies such as AOL and Netflix. The data results were analyzed using statistical software and presented using ANOVA, linear graphing, and other statistical tools. The hypothesis suggesting that there would be a positive relationship between information-sharing, collaborative customer-vendor relationships, and an increase in sales was affirmed through the data analysis. Further research was suggested to better understand if service fees and sales are related given other constructs or more active collaborative relationships.

Corsten, D. & Kumar, N. (2005). Do suppliers benefit from collaborative relationships with large suppliers? An empirical investigation of efficient consumer response adoption. *Journal of Marketing*, *69*(3), 80-94.

Corsten and Kumar (2005) investigated whether suppliers truly benefit from collaborative relationships with large retailers. Data was collected from the suppliers of larger retailers. 996 questionnaires were sent out and 224 usable responses were returned. Using a two-tailed t-test, the data was analyzed by seven outcome variables:

perceived economic performance, archival sales value, archival sales volume, archival supplier service, archival invoice accuracy, perceived equity, and capability development. The results demonstrate that whereas ECR adoption had a positive impact on supplier economic performance and capability development, it also caused greater perceptions of negative inequity for the supplier.

Klein, R. & Rai, A. (2009). Inter-firm strategic information flows in logistics supply chain relationships. *MIS Quarterly,* 33, 4.

Klein and Rai (2009) performed a quantitative confirmatory study using a survey instrument to validate findings during a qualitative exploratory phase that investigated strategic information flows in logistics supply chain relationships. The research model and measures employed in the study to develop the hypotheses were: relationships between strategic information flows and relationship-specific performance; buyer dependence on the supplier; and buyer IT customization (Klein & Rai, 2009). The sampling frame for the study included 183 randomly selected vendor account managers who oversee one or more accounts that were distributed the survey instrument (Klein & Rai, 2009). In total, 132 of the 183 surveys were completed and returned for a response rate of 72% (Klein & Rai, 2009). Based on the statistical analysis performed, Klein and Rai (2009) found support in the hypotheses stating that strategic information flows positively and significantly impact relationship-specific performance for both the buyer and supplier. Moreover, the data results support the hypothesis that buyer dependence positively impacts buyer strategic flows to the supplier (Klein & Rai, 2009).

Lynch, D., Nyaga, G., & Whipple, J. (2010). Examining supply chain relationships: Do buyer and supplier perspectives on collaborative relationships differ? *Journal of Operations Management, 28,* 101-114.

Lynch, Nyaga, and Whipple (2010) examined supply chain relationships and how buyers and suppliers perceived collaborative relationships. Data for the research was obtained from surveys distributed to two separate samples: the first sample targeted buying firms, and the second targeted supplier firms. The buyer survey was sent to 2891 potential buyers from a mailing list obtained. There were 370 usable responses returned. The supplier survey was sent to 3869 potential supplier respondents. This survey yielded 158 usable responses. Study results showed that collaborative activities such as information sharing, joint relationship effort, and dedicated investments lead to trust and commitment. Trust and commitment then lead to improved satisfaction and performance.

Miller, T., Perry, J. & Thomson, A. (2007). Conceptualizing and measuring collaboration. *Journal of public administration research and theory,* 1.

Miller, Perry and Thomson (2007) performed a quantitative correlational research study collecting cross-sectional data in order to measure and conceptualize collaboration. The primary purpose of the study was to stimulate interest in the measurement of collaboration and refinement of the model in order to further promote research in this area (Miller et al., 2007). Data were collected using a mail questionnaire send to 1,382 directors of organizations that participate in a large national service programs (Miller et al., 2007). Overall, the findings from this study support the proposed structural equation model of collaboration (Miller et al., 2007). Moreover, the five dimensions that were studied related to collaboration were shown to be theoretically rooted and valid in cross-disciplinary contexts, which were substantiated through interviews with directors (Miller et al., 2007). The results fill a research gap in the literature on collaboration (Miller et al., 2007). Further research should address the lack of solid statistical data for the reciprocity indicators as a part of the norms dimension (Miller et al., 2007). Also, additional

research relating the validated model as a result of this research and actual applied research aimed at studying collaboration practically is suggested (Miller et al., 2007).

Innovation

Capaldo, A. (2007). Network structure and innovation: The leveraging of a dual network as a distinctive relational capability. *Strategic Management Journal, 28*(1), 585-608.

Capaldo (2007) employs comparative longitudinal case study research to investigate why and how strong dyadic inter-firm ties and two alternate network architectures impact innovative capability of the lead firm in an alliance network. Three cross-level research questions are answered by examining how three design-intensive furnishings manufacturers managed their networks of joint-design alliances over the course of 30 years. First, inter-organizational tie strength is operationalized. Second, the strengths and weaknesses of ties are discussed. Lastly, the ability to integrate a large periphery of ties is a distinctive lead firm's relational capability, knowledge-intensive alliance network, which assists in gain a competitive advantage. Network innovation theory is used as the theoretical perspective for this study. The paper concludes that in order to exploit the potential for competitive advantage embraced through inter-organizational ties; lead firms should manage the structure of their networks carefully. The study aimed at contributing to theory building in the field of inter-firm networks.

Inkpen, A., & Tsang, E., (2005). *Social* capital, networks, and knowledge transfer. *Academy of Management Review*, *30*(1), 146-165.

Inkpen and Tsang (2005) examined how social capital dimensions of networks affect the transfer of knowledge between network members. Three common network types were evaluated; intracorporate, strategic alliances, and industrial districts. Using a social capital framework, structural, cognitive, and relational dimensions are created for

the three network types which are evaluated. The evaluation was based upon observations and past research. The results presented suggest that structural approaches to networks that ignore social qualities inadequately specify how networks work. The paper also shows that all three network types have distinct social capital dimensions. By linking the social dimensions between the networks, it is apparent that each network requires a different level of facilitation. The facilitation can then lead to the best level of knowledge transfer in order to increase collaboration and results.

Langley, J. (2012). 2013 third-party logistics study: the state of logistics outsourcing. *Capegemeni Consulting, 1*, 2-17.

Langley (2012) performed a study evaluating the current state of the 3PL market. This is an annual review performed in conjunction with Capgemini Consulting Group. The survey is distributed to over 1,000 industry experts, executives, and managers within the 3PL sector. The main areas of focus for the study are; supply chain innovation, the IT gap, supply chain disruption, talent management, and strategic assessment. The current state of the 3PL market indicates that 3PLs are doing well in some areas, but there is also opportunity to improve in other areas. Two opportunities for improvement are supply chain innovation, and competitiveness. The study also indicated that there is opportunity in sharing information leading to collaborative relationships in areas other than big data. Shippers want 3PLs to collaborate more and generate more innovative solutions for the industry. Overall the study highlighted that there is a place for 3PLs within the industry and shippers generally see the value, but also strongly desire innovation to differentiate themselves from competitors through collaborative efforts.

Lieb, K. & Lieb, R. (2011). The north american third-party logistics industry in 2009: the provider CEO perspective. *Penn State University Press, 50*(4), 3.

Lieb and Lieb (2011) studied the state of the 3PL industry through the eyes of the CEO. Lieb and Lieb (2011) hypothesized that the downward turn of the economy would greatly affect the 3PL industry thereby reducing profits and increasing competition. Twenty CEOs of large 3PLs were sent questionnaires asking questions surrounding the state of their company and their opinion on the 3PL sector in relationship to the economy. The results of the surveys indicated that because the economy changed many organizations had to adapt new supply chain strategies and focus on controlling internal costs in order to remain solvent and competitive. Moreover, CEOs recognized the need to become more strategic and create partnerships in order to innovate.

Powell, W. W., Kaput, K. W., & Smith-Doerr, L. (1996). Interorganizational collaboration and the locus of innovation: Networks of learning in biotechnology. *Administrative Science Quarterly*, 41, 116-145.

Powell, Kaput, and Smith-Doerr (1996) used a network approach to perform a longitudinal study attempting to link research and development alliances, experience with managing inter-firm relationships, network position, rates of growth, and portfolios of collaborative activities. The hypotheses were tested from a sample of dedicated biotechnology firms in the years 1990-1994. Results from pooled, within-firm, time series analyses lend support to a learning view and have broad implications for future theoretical and empirical research on organizational networks and strategic alliances. The overall results show that in rapidly evolving industries such as high-tech, innovation can increase and also evolve within networks of inter-organizational relationships that sustain a fluid community. Neither growth nor age of the company reduced the propensity to benefit from collaboration.

Schumpeter, J.A. (1934). *The Theory of Economic Development*, Cambridge, Mass.: Harvard University Press (originally published in German in 1911; reprinted by Transaction Publishers, New Brunswick, New Jersey in 1997).

Schumpeter (1934) introduced the theory of economic development in effort to explain, in part, reality and how innovation was created at that time. Schumpeter (1934) discussed a theory which suggested that the economy of a country is what provoked or created the need for innovation. Hence, in a time of economic development, innovation would prevail as the main contributor. Schumpeter (1934) later introduced the role of the entrepreneur within innovation stating that entrepreneurship increased innovation. Schumpeter's (1934) has been critiqued and criticized over time because of his assertion of innovation based on the time in which it was written. Schumpeter (1934) was simply observing reality as he saw it in an attempt to explain a theory of innovation in the world he lived.

Sundbo, J. (2003). *The theory of innovation: entrepreneurs, technology, and strategy.* Northhampton, MA: Edward Elgar Publishing.

Sundbo (2003) wrote a book discussing the theory of innovation. Sundbo (2003) provides a synopsis of the emergence and historical development of the theory of innovation. Sundbo (2003) introduces three main theories since the beginning of the century; the entrepreneur, the technology-economic, and the strategic. Sundbo (2003) defines innovation as a new type of marketing or overall behavior to the market, including a different relationship with the state and other official regulation systems. The goal of Sundbo's (2003) book is to educate his reader on the history of the theory of innovation as well as proclaim that there will always be another stage in the journey to explain innovation.

Organizational Innovation

Imran, R. (2011). Mediating effect of organizational climate between transformational leadership and innovative work behavior. *Pakistan Journal of Pyschological Research*, 26, 2.

Imran (2011) studied the mediating effect of organizational climate between transformational leadership and innovative work behavior. The research was conducted using a purposively selected sample of 320 managers from Fast Moving Consumer Goods organizations all over Pakistan. The following questionnaires were used for the study: multifactor leadership; innovative work behavior and; open system and rational goal models. Imran also found a positive relationship using organizational climate as a mediating variable. Imran suggested future research to study other leadership styles using similar constructs.

Isaksen, S., & Aerts, W. (2011). Linking problem-solving style and creative organizational climate: An exploratory interactionist study. *The International Journal of Creativity & Problem Solving*, *21*(2), 7-38.

Isaksen and Aerts (2011) studied the link between problem-solving style and creative organizational climate. Best and worst case climates were assessed using a situational outlook questionnaire in which 213 individuals were identified as the sample. The purpose of this study was to gain an understanding of the relationship between problem-solving and climates for creativity. The study findings confirmed that significant differences between best and worst case workplace climates exist. Moreover, the study suggested that problem-solving styles make a difference in the outcome of workplace climate.

Isaksen, S., & Akkermans, H. (2011). Creative climate: A leadership lever for innovation. *The Journal of Creative Behavior*, *45*(3), 161-187.

Isaksen and Akkermans (2011) studied organizational leaders and their influence on innovative productivity as well as the climate for creativity and innovation. This exploratory study included 140 respondents from 103 organizations, 31 industries, and 10 countries. An online survey was used to determine the intervening nature of the climate for creativity and innovation. The findings suggested that those who perceived more leadership support for innovation had significantly better creative climate scores. Moreover, those who perceived higher levels of innovative productivity also had better climate scores. Lastly, organizational climate as an intervening variable between leadership behavior and innovation was confirmed. The study findings support the critical role that creative climate plays between leadership and innovative productivity.

Isaksen, S., & Ekvall, G. (2010). Managing for innovation: The two faces of tension in creative climates. *Creativity and Innovation Management, 19*(2), 73-88.

Isaksen and Ekvall (2010) discussed the distinction between two forms of tension within the research on organizational climates for creativity. Respondents were drawn from four samples of convenience resulting in 481 usable surveys. Respondents completed a situational outlook questionnaire examining the degree of climate for innovation. The findings supported the hypothesized relationship that there are two distinct faces of tension when considering the climate for innovation and creativity. Future research is suggested to examine the moderating or mediating effects of other climate variable such as trust between both forms of tension.

Nasair, T. (2013). The role climate for innovation in job performance: empirical evidence from commercial banks in Jordan. *International Journal of Business and Social Science, 4*(3), 208-217.

Nasair (2013) studied the role of climate for innovation in job performance in Jordan. Three main determinants of climate for innovation were measured:

organizational culture for innovation, leadership for innovation, and team climate for innovation. A probability sample was selected from 3 banks in Jordan. The sample audience consisted of 200 employees with more than three years' experience. A questionnaire was used to collect data. The data was analyzed using several descriptive methods such as means, standard deviation, and multiple regression. The main finding of the study indicated that the climate for innovation is perceived to be of a high level and is positively affecting job performance. In addition, the study presented that climate for innovation positively impacted job performance.

Ussahawanitchakit, P. (2011). Moderating effects of environment on the strategic leadership, organizational learning, innovation, and performance relationships. *Journal of International Business and Economics*, 11, 2.

Ussahawanitchakit (2011) studied the moderating effects of environment on the strategic leadership, organizational learning, innovation, and performance relationships. The study sample was 121 electronics businesses in Thailand. Ussahawanitchakit (2011) presented that strategic leadership is positively related to organizational innovation and firm performance. Moreover, organizational learning has a significant positive impact on organizational innovation and organizational innovation has a critical positive effect on performance. Future research is recommended by Ussahawanitchakit (2011) to better conceptualize the variables and determine if a more meaningful study will yield different results. Future research was suggested using a different moderating variable as well as various organizational related variables.

Appendix B

Collaborative Relationships Questionnaire

The survey will contain twenty-eight items within eight dimensions. The eight dimensions will be information sharing, joint relationship effort, dedicated investment, commitment, trust, satisfaction with relationships, satisfaction with results, and performance. All items will be measured using a 7-point Likert scale where 1 = strongly disagree and 7 = strongly agree. The questions for each dimension are as follows:

Information Sharing:

1. My firm is informed by our customer in advance of changing needs.
2. In this relationship, it is expected that any information which might help the other party will be provided.
3. The parties are expected to keep each other informed about events or changes that may affect the other party.

Joint Relationship Effort:

4. My firm and customer have joint teams.
5. My firm and customer conduct joint planning to anticipate and resolve operational problems.
6. My firm and customer make joint decisions about ways to improve overall cost efficiency.

Dedicated Investment:

7. My firm has invested substantially in personnel dedicated to this relationship.
8. My firm has provided proprietary expertise and/or technology to this relationship.

9. My firm has dedicated significant investments (e.g. equipment or support systems) to this relationship.

Commitment:

10. My firm expects this relationship to continue for a long time.
11. My firm is committed to this customer and they are committed to us.
12. My firm expects this relationship to strengthen over time.
13. Considerable effort and investment has been undertaken in building this relationship.

Trust:

14. My customer is genuinely concerned that we succeed.
15. My firm trusts that our customer keeps our best interests in mind.
16. My customer considers our welfare as well as its own.

Satisfaction with Relationship:

My firm is satisfied with this relationship in terms of:

17. Coordination of activities.
18. Participation in decision making.
19. Level of commitment.
20. Level of information sharing.
21. Management of activities.

Satisfaction with Results:

My firm is satisfied with this relationship in terms of:

22. Profitability.
23. Market share.

24. Sales growth.

Performance:

25. This relationship has reduced our order cycle times.

26. This relationship has improved our order processing accuracy.

27. This relationship has improved our on-time delivery.

28. This relationship has increased our forecast accuracy.

Appendix C

Situational Outlook Questionnaire Dimensions

The SOQ consists of 53 quantitative questions scored on a 4-point scale. Respondents answer the items on the 4-point scale where 0 = Not at all applicable; 1 = Applicable to some extent; 2 = Fairly applicable; 3 = Applicable to a high extent. Each of the nine dimensions has three to seven items. The nine dimensions of the SOQ are: challenge/involvement; freedom; trust/openness; idea-time; playfulness/humor; conflict; idea-support; debate; and risk-taking. Below is a summary of each SOQ dimension and brief description of the dimension.

SOQ Dimensions	High Level Definition
Challenge/Involvement	The degree to which people are involved in daily operations, long-term goals, and visions. High Challenge/Involvement implies better levels of engagement, commitment, and motivation.
Freedom	The degree of independence shown by the people in the organization. High levels of Freedom imply more perceived autonomy and ability for individual discretion.
Trust/Openness	The emotional safety in relationships. In high Trust/Openness situations people feel more comfortable sharing ideas and being frank and honest with each other.
Idea-Time	the amount of time people can, and do, use for elaborating new ideas. When Idea-Time is high people can explore and develop new ideas that may not have been included in the original task.
Playfulness/Humor	The spontaneity and ease displayed within the workplace. Good-natured joking and laughter and a relaxed atmosphere (lower stress) are indicators of higher levels of Playfulness and Humor.
Conflict	The presence of personal and emotional tensions (a negative dimension - in contrast to the debate dimension). When Conflict is high people engage in interpersonal warfare, slander and gossip, and even plot against each other.
Idea-Support	The way new ideas are treated. In a high Idea-Support situation people receive ideas and suggestions in an attentive and professional manner. People listen generously to each other.
Debate	The occurrence and open disagreement between viewpoints, ideas, experiences, and knowledge. In the Debating situation many different voices and points of view are exchanged and encouraged.
Risk-Taking	The tolerance of uncertainty and ambiguity. In a high Risk-Taking climate people can make decisions even when they do not have certainty and all the information desired. People can and do "go out on a limb" to put new ideas forward.

Appendix D

Situational Outlook Questionnaire Agreement

Confidentiality, Non-Disclosure, Ownership Agreement, and Requirements for use of the Situational Outlook Questionnaire (SOQ)® for Qualified Research Projects

The Creative Problem Solving Group, Inc. (CPSB) has received your request to have access to and use of intellectual property, information, and/or other materials surrounding the use of the SOQ in order to complete an academic research project. CPSB has reviewed this request and will grant permission to use this material ONLY for this academic endeavor and with your acceptance of all conditions within this document.

Our goal is to enable you to work effectively on your academic project, thesis or dissertation and to protect our intellectual property and commercial rights. In order to do this, CPSB will disclose to you certain information in order to support your study. In view of the proprietary nature of the information and intellectual property disclosed to you, it must be considered confidential. We, therefore, can only make such disclosure to you upon the following terms and conditions:

1. You agree to hold in confidence and respect the proprietary rights of CPSB regarding any and all information and materials disclosed to you under the terms of this agreement. This includes the SOQ instrument itself, feedback forms, technical and scoring information and procedures, psychological data on participants and groups, information obtained during the planning, delivery and follow-up to programs and services, and all designs, handouts and special materials relating to program, research, scoring, or development activities surrounding the SOQ.

You may be able to use the SOQ for your research project, but you may not make, share, or retain copies of the measure, the feedback forms, scoring instructions and procedures, or other materials, beyond the scope of your approved proposal for research. You will not disclose the items or any of this technical information in any written report, or to any other person beyond your formal academic advisor. <u>You may include descriptions of the SOQ dimensions and a sample item within your academic report document, but you agree not to publish or share the entire instrument.</u>

You may not amend, modify or change any materials, products or graphics without the express written consent of CPSB. You agree to acknowledge the proprietary interests of CPSB in these modifications or changes.

2. Upon completion of your study, you agree to provide CPSB with a copy of the completed work in English, or if your research is being conducted in another language, you agree to provide a summary in English and the complete work in the language in which it was written. In addition, any data files containing the results of the SOQ, along with other relevant variables will be shared, in confidence, with CPSB.

3. Your research must conform to the standards outlined by the American Psychological Association and, in particular, those outlined by Lowman, E. L. (Ed.), (2006). *The ethical practice of psychology in organizations* (2nd ed.). Washington, DC: The American Psychological Association. You assert that your research will meet these guidelines (or those of a similar professional organization in the behavioral sciences) and those indicated below.

CPSB's Statement of Research Policy

Part of the mission of The Creative Problem Solving Group, Inc, (CPSB) is to investigate the fields of creativity, leadership, and innovation. An important element of this goal is applied research, used to improve our understanding in these fields to increase the quality of our products and services. CPSB has the unique opportunity to collect data from a wide range of individuals, groups, and organizations for whom we provide professional and consulting services, or with whom we have contact and agreements. This data is collected under the guidelines of our research policy outlined below.

The information we are collecting will enhance our knowledge, however, the rights, privacy, and dignity of every person who participates in our research activity must be protected. To ensure the rights of those involved in this research, CPSB adheres to the following guidelines for research:

a. We conform to the Code of Ethics established by the American Psychological Association regarding the use of humans for research as well as the guidelines, policies and procedures of cooperating or sponsoring agencies relating to research.

b. Completing these activities is voluntary. All data collected on any person are explained to that person unless the data collection was specifically exempted from this provision (i.e., for research purposes only).

c. All information and data collected is confidential. Information about participants is not released to any other person, group or organization without their expressed written consent.

d. We will use the data collected to create norms and to explore certain research questions. If the data is to be used for a published research study, no individual will be identified unless prior written approval is obtained.

4. You agree not to use the name of CPSB's clients in advertisements, brochures, publications or other similar material without the express written

consent of CPSB, unless these individuals or organizations were previously your clients before working with CPSB.

5. The scope for your use of the SOQ is limited to the conduct of your specific research study. The intellectual property and commercial rights to the SOQ remain with CPSB. You acknowledge that commercial application of SOQ Services is reserved for qualified users and that your pursuit of this research does not confer this status to you. You will protect and respect these rights during and following your study. You will not prepare or offer for sale a competing product or assessment based on your study, nor will you allow or assist anyone else to do so.

Acknowledged and Agreed:

If you agree to all these terms, please sign below. Please scan and return this form to CPSB or mail the original, along with your proposal to:

Dr. Scott G. Isaksen
CPSB
6 Grand View Trail
P.O. Box 648
Orchard Park, New York 14127
USA

By (please print): _____ Date: _____

Student Signature: _____

Organizational Affiliation: _____

Street Address: _____

Office Phone Number: _____

Home or Cell Phone Number: _____

E-mail address: _____

Academic Advisor Signature: _____

Please print your name here: _____

Appendix E

Sample Situational Outlook Survey Questions

Dimension Descriptions & Sample Items

The Situational Outlook Questionnaire (SOQ) examines social-psychological aspects of the work environment. The SOQ includes two parts. One part assesses nine dimensions of organizational climate. The second part includes open-ended questions that provide insights into other aspects of the larger work environment that are working well, needing to be improved, and suggestions for enhancement.

Below you will find descriptions of the nine dimensions of climate the SOQ is designed to assess, as well as a sample question for each.

Challenge and Involvement

The degree to which people are involved in daily operations, long-term goals, and visions. High levels of challenge and involvement means that people are intrinsically motivated and committed to making contributions to the success of the organization. The climate has a dynamic, electric, and inspiring quality. People find joy and meaningfulness in their work, and therefore, they invest much energy. In the opposite situation, people are not engaged and feelings of alienation and indifference are present. The common sentiment and attitude is apathy and lack of interest in that work and interaction is both dull and listless.

Example Question: People here take a sincere interest in their work.

Freedom

The independence in behavior exerted by the people in the organization. In a climate with much freedom, people are given autonomy to define much of their own work. People are able to exercise discretion in their day-to-day activities. People take the initiative to acquire and share information, make plans and decisions about their work. In the opposite climate people work within strict guidelines and roles. People carry out their work in prescribed ways with little room to redefine their tasks.

Example Question: People here make their own choices about their daily work.

Trust and Openness

The emotional safety in relationships. When there is a level of trust, individuals can be genuinely open and frank with one another. People can count on each other for personal support. People have a sincere respect for one another. Where trust is missing, people are suspicious of each other, and therefore, they closely guard themselves and their ideas. In these situations people find it extremely difficult to openly communicate with each other.

Example Question: People here believe in and trust each other.

Idea-Time

The amount of time people can use (and do use) for elaborating new ideas. In the high idea-time situation, possibilities exist to discuss and test impulses and fresh suggestions that are not planned or included in the task assignment. There are opportunities to take the time to explore and develop new ideas. Flexible timelines permit people to explore new avenues and alternatives. In the reverse case, every minute is booked and specified. The time pressure makes thinking outside the instructions and planned routines impossible.

Example Question: People here take time to test new ideas.

Playfulness/Humor

The spontaneity and ease displayed within the workplace. A relaxed atmosphere where good-natured jokes and frequent laughter occur is indicative of this dimension. People can be seen having fun at work. The atmosphere is seen as easy-going and light-hearted. The opposite climate is characterized by gravity and seriousness. The atmosphere is stiff, gloomy and cumbrous. Jokes and laughter are regarded as improper and intolerable.

Example Question: People here exhibit a sense of humor.

Conflicts

The presence of personal and emotional tensions in the organization. Groups and single individuals dislike and may even hate each other when the level of conflict is high. The climate can be characterized by "interpersonal warfare." Plots, traps, power and territory struggles are usual elements in the life of the organization. Personal differences yield gossip and slander. In the opposite case, people behave in a more mature manner; they have psychological insight and control of impulses. People accept and deal effectively with diversity.

Example Question: There is a great deal of personal tension here.

Idea-Support

The ways new ideas are treated. In the supportive climate, ideas and suggestions are received in an attentive and professional way by bosses, peers, and subordinates. People listen to each other and encourage initiatives. Possibilities for trying out new ideas are created. The atmosphere is constructive and positive when considering new ideas. When idea support is low, the automatic "no" is prevailing. Every suggestion is immediately refuted by a destructive counter-argument. Fault-finding and obstacle-raising are the usual styles of responding to ideas.

Example Question: People here receive support and encouragement when presenting new ideas.

Debate

The occurrence of encounters and disagreements between viewpoints, ideas, and differing experiences and knowledge. In the debating organization many voices are heard and people are keen on putting forward their ideas for consideration and review. People can often be seen discussing opposing opinions and sharing a diversity of perspectives. In climates where there is a lack of debate, people follow authoritarian patterns without questioning. Debates provide appropriate “idea” tension as opposed to conflict that provides “personal” tension.

Example Question: Many different points of view are shared here during discussion.

Risk-Taking

The tolerance of uncertainty and ambiguity exposed in the workplace. In the high risk-taking case, bold new initiatives can be taken even when the outcomes are unknown. People feel as though they can "take a gamble" on some of their ideas. People will often "go out on a limb" and be first to put an idea forward. In a risk-avoiding climate, there is a cautious, hesitant mentality. People try to be on the "safe side." They decide "to sleep on the matter." They set up committees and they cover themselves in many ways before making a decision.

Example Question: People here feel as though they can take bold action even if the outcome is unclear.

Open-Ended Questions

The three standard open-ended questions provide more depth of insight about the work environment. These are included below. The fourth question is one that is included for observers to provide insight to leaders when the SOQ is used for Leadership Development.

What aspect of your working environment is most HELPFUL in supporting your creativity?

What aspect of your working environment most HINDERS your creativity?

What is the most important action YOU would take to IMPROVE the climate for creativity in your working environment?

What is a leadership lesson you learned about effective leadership that would be helpful to share with the leader you are observing? (For the Leadership Development Application of the SOQ.)

Appendix F

Participant Consent Form

Examining the Relationship between Collaborative Relationships and Organizational Innovation within the 3PL Industry in the United States

Reason for study. You are invited to take part in a research study being conducted for a dissertation at Northcentral University in Prescott, Arizona. This study will look at the relationship between collaborative relationships and organizational innovation within the 3PL industry in the United States. By examining the relationship between collaborative relationships and organizational innovation within the 3PL industry, the goal is to provide new information that industry experts and executives can use to solve the challenging problems facing global supply chains and create new corporate policy, best practices, and training programs.

Steps required to take part in study. If you agree to take part in the study, you will be asked to give your views as an employee working within the logistics industry on collaborative relationships and organizational innovation. Completion of the survey should take no more than 5-10 minutes. Other people will also take part in this study.

Researcher. The following people are involved in this research study and may be contacted at any time: *The names, contact numbers, and email address are:* Richard Bushart, 734-620-3209, bushartresearch@yahoo.com, Researcher, and Dr. Kris Iyer- 64-212-674-382, kiyer@my.ncu.edu, Dissertation Chair.

Possible Injury/ Harm. There are no foreseeable risks or discomforts involved in this study. You may drop out at any time and you may choose not to answer any question that you do not feel good about answering. This study does not involve manipulating anyone.

Possible Payment. There are no payments to you for taking part in this study. The results will have scientific interest that may eventually have benefits that allow for an understanding of collaborative relationships and organizational innovation within the 3PL industry.

Trust. The information gathered in this study is kept secret. Your name or any information is not used with this study. Information is made available only to the researcher taking part with this study.

Right to Dropout. You have the right to dropout from the study at any time without punishment. You may not answer questions if you do not want to answer them.

What if I have questions about my rights as a research participant or complaints? If you have questions about your rights as a research participant, any complaints about your participation in the research study or any problems that occurred in the study, please contact the researchers identified in the consent form. Or if you prefer to talk to someone

outside the study team, you can contact Northcentral University's Institutional Review Board or irb@ncu.edu or 1-888-327-2877 ex 8014.

Agreement

☐ I agree to participate in this study. I also agree that I am 18 years of age or older and that I am currently employed in the logistics industry and working in the United States.

☐ I do not agree to participate in this study.

Appendix G

HR & Employee Research Executive Summary Email

Hello X,

I am a candidate for an applied doctoral degree, D.B.A., at Northcentral University, currently living in Livonia, Michigan. The first three chapters of my dissertation have been approved. In order to complete my dissertation I must randomly distribute 1,000 online questionnaires to 3PL employees in the United States. I am humbly asking for your assistance in completing the research portion of the study. The organization in which you work fits my study participant group very well. The below provides additional details regarding the study and the information I would need if you would be so inclined to help. Thank you very much.

Abstract Information: The purpose of this quantitative, cross sectional correlational survey research study will be the examination of the relationship between collaborative relationships and organizational innovation within the 3PL industry from a sample of 1,000 respondents randomly selected from third-party logistics companies in the United States. Today, 3PLs struggle to foster collaborative business relationships needed to deliver the types of inter-organizational innovation required to solve the difficult challenges currently facing global supply chains. Cross-sectional data will be collected via a combined collaborative relationship and situational outlook organizational innovation survey instrument. 3PL employees will complete the combined online questionnaire which will produce the data results needed to address the research questions: (a) what is the relationship, if any, between collaborative relationships and organizational innovation within third-party logistics companies, and (b) to what extent do the demographic variables (age and gender) explain variance in 3PL organizational innovation over and above that which is explained by collaborative relationships?

My findings so far: A review of well over 100 journal articles, books, and other documents was conducted as a part of the literature review process and evaluation of prior empirical work related to the study topics. The conclusion was that there has been limited empirical research on the effect of collaborative 3PL-shipper relationships on organizational innovation. Moreover, currently there is no corporate policy, best practice, training program, or qualitative industry knowledge designed to address this problem and guide this critical paradigm shift (Langley, 2012). Therefore, today it is not known if collaborative 3PL-shipper relationships will have an effect on organizational innovation within the 3PL industry in the United States. By filling this research gap, 3PL's will be better positioned to build collaborative relationships with shippers leading to innovative solutions and gain market share, profitability, and sustainability.

If it is acceptable to include your organization in the research needed to complete my dissertation, please send a return email stating the approval. Shortly thereafter, an online questionnaire will be provided with the survey questions to you for distribution to the

employees in the United States within your organization. If you have any questions please feel free to contact me at 734-620-3209. Thank you for your time and consideration.

Richard S. Bushart
Candidate D.B.A.

Appendix H

Signed Situational Outlook Questionnaire Agreement

consent of CPSB, unless these individuals or organizations were previously your clients before working with CPSB.

5. The scope for your use of the SOQ is limited to the conduct of your specific research study. The intellectual property and commercial rights to the SOQ remain with CPSB. You acknowledge that commercial application of SOQ Services is reserved for qualified users and that your pursuit of this research does not confer this status to you. You will protect and respect these rights during and following your study. You will not prepare or offer for sale a competing product or assessment based on your study, nor will you allow or assist anyone else to do so.

Acknowledged and Agreed:

If you agree to all these terms, please sign below. Please scan and return this form to CPSB or mail the original, along with your proposal to:

Dr. Scott G. Isaksen
CPSB
6 Grand View Trail
P.O. Box 648
Orchard Park, New York 14127
USA

By (please print): Richard Bushart Date: 4-20-14

Student Signature: [signature]

Organizational Affiliation: North Central University

Street Address: 10000 University Drive
Prescott Valley, AZ 86314

Office Phone Number: NCU: 888-327-2877

Home or Cell Phone Number: Richard Cell: (734) 620-3209

E-mail address: richardbushart@ymail.com
rbushart@ford.com

Academic Advisor Signature: [signature]

Please print your name here: Dr. Kris Iyer